



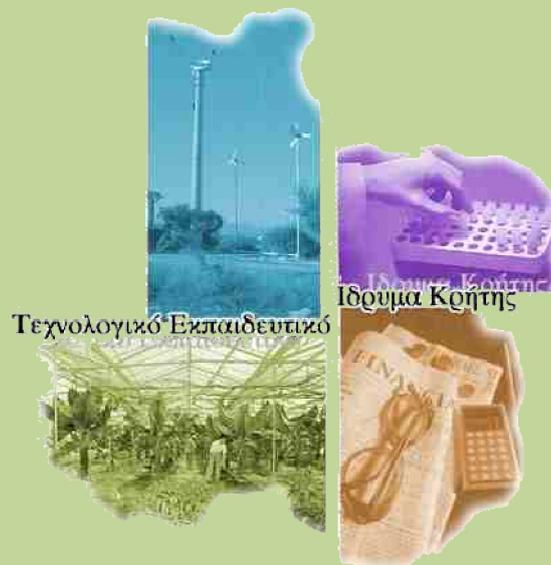
Τεχνολογικό Εκπαιδευτικό Ίδρυμα Κρήτης

Σχολή Τεχνολογικών Εφαρμογών

Τμήμα Εφαρμοσμένης Πληροφορικής & Πολυμέσων

Πτυχιακή Εργασία

**Σχεδιασμός Και Υλοποίηση Μιας Οντολογίας Για
Αεροπορική Εταιρεία**

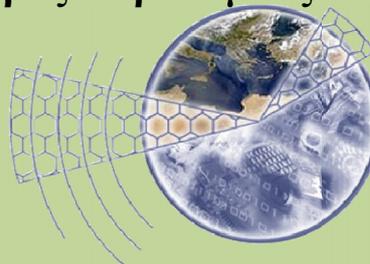


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Abstract

Relatively recently, the term "ontology" was used more often by scientists and research groups around the world and our country, in different scientific fields such as artificial intelligence, knowledge management and web technologies, especially in Semantic Web. A number of applications that exploit ontologies leads to understanding the multiple benefits arising from their use.

The Semantic Web, according to the creator of the Internet Tim Berners-Lee, will be the evolution of the Web and the new generation of the Internet, where information will have structure and semantics in order to allow efficient data searching, processing and integration and understanding the content of Web documents by computers.

Ontologies play a key role in the Semantic Web development, as tools for knowledge representation and management and used as the background on which we develop and then implement the various applications and web services.

This thesis addressed on the one hand the theoretical approach of the term "ontology" and on the other hand we presented the methodology for creating ontology at the subject of Airline. Thus, in this thesis we have designed and materialized (in RDF / RDF Schema) an ontology for an airline. We have also materialized the corresponding "SPARQL" questions both in schema and in data.

The representation of the ontology (which is done via the RDF and RDF Schema) and the corresponding "SPARQL" queries are made with the use of the Protégé program. Protégé is a free, open source platform that consists of a consecutively growing community. Proper tools are used, in order to create models based on application of knowledge by means of ontologies.

The aim of this thesis is not only the representation of the ontology and the knowledge which is contained in this, or the export of the information through their respective "SPARQL" questions but also the identification of problems in the representation in RDF / RDF Schema.

The ontology that we have designed and implemented, is like the model, of the system, of an Airline Company and more specifically, the systems of the process of ticketing, on behalf of the travel agents who work for the company, the transaction of a flight from a place to another and booking a ticket for a client. The Classes that were used, display information, according to the procedure followed by airlines.

Key Words :

Semantics ,Semantic Web, Ontology, Airline, Semantic Web Languages, Ontology languages, XML – XML Schema, RDF, RDFS, OWL, Protégé - RDF , Reasoning , Pellet, Querying, SPARQL, Jena Ontology API.

Tim Berners- Lee,

και υλοποιήσει (σε RDF/ RDF Schema) μία οντολογία για μια αεροπορική εταιρεία. Επίσης έχουμε υλοποιήσει τα αντίστοιχα " SPARQL " ερωτήματα τόσο στο σχήμα όσο και στα δεδομένα.



("SPARQL" RDF RDF Schema) του προγράμματος Protégé. Το Protégé είναι μια ελεύθερη, ανοικτού κώδικα πλατφόρμα που αποτελείται από μια συνεχώς αυξανόμενη κοινότητα, η οποία χρησιμοποιεί τα κατάλληλα εργαλεία για να δημιουργήσει μοντέλα βασισμένα σε εφαρμογές γνώσης με τη βοήθεια οντολογιών.

" SPARQL " RDF / RDF Schema.

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 , XML – XML Schema, RDF, RDFS, OWL,
 Protégé - RDF , Pellet, , SPARQL,
 Jena Ontology API.

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(RDF/ RDF Schema) μ μ

εταιρεία. Επίσης να υλοποιηθούν τα αντίστοιχα "SPARQL" ερωτήματα τόσο στο σχήμα όσο και στα δεδομένα. Η αναπαράσταση της οντολογίας γίνεται μέσω των RDF και RDF Schema. Γίνονται "SPARQL" ερωτήματα τόσο στο σχήμα όσο και στα δεδομένα.

"SPARQL" ερωτήματα γίνονται μέσω χρήσης του προγράμματος Protégé. Το Protégé είναι μια ελεύθερη, ανοικτού κώδικα πλατφόρμα που αποτελείται από μια συνεχώς αυξανόμενη κοινότητα, η οποία χρησιμοποιεί τα κατάλληλα εργαλεία για να δημιουργήσει μοντέλα βασισμένα σε εφαρμογές γνώσης με τη βοήθεια οντολογιών.

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μέσω των αντίστοιχων "SPARQL" ερωτημάτων αλλά και ο εντοπισμός προβλημάτων στην αναπαράστασή της σε RDF / RDF Schema.

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(RDF/ RDF Schema) μιας οντολογίας για μια αεροπορική εταιρεία. Επίσης να υλοποιηθούν τα αντίστοιχα "SPARQL" ερωτήματα τόσο στο σχήμα όσο και στα δεδομένα . Στόχος μας είναι να περιγράψουμε την οντολογία του συστήματος μιας αεροπορικής εταιρείας, δηλαδή να περιγράψουμε τις κλάσεις και υποκλάσεις αυτής καθώς και τα γνωρίσματά τους.

Επίσης να παρουσιάσουμε ορισμένα στιγμιότυπα των κλάσεων και να κάνουμε τις αντίστοιχες "SPARQL" ερωτήσεις τόσο στο σχήμα όσο και στα δεδομένα. Ο απώτερος σκοπός της πτυχιακής αυτής εργασίας είναι όχι μόνο η αναπαράσταση της οντολογίας και της γνώσης που περιέχει αυτή ή η εξαγωγή πληροφορίας μέσω των αντίστοιχων "SPARQL" ερωτημάτων αλλά και ο εντοπισμός προβλημάτων στην αναπαράστασή της σε RDF / RDF Schema.

Οι στόχοι της οντολογίας που περιγράφουμε είναι κυρίως η οργάνωση και διαχείριση των διεργασιών μέσα σε μια αεροπορική εταιρεία προκειμένου να εκδοθεί ένα εισιτήριο καθώς και ο προγραμματισμός και η παρακολούθηση των εργασιών των υπαλλήλων και η κατανομή των ρόλων των συμμετεχόντων του συστήματος με αποτελεσματικό τρόπο.

Σκοπός μας είναι η αναπαράσταση γνώσης με χρήση RDF. Να κατανοήσουμε ότι η RDF είναι ένα μοντέλο δεδομένων για αντικείμενα ("πόρους"), και για τις σχέσεις μεταξύ αυτών παρέχει μία απλή σημασιολογία για το συγκεκριμένο μοντέλο δεδομένων, και ότι αυτά τα μοντέλα δεδομένων μπορούν να αναπαρασταθούν με σύνταξη XML, ενώ η RDF Schema είναι μια γλώσσα λεξιλογίου, με την οποία μπορούν να περιγραφούν οι ιδιότητες και οι κλάσεις των πόρων RDF, μαζί με μια σημασιολογία για ιεραρχίες γενίκευσης τέτοιων ιδιοτήτων και κλάσεων.

Να αναφερθούμε στη συνέχεια στην OWL (Web Ontology Language, Γλώσσα Οντολογιών Ιστού), που είναι μια πλουσιότερη γλώσσα περιγραφής λεξιλογίου για την περιγραφή ιδιοτήτων και κλάσεων, όπως είναι οι σχέσεις μεταξύ κλάσεων, η πληθικότητα, η ισότητα, η πλουσιότερη τυποποίηση των ιδιοτήτων, τα χαρακτηριστικά των ιδιοτήτων, και οι απαριθμητές κλάσεις.

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ARPANET

NCP (Network

μ

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μ

μ

1970

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μ

1974

μ

μ

(Vint Cerf)

μ

(Bob Kahn)

μ

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μ

(Transmission Control Protocol)

μ

1978,

TCP

Internet Protocol (IP).

1982,

TCP/IP,

Internet Protocol

Suite (TCP / IP)

μ

1984

TCP / IP

μ

μ

Internet

DNS (Domain Name System)

μ

1000

μ

μ

TCP / IP

1986

NSFnet

μ

μ

56 kbps

μ

1,5 Mbps

45 Mbps.

μ

(ISP)

μ

1980

1990.

ARPA NET 1969. NSFnet 1990.

1980 1990.

1980 1990.

1990 e-mail, (VoIP), blogs, « μ » Voice over Internet Protocol

1 Gbps, 10 Gbps,

2.2. μ

(World Wide Web) URIs (Uniform Resource Identifiers). URIs

HTTP (Hypertext Transfer Protocol)

Web HTTP

Tim Berners-Lee μ Robert Cailliau μ 1990,

«WorldWideWeb» ("W3") " " " "

client-server (- μ).

Media μ μ μ μ μ μ MediaLive International.

. μ μ μ μ μ μ μ μ μ μ

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μ μ μ μ μ μ μ μ μ μ

, wikis μ μ μ μ μ μ μ μ μ μ

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Wikipedia (<http://www.wikipedia.org>)

Wikimapia (<http://www.wikimapia.org>)

Flickr (www.flickr.com),

Wikipedia

OpenStreetMap (www.openstreetmap.org)

GPS.

Inrix's Dust Network (<http://www.inrix.com>)

500.000

Earth 2.0. Google

100 « » (2005).

Google Earth.

².

2.0

μ

² International Journal of Spatial Data Infrastructures Research, 2007, Vol. 2, 24-32.

2.0 :

- μ μ , μ μ
- μ μ , μ
- μ μ ,
- RIA (Rich Internet Applications), Ajax, μ μ
- μ μ μ
- μ μ
- μ μ
- μ μ μ
- μ μ μ (μ μ) μ
- μ μ (μ

2.0 μ μ

- :
- ❖ **wikis** μ μ wikis
 - μ μ μ μ μ μ μ
 - μ μ μ μ μ μ wikis
 - wikipedia, μ μ μ μ
 - μ μ

maps) , μ (. . . Google

❖ **RSS (Real Simple Syndication) feeds,**

μ μ , . μ μ PDA . , μ μ μ . 2.0 μ μ μ μ . μ :

• μ Flash, Javascript (RIA) Ajax, μ 2.0 , μ μ

• **CSS (Cascading Style Sheets)** μ μ μ μ μ μ μ CSS

• **REST SOAP** μ μ HTTP (get, post, put) μ

• **SOA (Service Oriented Architecture)** μ μ μ μ μ

• μ (Linux μ , Apache web server, MySQL μ , PHP, Pearl, μ μ μ) .

• μ μ μ **microformats** .

• **RSS feeds.** RSS (RSS Feed) μ μ , μ ,

μ μ μ μ .
μ μ μ μ μ .
μ μ μ μ .
μ μ μ μ

Collections,

Framework of Guidance for Building Good Digital NISO,

μ μ :

- μ μ μ
- μ μ μ .
- μ μ μ μ μ μ .
- μ μ μ μ μ μ
- μ μ μ μ μ
- μ μ μ μ μ μ μ

μ μ μ μ :

- μ μ μ μ μ μ
- μ μ μ μ μ μ μ
- μ μ μ μ μ μ μ μ μ μ
- μ μ μ μ μ μ μ μ μ μ

μ μ , Yahoo! Messenger. 1994

μ Stanford, David Filo Jerry Yang

μ
μ
Stanford.

- Bing (<http://www.bing.com/>) (Live Search, Windows Live Search, MSN Search) - μ ("decision engine") Microsoft. Steve Ballmer 28 2009 All Things

Digital μ

(μ "Explorer pane" μ Powerset, Microsoft 2008. Bing μ Save & Share μ Windows Live

SkyDrive, Facebook μ (email). 29 2009, Microsoft Yahoo! μ μ Bing Yahoo! Search.

- Excite (<http://www.excite.com/>) μ (Internet portal) μ μ 1994 Architext. μ μ "dotcom" (portals) '90 (μ μ Yahoo!, Lycos Netscape) μ μ web μ (webmail), instant messaging, μ μ (customizable user homepage).

- Ask.com (Ask Jeeves μ) (<http://ask.com>) μ μ 1996 Garrett Gruener David Warthen μ Gary Chevskysky. Ask.com

IAC/InteActiveCorp.

- Wolfram Alpha (Wolfram|Alpha) (www.wolframalpha.com) μ μ (answer engine)

Wolfram Research. μ (online) μ μ μ μ

μ μ μ μ μ μ μ μ

μ ,
,
μ
(GetData
) μ μ
/
SOAP XML μ μ μ μ
μ μ μ μ μ μ
(API – Application Programming
Interface) μ :
GetData(<resource>, <property>), => <value>

μ GetData μ μ SOAP
μ μ μ .
TAP GetData,
μ μ .
μ , μ μ
μ μ μ μ μ μ
μ μ μ μ μ .
μ μ μ .

2.6.

μ μ μ μ .
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μ μ μ μ μ μ μ μ ,
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μ μ μ μ μ μ μ μ .
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μ μ μ μ μ μ μ μ .

2.7.

(Description Logics)

μ μ .

μ μ μ μ μ .

μ μ (μ μ)

μ (application domain).

μ μ , μ μ μ (reasoning).

(consistency checking) μ μ μ " μ "

(satisfiability checking) μ (instance checking).

μ μ . μ μ ,

μ . μ

TBox , ABox , μ μ μ - TBox ABox.

μ , μ μ μ

μ , μ

2.8. μ

μ μ μ μ μ μ

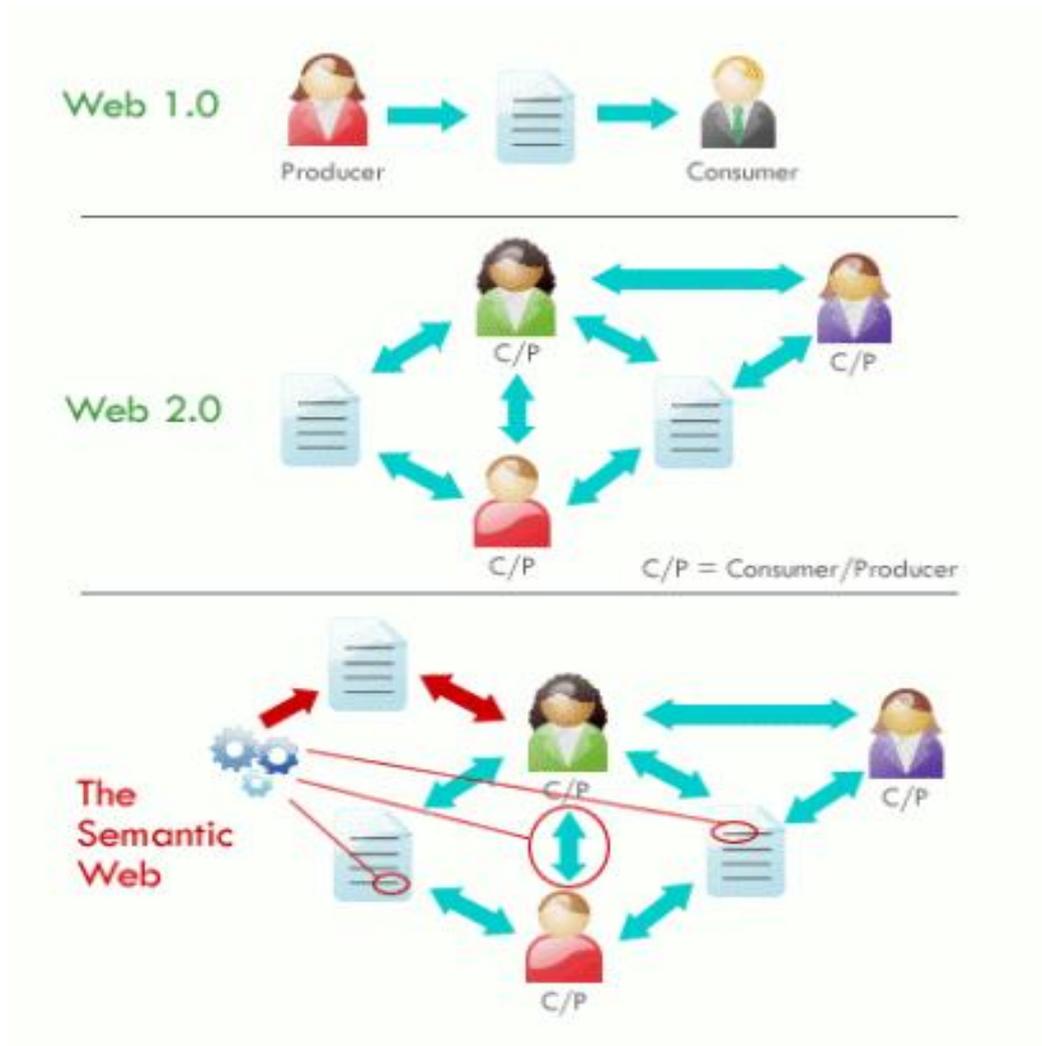
μ μ μ , μ μ μ

μ μ μ μ μ

μ μ μ μ μ μ

μ μ μ μ μ μ

μ μ μ μ μ μ



1- μ (Semantic Web)

2.8.1.

μ

(Semantic Web)

(agents).

(formal meaning) (semantics) (machine understandable).

(reusability) (sharing)

(interoperability) (interconnectivity)

(heterogeneous)

μ (Berners-Lee 2001).

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World Wide Web Consortium W3C

(<http://www.w3.org>).

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XML

RDF.

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Tim Berners-Lee μ

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(semi-structured)

μ

μ

(structured)

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μ

(e-commerce),

(e-business)

μ

(e-learning).

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2.8.4.

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(... RDF, OWL)

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μ , URI

Unicode,

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. Unicode

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μ

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μ

URI

μ

μ

μ

μ

(...).

URI

Uniform Resource Locator (URL),

μ

μ

(

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URI

μ

μ μ

μ

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μ

Extensible Markup Language (XML)

μ

μ

XML namespaces

XML Schema

μ

μ

μ

. XML

μ

μ

XML

μ

μ μ

μ

μ

μ

XML namespaces

XML.

XML Schema

μ

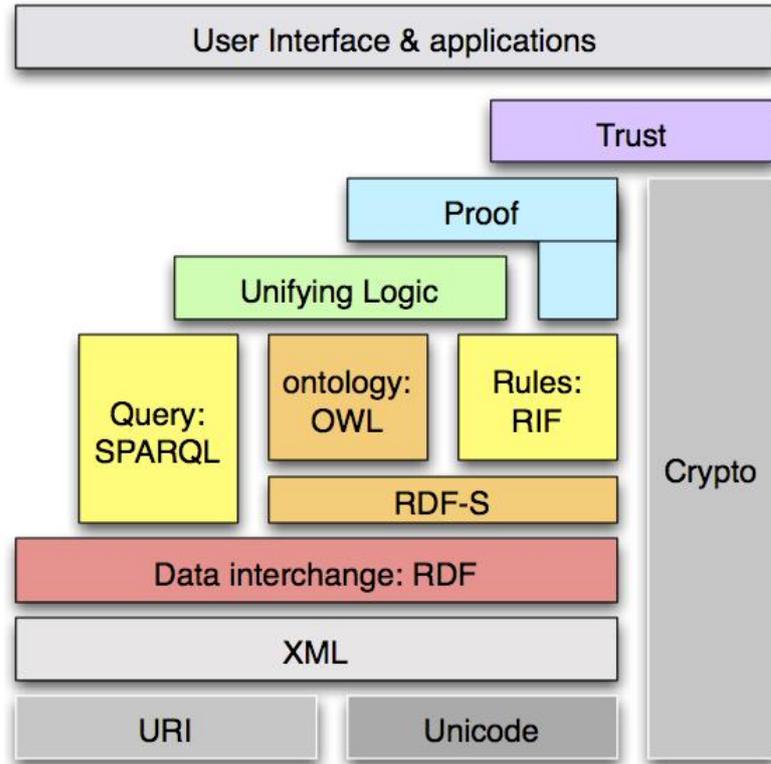
μ

μ

XML.

μ

μ



2-

μ

μ
Resource Description Framework (RDF). μ RDF

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μ

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μ

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RDF

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μ

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μ

RDF

XML

RDF / XML μ

RDF.

RDF

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RDF Schema (RDFS) μ μ

RDF.

RDFS μ

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μ

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Web

Ontology Language (OWL).

OWL μ

μ

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3. μ

3.1. XML (Extensible Markup Language)

XML, μ Extensible Markup Language (μ μ), μ XML Working Group μ (World Wide Web Consortium, W3C). μ XML

: « XML SGML (Standard Generalized Markup Language – μ μ).

μ SGML μ HTML. XML μ

HTML.» μ SGML 1.0 μ XML, 1988.

, XML μ μ HTML (HyperText Markup Language – μ μ), μ

3.1.1. XML

HTML μ μ μ . μ , μ , μ . μ , μ HTML μ μ μ : μ

```
<HTML>
<HEAD>
<TITLE>Home Page</TITLE>
</HEAD>

<BODY>
<H1><IMG SRC="MainLogo.gif">Michael Young's Home Page</H1>
<P><EM>Welcome to my Web site!</EM></P>

<H2>Web Site Contents</H2>
<P>Please choose one of the following topics: </P>
<UL>
```

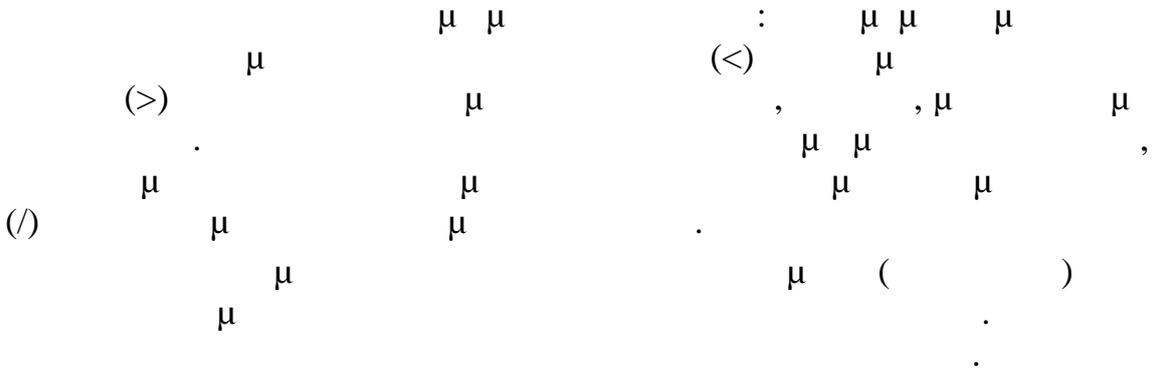
```

<LI><A HREF="writing.htm"><B>Writing</B></LI>
<LI><A HREF="family.htm"><B>Family</B></LI>
<LI><A HREF="photos.htm"><B>Photo Gallery</B></LI>
</UL>

<H2>Other Interesting Web Sites</H2>
<P>Click one of the following to explore another Web Site:</P>
<UL>
<LI><A HREF="http://www.yahoo.com/"><B>Yahoo Search
Engine</B></LI>
<LI><A HREF="http://www.amazon.com/"><B>Amazon
Bookstore</B></LI>
<LI><A HREF="http://mspress.microsoft.com/"><B>Microsoft
Press</B></LI>
</UL>

</BODY>
</HTML>

```



HTML μ :

μ

HTML

HTML

HEAD

TITLE

μ

μμ

BODY

μ

μ

μ

H1

H2

P

μ

UL

μ

LI μ
IMG

A μ μ

EM μ μ μ μ
B μ μ μ μ

1- μ HTML

μ HTML

μ HTML μ .

μ HTML, μ

μ HTML, μ .

μ μ HTML: μ

μ HTML:

▪ , , ,). μ , HTML ,

μ μ μ

μ μ .

▪ HTML μ , μ .

μ (μ μ) .

μ , μ , μ

μ HTML ,

μ .

▪ μ , μ , μ .

μ , , , μ μ μ

μ μ μ μ

μ , μ μ μ

μ , μ μ

μ μ μ .

HTML μ μ μ .

μ μ μ

, μ μ μ ,

μ μ μ .

μ XML.

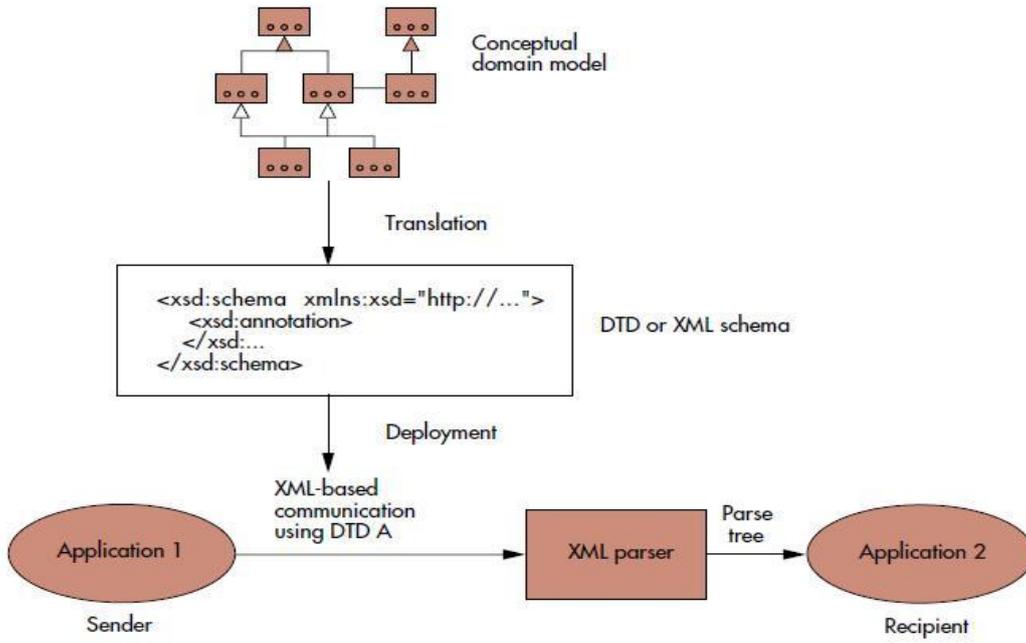
3.1.2. XML

μ XML μ
 . μ XML, μ
 μ μ , μ
 μ
 . μ , μ « μ » μ
 μ XML μ
 , μ μ
 μ . μ , μ
 , XML .

<?xml version="1.0"?>

```
<INVENTORY>
  <BOOK>
    <TITLE>The Adventures of Huckleberry Finn</TITLE>
    <AUTHOR>Mark Twain</AUTHOR>
    <BINDING>mass market paperback</BINDING>
    <PAGES>298</PAGES>
    <PRICE>5.49</PRICE>
  </BOOK>
  <BOOK>
    <TITLE>Moby-Dick</TITLE>
    <AUTHOR>Herman Melville</AUTHOR>
    <BINDING>trade paperback</BINDING>
    <PAGES>605</PAGES>
    <PRICE>4.95</PRICE>
  </BOOK>
  <BOOK>
    <TITLE>The Scarlet Letter</TITLE>
    <AUTHOR>Nathaniel Hawthorne</AUTHOR>
    <BINDING>trade paperback</BINDING>
    <PAGES>253</PAGES>
    <PRICE>4.25</PRICE>
  </BOOK>
</INVENTORY>
```

μ XML μ μ μ XML.
 μ , μ μ μ μ
 . μ
 . μ , XML
 μ μ μ , μ
 μ μ ,
 (root element),



3- μ μ

XML μ μ

μ μ μ , .

μ μ μ . μ μ ,

μ μ .

XML, μ XSL

Transformations (XSLT).

DTDs.

μ μ μ XML DTD μ μ

XML μ .

μ μ μ XML μ μ μ

RDF

(reify) μ . μ , - μ ,
 μ μ ,
 μ RDF, : rdf:subject, rdf:predicate rdf:object μ
 μ μ , rdf:object μ
 μ μ
 Literal. O μ μ
 . Literal μ μ μ
 μ XML Schema.
 rdf:type, μ μ
 rdf:Statement. H (reification)
 μ μ RDF, μ μ
 μ μ RDF μ RDF.
 ,
 (μ)
 μ (μ μ
). , μ , μ μ RDF
 μ :

“O Picasso Guernica” Paul
“O Picasso Guernica” 20/11/2000

μ μ
 . , μ μ μ μ :
John “O Rodin Guernica”
 μ μ μ μ
 , μ μ RDF μ (first-order),
 (higher order). , μ
 , μ μ
 μ μ . μ μ
 μ μ RDF. μ , RDF μ
 :

Paul “O John “O Rodin Guernica” ”

μ μ μ , μ μ μ μ
 μ μ μ μ . RDF μ
 μ μ μ μ μ μ

μ μ). μ ,

μ μ μ «47782». μ μ

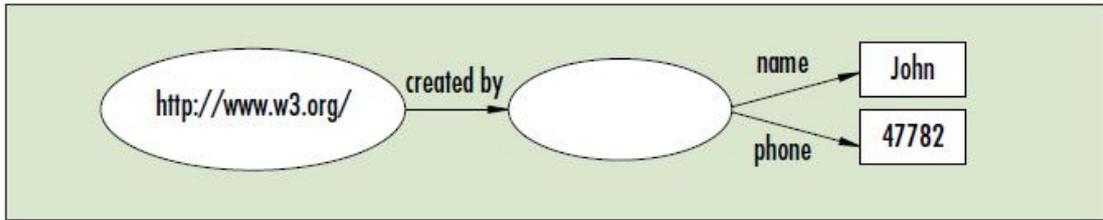
Subject	Predicate	Object
http://www.w3.org/	created_by	#anonymous_resource1
#anonymous_resource1	name	“John”
#anonymous_resource1	phone	“47782”

2- RDF μ

μ . μ μ μ μ μ

6 μ μ μ μ μ μ . μ μ μ

μ μ μ μ μ μ 2. μ



6- μ RDF.

μ μ μ RDF μ μ . μ

μ μ μ , μ , , μ

XML μ μ μ μ

μ XML μ μ μ μ μ

μ XML, μ RDF μ μ μ

μ . μ μ μ μ μ μ μ

μ μ . μ μ μ μ μ μ μ

RDF Schema (semantics)

RDF Schema,

RDF Schema

Schema

(subproperty)

3.2.8. RDF Schema

RDF Schema

RDF Schema (resources) (properties).

RDF Schema

RDF.

author artist:

1. subClassOf, author artist
2. subClassOf
3. (author, subClassOf, artist).

Schema. RDFS μ RDFS μ RDF RDF

rdfs:Resource,
 rdfs:Class,
 rdfs:Literal,
 rdf:Property,
 rdf:Statement,

, RDFS μ μ

: μ

rdf:type, μ μ RDF « » μ

μ μ

rdfs:subClassOf, μ μ μ

, μ μ

rdfs:subPropertyOf, μ μ μ - μ

μ rdfs:subClassOf rdfs:subPropertyOf rdfs:Class μ

rdfs:Resource, μ rdfs:Class. μ

, μ μ (μ μ μ , μ

μ μ μ):

rdfs:domain, μ μ μ μ

rdfs:range, μ μ

μ μ (reification): μ μ

rdf:subject, μ μ μ

rdf:predicate, μ μ μ

rdf:object, μ μ μ

web

:

rdfs:seeAlso,
rdfs:isDefinedBy,
μ

μ

rdfs:seeAlso
μ (RDF Schema).

:

rdfs:comment,
μ μ

μ

μ

rdfs:label, μ
μ

,

μ

,

μ

RDF

μ

μ

μ

RDF Schema,

μ container
container elements
μ

(

RDF):

rdf:Bag
rdf:Seq
rdf:Alt
rdfs:Container,

container

,

μ

μ

μ

3.2.9. μ RDFS

RDF Schema. (semantics)

RDF Schema

reasoners.

RDFS subClassOf C

subPropertyOf p

domain range (s, p, o), (s, p', o).

D, p range R, (s, p, o), s D. (s, p, o), o

- domain range Property.
- range range Class.
- domain domain Property.
- range domain Class.

rdfs:domain domain. RDF Schema.

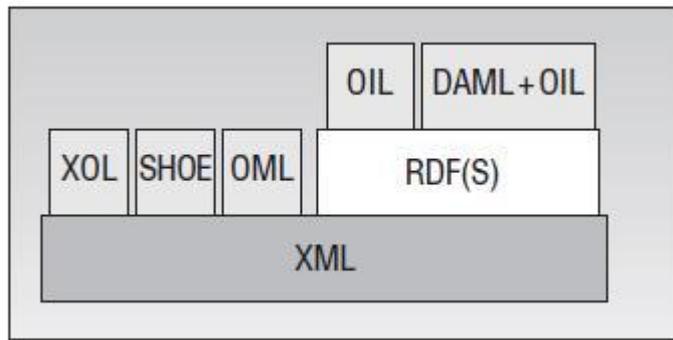
RDF μ μ

1. E (u, rdfs : subclassOf, v) (v, rdfs : subclassOf, w)

rdfs:subClassOf. μ

2. E (u, rdf : type, v) (v, rdfs : subclassOf, w), (u, rdf : type, w)

μ rdfs:subClassOf,



8-

μ , XML,
 XOL (XML-based Ontology Exchange Language), SHOE (SHOE (HTML)), OML (Ontology Markup Language),
 RDF (Resource Description Framework) RDF Schema
 μ World Wide Web Consortium (W3C).
 , RDF(S) μ
 μ : OIL (Ontology Inference
 Layer) DAML + OIL.

3.3.1. XML-based Ontology Exchange Language (XOL)

μ XOL
 μ μ (domain) μ μ
 μ μ Ontolingua OML μ μ
 μ XOL, OKBC-
 Lite, Open Knowledge Based Connectivity,
 OML, XML.
 XOL XML, μ XML
 μ . μ XML
 , μ , XML
 μ , μ , μ .
 μ XOL OKBC-Lite,
 μ μ μ OKBC (Open
 Knowledge Base Connectivity). OKBC API
 μ .
 μ μ μ ,
 μ μ μ (μ

μ , μ , μ , μ .

μ , μ , (

μ) μ μ .

XOL μ μ

μ μ μ μ

μ μ μ μ

μ μ μ μ

μ μ μ μ

. XML. , , μ μ

. XOL μ .

μ XOL μ μ

μ μ μ μ , μ μ

μ μ μ μ .

μ μ μ μ μ μ

μ μ () Oracle μ μ

μ μ μ μ SQL XOL, μ

μ μ μ μ μ μ

μ μ μ μ μ μ XOL,

μ μ μ μ μ μ SQL XOL μ . ,

μ UML, μ μ μ μ

μ UML XOL μ μ XOL.

μ μ μ μ μ μ XOL μ μ

μ μ μ μ μ μ μ μ μ μ

μ . μ μ μ μ μ μ μ μ μ

μ μ μ μ μ μ μ μ μ μ

XOL μ , μ μ μ μ μ μ

μ μ μ μ μ μ μ μ μ μ

XOL μ μ μ μ μ μ μ μ μ

μ μ μ μ μ μ μ μ μ μ

μ μ μ μ μ μ μ μ μ μ

XOL. μ μ μ μ μ μ μ μ μ

XOL , Ontolingua GKB-Editor. , μ
 XOL XML μ μ μ XOL.
 μ XOL μ ,
 XOL μ , .
 , μ XML μ μ , μ
 , μ XOL μ μ μ μ
 μ . μ XOL μ μ μ μ
 XML (μ XML DTD) XOL
 μ .
 μ XML μ ,
 μ μ μ μ μ μ
 , μ μ (DTD μ) μ
 μ μ μ μ .
 μ XOL μ :

```

<class>
  <name>person</name>
</class>
<slot>
  <name>age</name>
  <domain>person</domain>
  <value-type>integer</value-type>
  <numeric-max>150</numeric-max>
</slot>
<individual>
  <name>fred</name>
  <type>person</type>
  <slot-values>
    <name>age</name>
    <value>35</value>
  </slot-values>
</individual>

```

XML, "class", "individual", "name"
 , Person
 μ , .

XML, μ μ μ
 , μ .
 μ XML μ μ μ Fred:

```
<person>
  <name>fred</name>
  <age>35</age>
</person>
```

μ μ XOL
 μ ("person" "age"),
 XOL. μ XML XOL.
 XOL. XML XOL.
 μ XOL .
 μ module, μ class,
 XOL . μ
 slots μ slots (slot
 μ μ μ)
 . μ μ
 μ .

```
<module>
  <class>
  ...
</class>
<class>
  ...
</class>
...
<slot>
  ...
</slot>
<slot>
  ...
</slot>
...
<individual>
  ...
</individual>
<individual>
  ...
</individual>
...
</module>
```

μ : μ μ

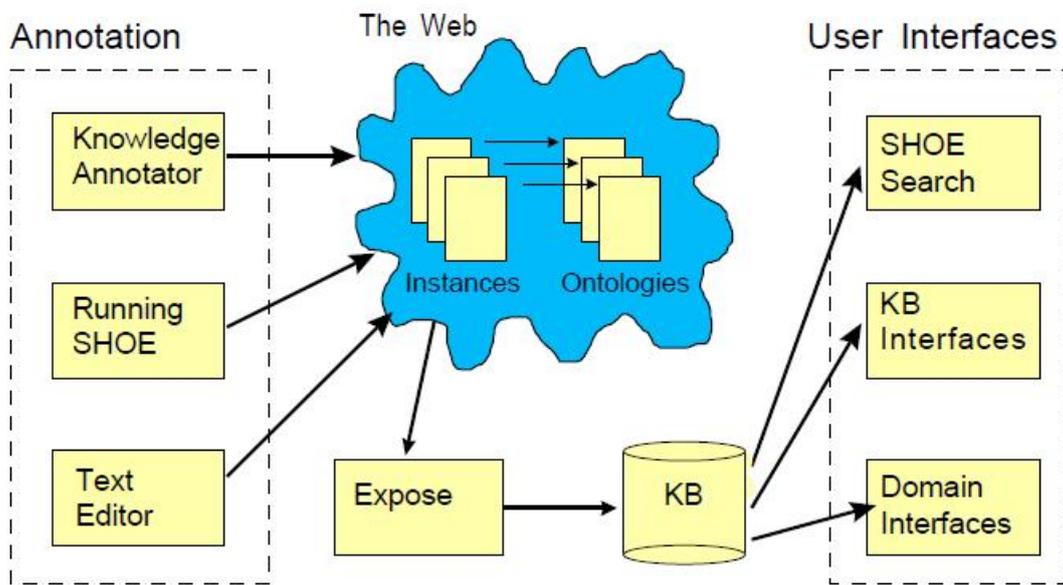
- module
- ontology
- kb
- database
- dataset

μ . XOL μ
 μ μ
 μ .
 μ
 <module> </ module > . <name> μ

3.3.2. Simple HTML Ontology Extension (SHOE)

SHOE μ ,
 μ μ . μ
 μ μ
 μ .
 μ , μ
 μ μ μ μ
 μ μ μ . μ
 μ SHOE μ μ HTML μ
 μ XML. μ
 XML. , μ
 μ μ μ
 μ μ μ μ
 μ XML. μ
 , XML SHOE
 Object Model (DOM), μ SHOE Document
 SHOE μ XML, μ
 μ , μ .
 SHOE μ XML
 stylesheet μ XSLT
 μ μ XML, μ
 μ μ .
 SHOE μ μ .
 μ μ μ
 . μ μ
 HTML XML
 SHOE
 μ .
 μ () ,

- 1.
- 2.
- 3.
- 4.



9- SHO.E.

SHOE

3.3.3. *Ontology Markup Language (OML)*

H OML, XML SHO. SHO. OML SHO

H OML Conceptual Knowledge Markup Language (CKML), (Conceptual Graphs).

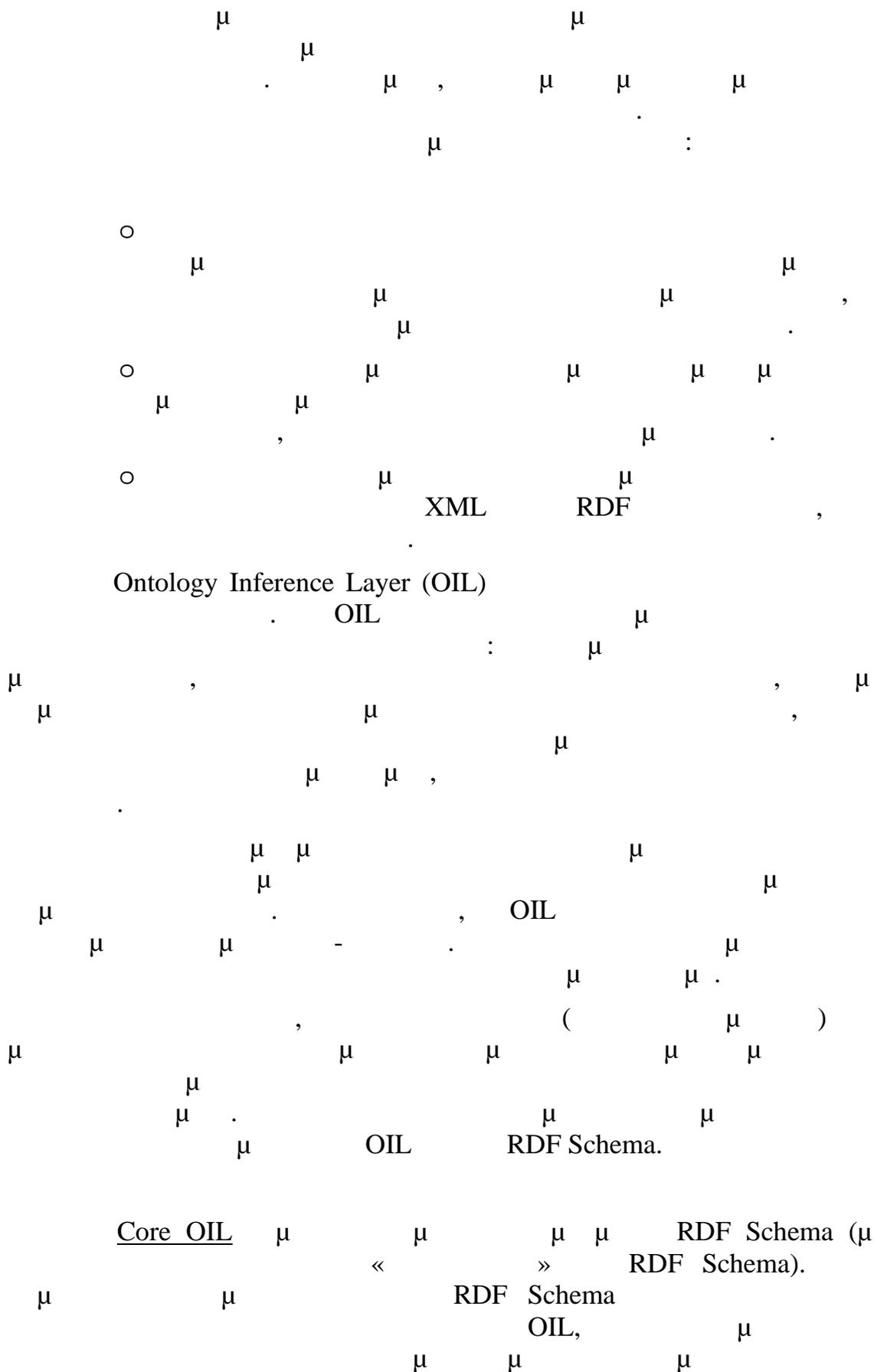
OML CKML OML

OML

OML : OML Core
 Simple OML
 Abbreviated OML Standard OML OML.
 OML CKML Simple OML. Simple OML
 Simple OML
 Open Knowledge Base Connectivity (OKBC)
 Simple OML.

OML XML.

3.3.4. Ontology Interchange Language (OIL)



, OWL
 DAML+OIL. μ μ ,
 μ μ SHOE, OIL

μ μ . , OWL μ μ , μ
 μ OWL μ ,
 , μ μ μ . μ ,
 μ μ μ μ μ
 μ OWL.
 OWL μ ,
 μ , μ . μ ,
 μ μ .

4. WEB ONTOLOGY LANGUAGE – OWL

4.1.

OWL μ μ OWL
 μ . μ OWL
 μ , , μ with RDF. μ OWL
 μ μ , μ μ μ μ μ OWL.
 μ μ .

4.2. OWL

μ μ , μ μ (μ μ « ») μ μ . μ μ μ μ (μ μ μ μ μ)

μ , μ
 Mozzarella « » μ
 Gorgonzola
 , μ
 " μ (μ)
 Mozzarella Gorgonzola" μ μ (, . . ,)
) «
 ».
 μ μ μ μ μ μ μ μ μ
 μ μ μ μ μ μ μ μ .
 μ : μ μ μ μ μ
 ➤ μ , μ μ
 μ ,
 ➤ μ , μ μ μ μ
 ➤ (web services), μ μ
 μ .
 , OWL
 RDF Schema μ μ μ
 . OWL μ μ μ μ
 (" "), RDF Schema. OWL μ
 μ (μ , μ μ)
 , μ μ μ ,
 RDFS.
 OWL μ , , μ
 μ « - », μ μ
 , RDFS. μ μ
 OWL, μ μ μ μ
 OWL μ μ μ μ
 μ μ μ μ μ μ
 μ μ μ μ μ μ μ
 , μ μ μ μ μ μ
 OWL μ μ μ μ μ μ μ .
 μ (disjointness) μ μ μ μ
 μ .


```

      <owl:minCardinality
rdfs:datatype="&xsd;Integer">
        1
      </owl:minCardinality>
    </owl:Restriction>
    <owl:intersectionOf>
</owl:Class>

```

```

      μ      μ      RDF      RDF      .
      μ      μ      OWL,      μ      ,
      μ      μ      .      OWL      μ
DAML + OIL.      μ      μ

```

```

      μ ,      μ μ OWL
      μ      ∃child.person (
      μ      μ )
RDF

```

```

:x owl:onProperty ex:child .
:x owl:someValuesFrom ex:Person .

```

```

,      x      μ      μ .

```

```

      μ      μ      RDF      .
      μ ,      μ ,      RDF,
      μ      μ . μ ,
      μ      ,      μ

```

```

:x owl:onProperty ex:friend .
:x owl:allValuesFrom ex:Doctor .

```

```

      μ      RDF.
      μ      RDF
      μ .      μ      μ
μ      μ      μ ,      μ
RDF μ

```

```

:x owl:onProperty ex:child .
:x owl:allValuesFrom :x .

```

```

      μ      μ      OIL,
      μ      μ
OIL      μ      .      DAML +
      μ      ,      μ      DAML + OIL      .      OWL
      μ      DAML + OIL,      μ
      .

```


RDF RDFS, μ μ μ
 μ μ RDF RDFS.
 RDFS μ μ OWL. RDF
 μ μ OWL
 μ RDF, RDF
 OWL, μ OWL μ μ
 RDF RDFS.
 OIL DAML + OIL μ μ
 μ μ . μ μ
 OIL DAML + OIL.
 μ μ μ ,
 μ μ μ .
 μ μ ,
 μ μ .
 μ DAML + OIL μ
 RDF . μ ,
 μ μ μ
 μ μ μ
 , μ μ μ
 .
 μ . μ

```
ex:John rdf:type ex:Student .
ex:John rdf:type ex:Employee .
```

Student Employee John
 μ μ μ
 . , μ μ John

```
:c owl:intersectionOf :l1 .
:l1 rdf:first ex:Student .
:l1 rdf:rest :l2 .
:l2 rdf:first ex:Employee .
:l2 rdf:rest rdf:nil .
ex:John rdf:type :c .
```

, RDF,
 .
 OWL μ μ
 μ RDF μ μ ,
 , , μ .


```

:c owl:intersectionOf :l1 .
:l1 rdf:first ex:Student .
:l1 rdf:rest :l2 .
:l2 rdf:first ex:Employee .
:l2 rdf:rest rdf:nil .
ex:John rdf:type :c .

```

```

      :l1 μ      μ      Student      Employee,
      :l2 μ      μ      ,      :c
μ      μ      μ      .      (      )
μ      μ      ex:John      :c,
      .

```

4.6.4.

```

      ,      μ      μ
      ( , , μ ).      μ
μ      μ .
      μ ,
      μ      μ      μ
      .
      μ      μ
      μ      μ      μ      μ      , . . . ,
      , x ∈ human,      μ
      μ      , {x |
x ∈ human}.
x ∉ x,      {x | x ∉ x}.      μ
      .
      μ
      μ      μ      μ      μ      OWL.
      μ      μ      μ      μ      OWL,      μ ,
      μ      μ      μ      μ
      ,

```

```

:c owl:onProperty ex:child .
:c owl:allValuesFrom :c .

```

```

      μ      μ      μ
      μ      .
      ,
μ      ,

```

```

:c owl:onProperty rdf:type .

```

```
:c owl:allValuesFrom :d .
:d owl:complementOf :l .
:l rdf:first :c .
:l rdf:rest rdf:nil .
```

```

                μ                μ
                μ
μ            ,      ,
OWL            .
OWL            ,
            μ
            μ ,      μ μ ex:child ,
            μ      μ
            μ ,      OWL.      μ
            μ      μ      μ      μ
            (μ      μ      μ      μ
            ).
```

4.6.5.

```

    OWL Full      (
),      μ      OWL DL      μ      μ
            μ      μ      μ
,      OWL DL
,      μ      ,      μ      μ
,      μ      OWL DL.
            μ      μ      OWL DL
μ      μ      OWL DL      μ      μ
(NExpTime)      ,      OWL DL
.
    OWL Lite      .      μ      μ
SHIF (D)      ,      OWL Lite      (ExpTime)
,      μ      μ
            μ      μ
    OWL Lite,      μ      μ
FACT      RACER.      μ
μ      μ
```

5.

5.1.

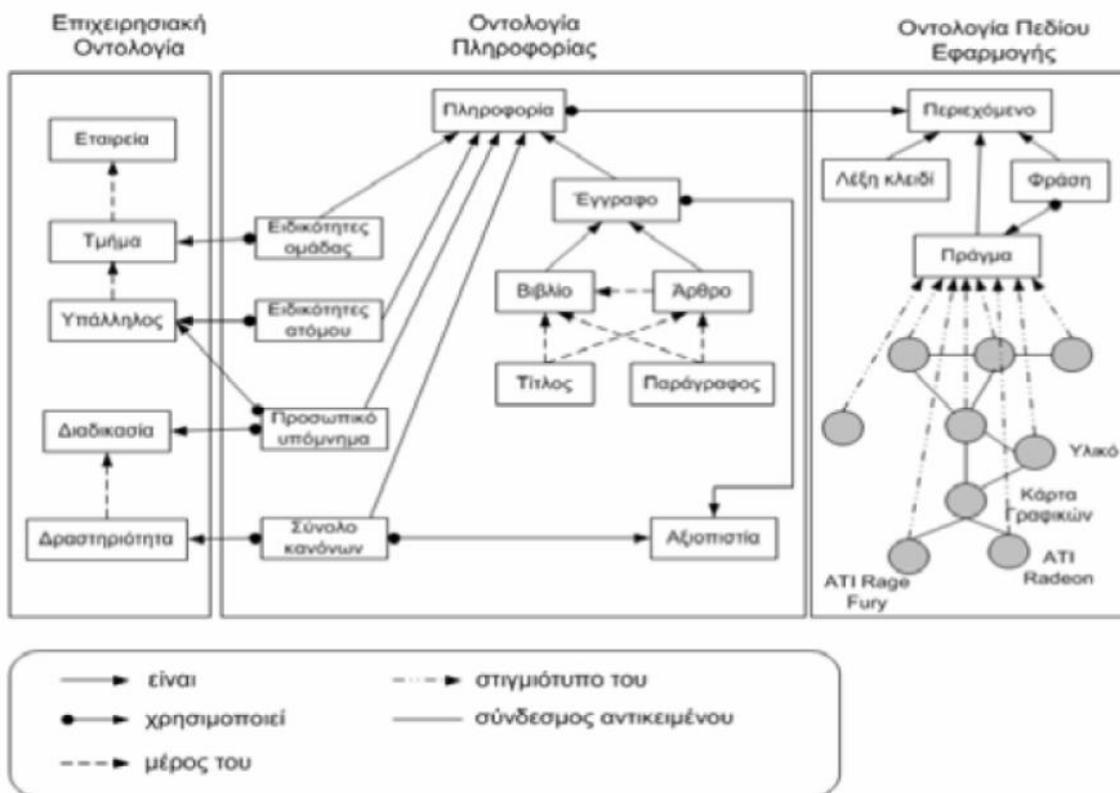
(conceptualization). μ μ (formal), μ (explicit)
 μ μ (shared) μ
 μ μ (explicit) μ μ
 μ μ μ (formal)
 μ μ μ (shared) μ
 μ μ μ μ μ μ
 μ μ μ μ μ μ μ μ

5.1.1.

- μ μ μ μ μ μ μ μ
- μ μ (informal), μ μ μ μ μ μ μ μ
- μ μ - μ μ (semi-informal), μ μ μ μ μ μ μ μ
- μ μ - μ μ (semi-formal), μ μ μ μ μ μ μ μ
- μ μ (rigorously formal) : μ μ μ μ μ μ μ μ
 (soundness) (completeness).

- (knowledge representation ontologies) :
- (general/ common ontologies) :
- (top-level ontologies) :
- (metadata ontologies) :
- (domain ontologies) :

11.



11-

Abecker et al., 1998.

5.1.2. μ

- μ :
1. (classes) : , μ .
 μ , μ , μ , μ μ , μ : .
) (primitive concepts),
 μ (,),
 μ μ ,
) , μ (defined concepts),
 μ μ .
 2. (relations) : (. . subclass-of, is-a).
 μ
 3. (functions) : μ
 , -
 μ , μ μ μ⁻¹ μ μ .
 μ μ
 , μ
 , μ .
 4. μ (axioms) : μ μ .
 μ
 5. μ (instances) : , μ μ μ “ ”
 μ , . . “ μ ”.
 μ

5.1.3.

μ ,
 μ .
 μ μ

(frame language),

μ . μ ,

μ :

1. _____ : μ

1990 μ

μ : (1) Flogic, (2)

LOOM, (3) OCML, (4) Ontolingua, (5) KIF (6) Carin.

2. Web-based :

μ μ (web-based ontology languages) (ontology markup languages)

μ μ

HTML XML. μ : (1) Simple HTML Ontology Extensions (SHOE), (2) XML-Based Ontology exchange Language (XOL) , (3) Ontology Markup Language (OML and KML), (4) Resource Description Framework Schema language (RDFS), (5) DARPA Agent Markup Language (DAML), (6) Ontology Interchange Language (OIL) (7) Ontology Web Language (OWL).

3. _____

μ μ μ

_____ . μ : CycL, GRAIL, NKRL.

μ web-based

(reasoning) μ . ,

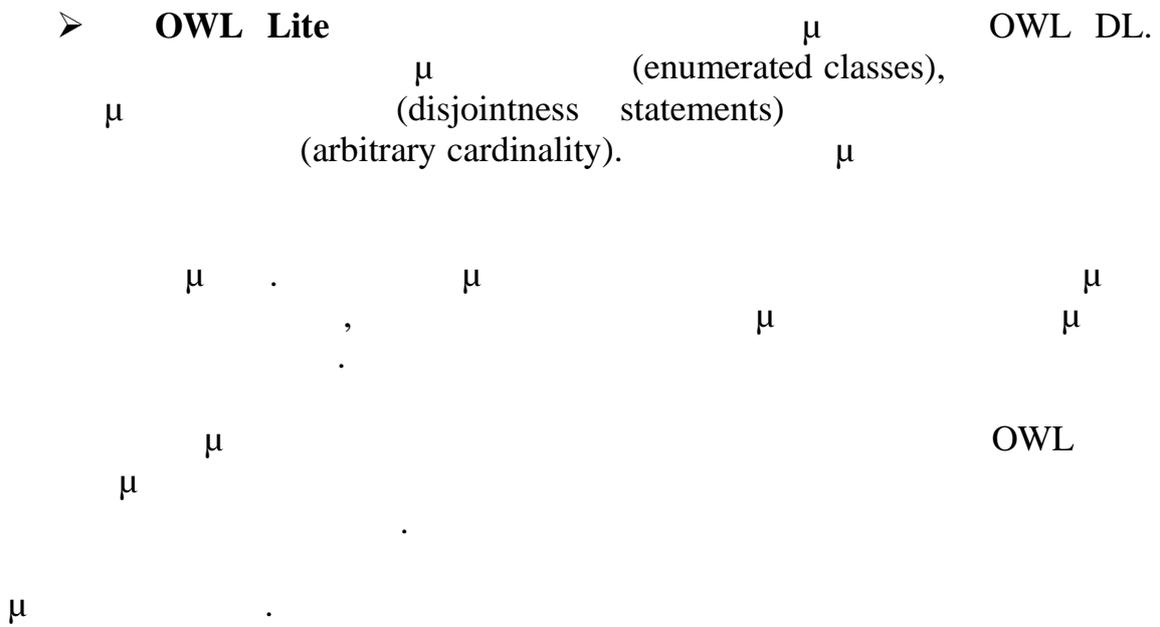
μ μ (XML, RDF, RDFS).

μ () , () ,

μ slots (Class-concept, Instance-object, Slot-property), ()

μ μ μ μ μ μ μ μ

μ μ μ μ μ μ .

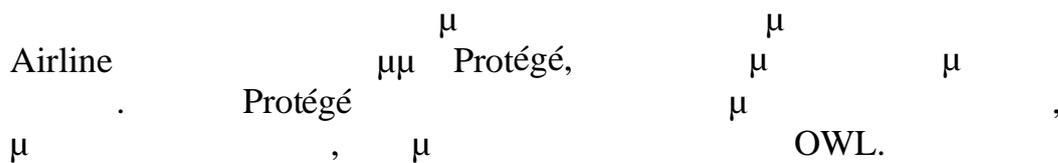


13-

OWL.

5.2.

Protégé



5.2.1.

Protégé, , μ , μ
 μ , μ μ μ μ μ
 . μ
 μ , μ , Protégé
 , μ μ μ μ μ .
 μ , μ μ ,
 μ μ μ Protégé, μ
 μ μ μ μ μ μ μ
 RDF(s), OWL XML. Protégé μ μ μ μ μ μ
 . μ Protégé μ μ μ
 plug-in API (μ μ)
 μ Java – Application Programming Interface (API)
 μ μ μ .
 μ μ μ μ μ , μ μ
 μ μ μ μ μ .
 μ μ μ μ μ , μ
 μ μ μ μ μ .
 μ μ μ μ μ , μ
 μ μ μ μ μ .

5.2.2.

Protege

Protégé μ μ μ «μ » μ μ
 « » . «μ » μ μ
 .
 « »
 μ «μ » Protégé , μ -
 μ , μ μ

(frame based) . , μ

Protégé μ μμ

JAVA μ μ Protégé

Protégé, « » μ

Protégé μ

Protégé μ μ

(components – widgets).

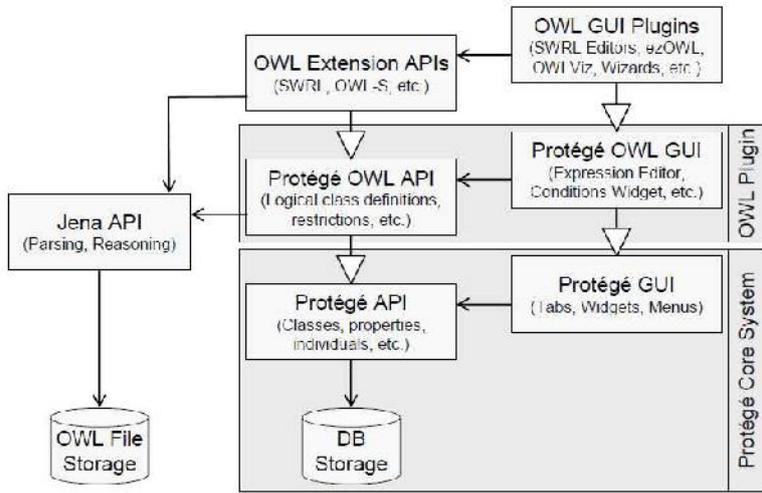
«Protégé Forms Editor», widgets. widgets

Protégé, Protégé μ

widgets, μ μ

(tabs), tabs

tabs μ



14- μ Protege.

5.2.3.2. Protégé-OWL

Protégé-OWL
 OWL (Web Ontology Language).

Protégé
 OWL

(World Wide Web-W3C),
 OWL

OWL

Protégé-OWL

Protégé-OWL, Protégé-OWL

API Java,

GUI (Graphical User Interface)

-
-
-
-

5.2.3.3. Graphical User Interface

GUI (Graphical User Interface)

-
-
-
-

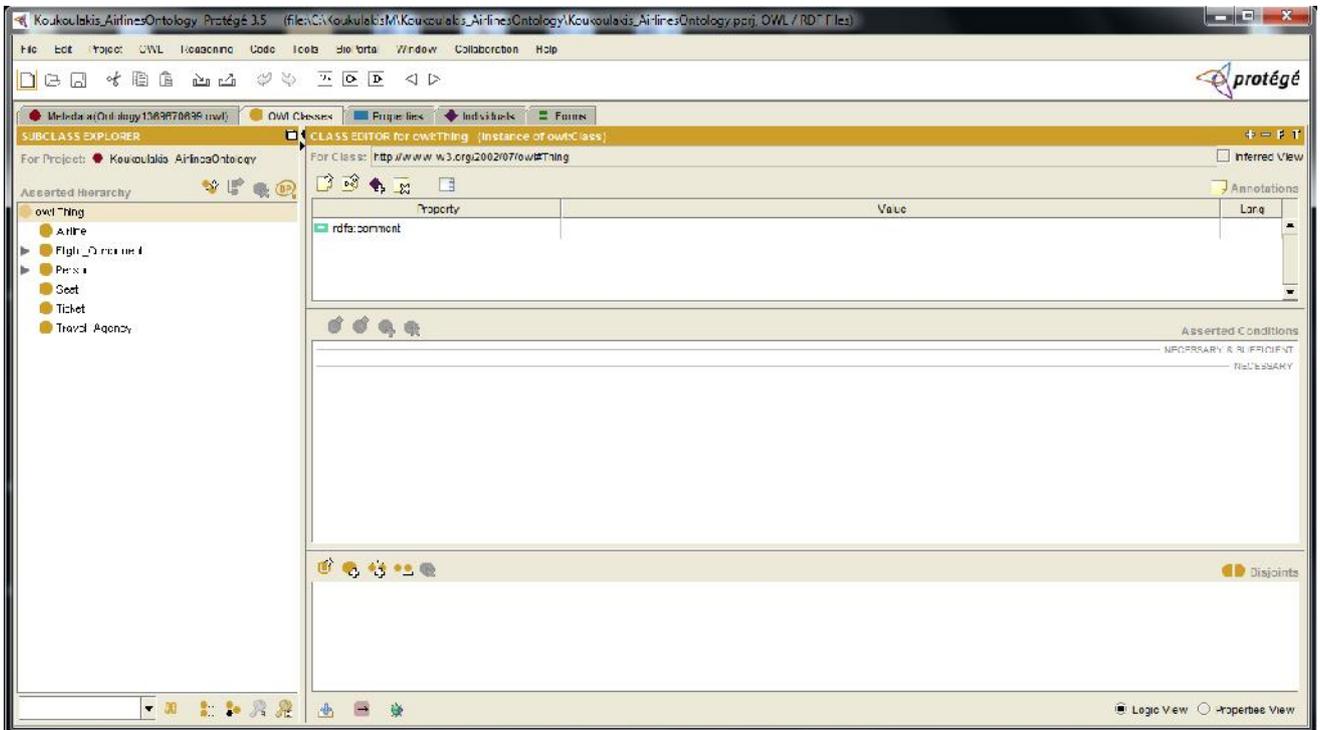
μ μ

(μ μ) μ μ μ

μ . μ μ μ μ μ μ μ μ .
μ , μ μ μ μ μ μ μ μ .

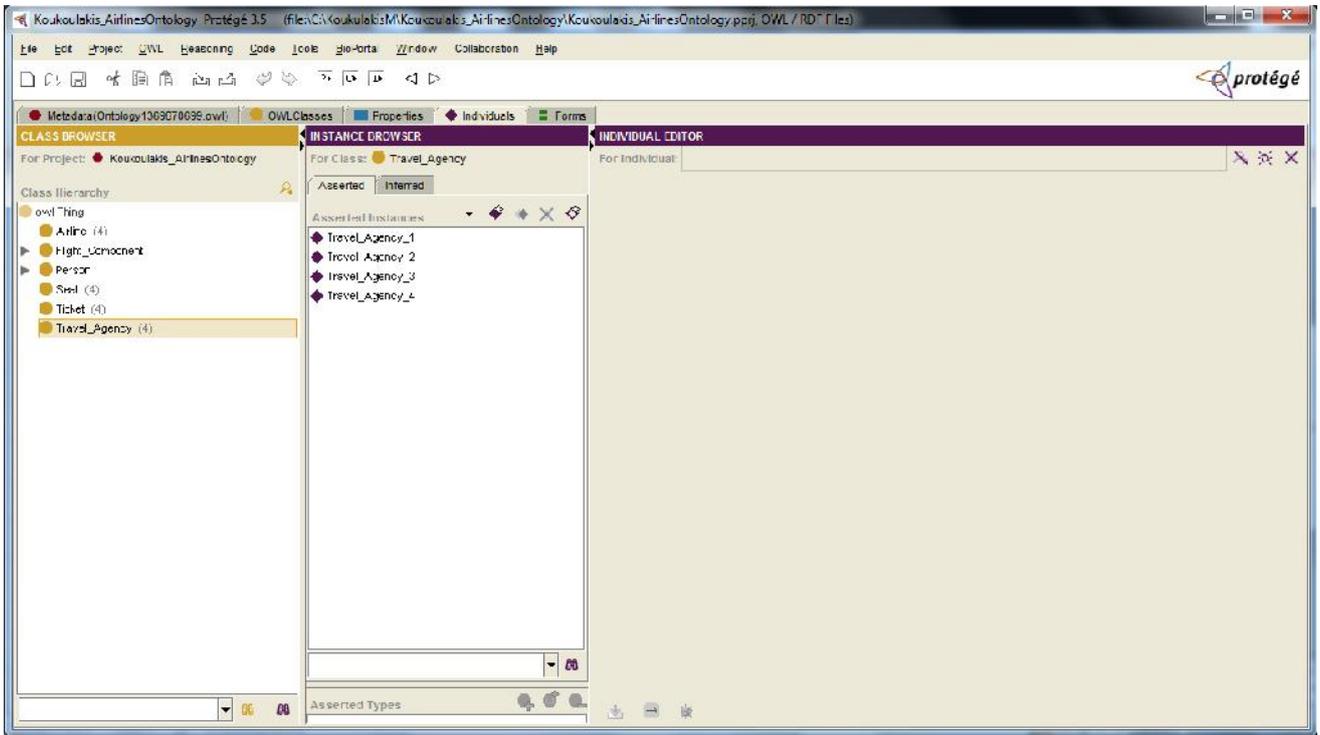
GUI :

➤ Classes Tab , μ μ
μ slots, μ , slots, μ μ



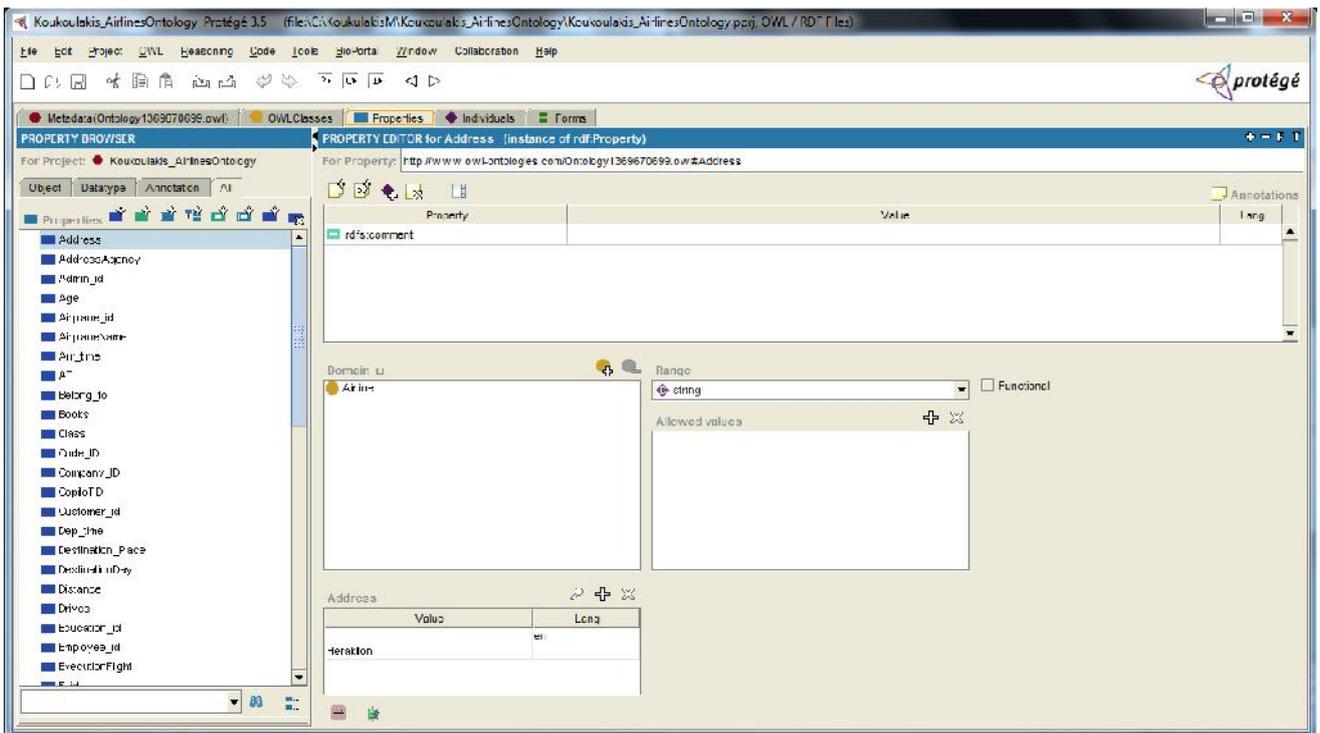
15-Classes Tab Protege.

➤ Instances Tab



16-Instances Tab Protege.

➤ Property Tab,



17-Property Tab Protege.

μ μ

μ

OWL

Protégé project
project,

μ

μ

μ

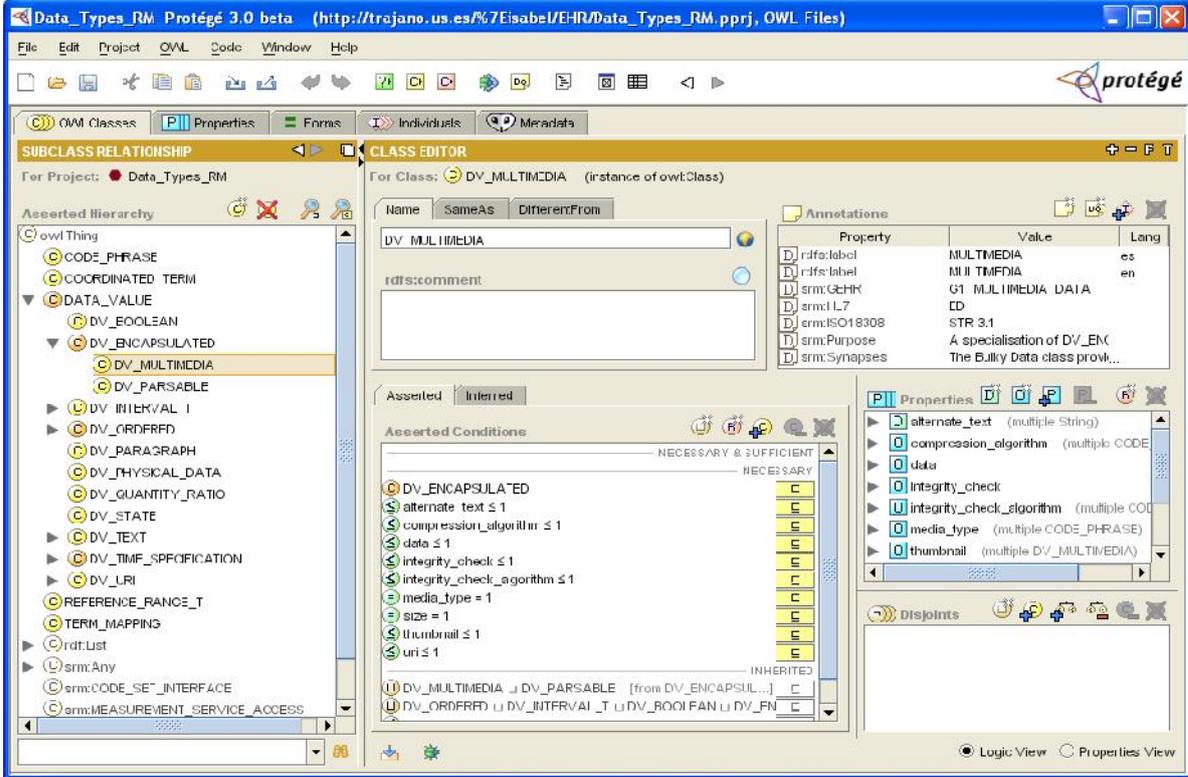
μ

OWL Classes Tab

μ

GUI Protégé

plug-in:



19-OWL Classes Tab.

plug-in

Beangenerator,

java beans

Protégé

μ

μ

JADE .

μ

5.3.

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μ

μ

μ namespaces: . μ μ . μ μ

```
SELECT ?x ?y
WHERE
{
  ?x rdf:type prefix:book ;
  prefix:author ?y .
}
```

μ μ μ μ μ (implicit join).
 μ μ μ μ μ (?x rdf:type prefix:book ;),
 μ μ book, μ μ
 μ x. μ μ
 μ μ prefix:author.
 μ μ μ μ μ
 μ μ μ μ μ , μ μ
 μ μ μ μ μ
 μ μ μ μ μ
 μ μ μ μ μ
 μ μ μ μ μ
 μ μ μ μ μ

```
SELECT ?x ?y
WHERE
{
  ?x rdf:type prefix:book .
  ?x prefix:author ?y .
}
```

FILTER μ Boolean μ FILTER. μ μ
 μ μ μ μ μ (explicit join)
 μ x c, μ :

```
SELECT ?x ?y
WHERE
{
  ?x rdf:type prefix:book .
  ?c prefix:author ?y .
  FILTER (?c=?x) .
}
```

μ μ
 SPARQL μ .

μ μ , μ
 μ RDF . SPARQL μ
 OPTIONAL. μ , μ μ
 μ , μ μ
 email ()

```
SELECT ?x ?y ?email
WHERE
{
  ?x rdf:type prefix:book .
  ?x prefix:author ?y .
  OPTIONAL (?y prefix:email ?email)
}
```

μ , email
 ,
 . μ ,
 , μ μ μ
 e-mail.
 , RDF

μ SPARQL

μ SELECT-FROM-WHERE, SPARQL
 μ :

- ASK: μ “yes” μ
 μ RDF “no”, μ
 μ .
- DESCRIBE: μ μ . μ ,
 μ

```
DESCRIBE ?x
WHERE {
  ?x prefix:job prefix:author .
}
```

μ μ “author”.

SPARQL
 o RDFS.
 Jena PI,
 SPARQL
 RDF
 RDFS
 OWL-DL
 OWL-DL
 SPARQL OWL-DL
 OWL-DL,
 SPARQL
 SPARQL-DL.
 SPARQL,
 RDF
 INSERT, UPDATE,
 DELETE SQL. SPARQL
 SPARQL

5.3.1.4. SPARQL

Language, SPARQL Protocol and RDF Query
 SPARQL
 W3C
 2008.
 SPARQL
 RDF (query clients)
 SPARQL server
 RDF

SPARQL μ . ,
 (realization), (implementation) (binding) μ
 μ HTTP SOAP . μ
 (interface) μ SPARQL μ HTTP μ
 SOAP μ μ μ μ
 SPARQL μ (endpoint).

SPARQL web service μ μ μ
 :
 query. μ μ
 HTTP . HTTP GET μ μ
 server,
<http://mydomain.org/sparqlservice:>

GET /sparqlservice/?**query**=PREFIX+rdf:+& lt;
 http://www.w3.org/1999/02/22-rdf-syntax-ns#>% 13PREFIX+rdfs:+& lt;
 http://www.w3.org/2000/01/rdf-schema#>% 13SELECT+?x % 13WHERE+
 {+?x+rdf:type+rdfs:Class+}
 Host: mydomain.org
 User-agent: sparql-client/0.1

μ GET μ SPARQL μ
 URL (μ '+', μ
 μμ '%13').
 μ URI ,
 :

GET /sparqlservice/?**query**=*EncodedQuery*&**default-graphuri**=
 http://www.other.example/someontology HTTP/1.1
 "EncodedQuery" μ URL μ μ .
 μ HTTP server
 μ . μ μ μ SPARQL
 μ CONSTRUCT μ DESCRIBE μ RDF
 μ SPARQL μ SELECT μ ASK,
 μ XML.

$\mu \mu$

$\mu \mu \mu$, $\mu \mu \mu$

SPARQL. μ SPARQL-DL μ

μ OWL-DL μ

μ SPARQL. μ (3)

Evren Sirin Bijan Parsia. , μ

μ (query atoms) SPARQL DL (μ -

abstract form) μ RDF . μ

expressions) μ . A (C) C

μ , C ,

. SPARQL-DL. μ V_o μ OWL-DL. μ

μ , , μ , μ $V_o =$

(V_{cls} , V_{op} , V_{dp} , V_{ap} , V_{ind} , V_D , V_{lit}). V_{bnode} V_{var} blank nodes

(bnodes) μ . μ μ q

μ :

q Type(a,C) | PropertyValue(a, p, v) | SameAs(a, b) | DifferentFrom(a, b) |
 EquivalentClass(C₁,C₂) | SubClassOf(C₁,C₂) | DisjointWith(C₁,C₂) |
 ComplementOf(C₁,C₂) | EquivalentProperty(p₁, p₂) | SubPropertyOf(p₁, p₂) |
 InverseOf(p₁, p₂) | ObjectProperty(p) | DatatypeProperty(p) | Functional(p) |
 InverseFunctional(p) | Transitive(p) | Symmetric(p) | Annotation(s, p_a, o),

- a, b $V_{uri}, V_{bnode}, V_{var},$
- v $V_{uri}, V_{lit}, V_{bnode}, V_{var},$
- p, q $V_{uri}, V_{var},$
- C,D $S_c, V_{var},$
- s $V_{uri},$
- p_a V_{ap}
- o $V_{uri} V_{lit}.$

SPARQL-DL μ Q SPARQL μ

μ . SPARQL, μ μ

μ μ .

μ μ μ (abstract)	μ RDF
Type(a,C)	<a, rdf:type, T(C)>
PropertyValue(a,p,u)	<a,p,u>
SameAs(a,b)	<a, owl:sameAs, b>
DifferentFrom(a,b)	<a, owl:differentFrom, b>
SubClassOf(C ₁ ,C ₂)	<T(C ₁), rdfs:subClassOf, T(C ₂)>

5.3.1.6.

- **RDQL:** RDQL is a query language for RDF. It is based on the Jena API. RDQL is a subset of SPARQL. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause.

```

SELECT ?resource
FROM <http://example.org/someWebPage>
WHERE (?resource info:age ?age)
AND ?age >= 24
USING info FOR http://example.org/peopleInfo#

```

RDQL is a query language for RDF. It is based on the Jena API. RDQL is a subset of SPARQL. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause. RDQL uses the same syntax as SPARQL, but it does not support the WHERE clause.

- **SeRQL:** SeRQL (Sesame RDF Query Language) is a query language for RDF. It is based on the Sesame API. SeRQL is a subset of SPARQL. SeRQL uses the same syntax as SPARQL, but it does not support the WHERE clause. SeRQL uses the same syntax as SPARQL, but it does not support the WHERE clause. SeRQL uses the same syntax as SPARQL, but it does not support the WHERE clause.

5.3.2. μ μ

(. . . PMML). μ WEKA) μ μ wrappers .

5.3.3. μμ (APIs)

μ Jena, Protege-OWL, JeSS μμ KAON μ (APIs) μ (inference engines).

5.3.3.1. Protégé - OWL API

Protege-OWL API μ open source JAVA OWL μ RDF. API OWL μ , μ (reasoning) μ μ Protege-OWL API μ Protege-OWL API μ :

- Protege-OWL editor.
- stand-alone μ (. . . , μ Swing, Servlets, Eclipse plugins).

5.3.3.2. Jena API

Jena API μ μμ JAVA, μμ μ μ μ . Hewlett Packard. Jena μ 2000. Jena2 μ 2003, μμ . Jena μ

API

, Jena μ :

- SPARQL (ARQ).
μ Jena RDQL μ 2.2. 2.3
μ SPARQL RDQL μ .

- μ μ (SDB).

- RDF μ HTTP (Joseki). Joseki μ
μ Jena μ
RDF μ
(RDF/XML, N3, Turtle), μ μ
μ μ μ Jena.

Jena μ

μ μ

μ μ

μ μ μ

RDFS.

μ OWL DL,
OWL reasoners,

Jena μ μ .
standard, mini macro

OWL DL.

DIG

μ μ

reasoner.

DIG

DL Reasoners

(HTTP PUT / GET) μ μ μ

XML

μ μ

μ

μ .

μ ,

μ)

(. .

reasoners μ μ μ

CEL, FACT++, Pellet

RacerPro

DIG.

μ

μ

(μ μ μ

Protege) μ

μ

DIG

μ reasoners.

μμ

Jena

DIG

OWL . Protege

μ μ

Jena API.

Jena

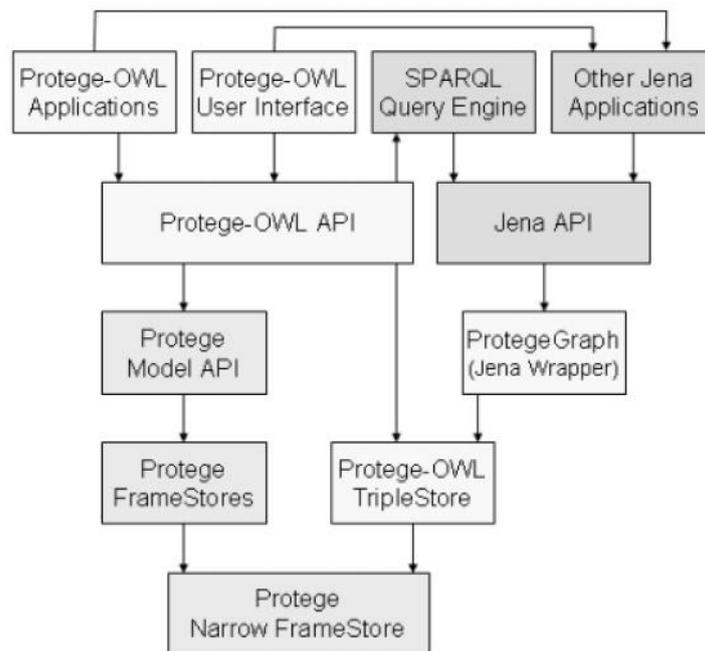
μ . μ μ

(frame store mechanism) Protégé μ

Protege-OWL (Protege triple store).

μ μ

μ μ Jena Graph Model.
 μ Protege μ Jena, Jena,
 Protege. , Jena Protege μ Jena,
 Jena, Protege. μ Jena
 , Jena μ μ SPARQL μ ,
 μ μ μ μ μ
 Protege. , μ μ
 Protege-OWL API.



22- μ Jena Protégé.

Layer) Jena μ (Graph
 (subject, predicate, object).
 μ μ
 μ μ
 μ (Enh-Graph Layer)
 μ μ (views)
 μ RDFS μ
 Java.
 μ (Model Layer) μ
 μ μ μ μ
 μ μ μ μ

μ :
SNOMED

μ 400.000 μ . μ

μ , μ
μ OWL μ μ , μ
μ (reasoning).

μ OWL ,

μ FaCT++, μ

μ RACER, μ

μ Pellet, μ

μ SWOOP, μ

μ Protege 4, μ

μ TopBraid Composer, μ

μ

μ (μ) .

μ (unsatisfiable), μ ,

5.4.1. μ (Reasoner)

μ O reasoners μ ,

μ

μ . reasoners μ

μ μ .

μ (consistency μ μ μ checking),
(classification) μ
μ (instance checking). μ μ reasoners :

5.4.1.1. Racer

μ *RacerPro* μ

μ Racer.

Racer (Renamed Abox and Concept Expression Reasoner)

μ reasoner μ

μ OWL. μ

μ μ reasoner μ

μ Racer

μ μ μ
μ Description Logics,

μ tableau calculus
μ OWL-DL.

μ Description Logics μ , μ

μ

μ

μ (axioms), Pellet (restrictions),
 μ μ μ (datatypes)
 μ μ XML,
 μ (user-defined).

5.4.1.4. KAON2

KAON2 KAON tableau
 μ μ μ μ ,
 μ μ μ KAON2
 μ μ Datalog μ
 (Disjunctive Datalog).
 μ SHIQ(D)
 Datalog μ , μ μ
 μ (. . magic sets).
 SWRL, μ F-Logic μ SPARQL
 .
 , μ μ
 . , KAON2
 OWL, μ μ
 (cardinality restrictions).

5.5. SWRL

SWRL (Semantic Web Rule Language)

μ Semantic Web
 μ OWL DL OWL Lite
 OWL μ Unary/Binary Datalog RuleML Rule Markup
 Language. OWL axioms μ
 Horn-like rules. μ Horn-like rules μ
 μ μ OWL. , μ
 μ Horn-like , μ
 OWL (, , μ).
 antecedent consequent μ . antecedent μ
 μ body, consequent μ
 head.
 μ μ
 : μ antecedent
 μ ,
 consequent μ .
 μ
 μ reasoners.

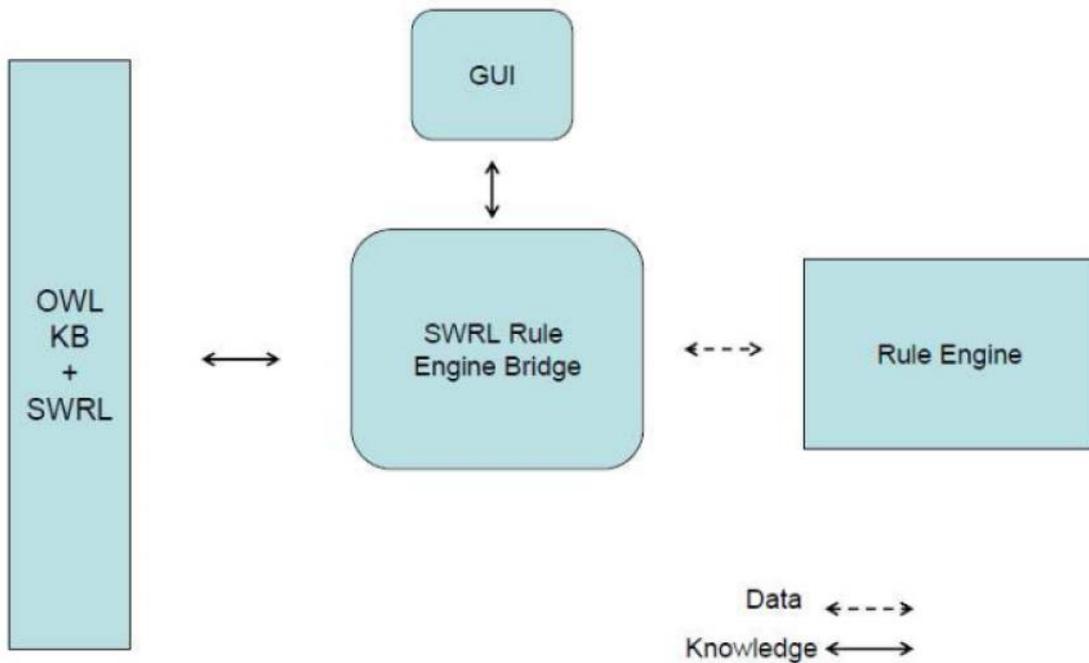
SWRLTab μ SQWRL.
μ μ ,
μ :

SWRL Editor :
SWRL μ OWL .

SWRL Built-in Libraries : μ μ
SWRLTab. μ built-in
SWRL
μ OWL .

SQWRL Query Tab :
μ SQWRL μ .

SWRL Jess Bridge : μ
μ μ μ Protege-OWL ,
SWRL . Jess Rule
Engine μ Protege-OWL. μ
SWRLJessTab μ



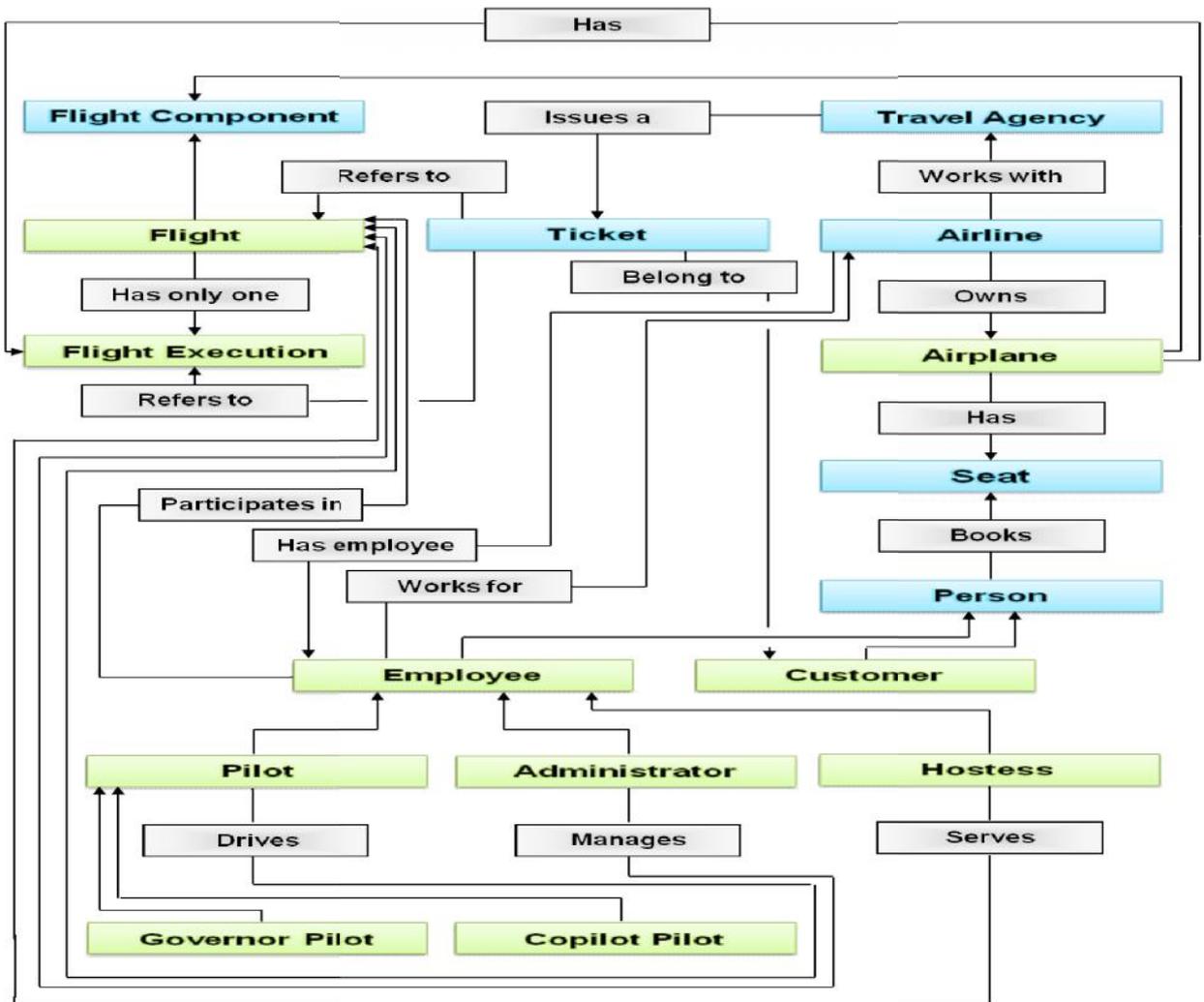
24- μ SWRL Rule Engine.

6.3.

μ

6.3.1.

μ : Airline, Travel Agency, Seat, Ticket. H Flight
 Component Airplane Flight. Flight
 μ Flight Execution.
 μ Person Employee Customer.
 Hostess, Employee, Administrator,
 Governor Pilot, Pilot. H Pilot μ
 Copilot Pilot.
 μ (25) .
 μ .



25-

μ .

6.3.1.5. FlightComponent

(Flight) (Airplane), μ μ

(Starting_Place) μ (Destination_Place), μ
 (StartingDay) μ (DestinationDay) (μ μ
), (Dep_time) μ
 (Arr_time) (μ) (Distance) .
 (Flight_id) .

μ (Flight
 Execution) μ μ (Date) (μ
 μ μ μ , μ μ
). Airplane μ
 μ μ (Airplane_id) μ
 (AirplaneName) .

6.3.1.6. Person

Person μ μ

(Employee) (Customer),
 Person. μ
 μ (Administrator) ,
 (Hostess) μ
 (Pilot).
 H Pilot μ , Governor
 Pilot Copilot Pilot. μ (Person) μ
 μ μ (Name), μ (Surname),
 (Address) (Age).
 (Employee_id) id (EmpAge_id) .
 μ id (Pilot_id) id μ
 (flightHours_id). (Host_id)
 μ (Work_years).
 (Administrator) μ
 (Admin_id) id μμ (Education_id) .
 μ μ
 (Customer_id) id μ
 (telephone_id) .

6.3.2.

μ

domain range

(properties subproperties) attributes

μ . μ ,

μ μ

Airline μ Airplane μ

Owns, μ Travel Agency μ Works_With, μ

Employee μ Has_Employee

Employee μ Airline μ Works_for.

Travel Agency μ Ticket μ

Issues_a. Ticket μ Flight μ

Refers_to, μ Flight Execution μ

Refers_to, μ Customer μ Belong_to.

Airplane μ Seat μ Has μ

Flight Execution μ Has. Person

μ Seat μ Books.

Employee μ Flight μ

Participates_in. Pilot μ Flight μ

Drives. Hostess μ Flight μ

Serves. Administrator μ Flight μ

Manages. Flight μ Flight

Execution μ HasOnlyOne.

μ μ μ

rdf:Property	rdfs:domain	rdfs:range
Owns	Airline	Airplane
Works_With	Airline	Travel_Agency
Has_Employee	Airline	Employee
Works_For	Employee	Airline
Issues_a	Travel_Agency	Ticket
Refers_to	Ticket	Flight
Refers_to	Ticket	Flight_Execution
Belong_to	Ticket	Customer
Has	Airplane	Seat
Has	Airplane	Flight_Execution
Books	Person	Seat
Participates_in	Employee	Flight
Drives	Pilot	Flight
Serves	Hostess	Flight
Manages	Administrator	Flight
HasonlyOne	Flight	Flight Execution
Company_ID	Airline	rdfs:String

Name	Airline	rdfs:String
Address	Airline	rdfs:String
Code_ID	Travel_Agency	rdfs: Integer
	Travel_Agency	rdfs:String
Full_Name	Travel_Agency	rdfs:String
Address	Travel_Agency	rdfs: String
Seat_id	Seat	rdfs:String
Number	Seat	rdfs: Integer
Price	Seat	rdfs: Float
Class	Seat	rdfs:String
Ticket_ID	Ticket	rdfs: String
F_id	Flight_Component	rdfs:String
Starting_Place	Flight_Component	rdfs:String
Destination_Place	Flight_Component	rdfs:String
StartingDay	Flight_Component	rdfs:String
DestinationDay	Flight_Component	rdfs:String
Dep_time	Flight_Component	rdfs:String
Arr_time	Flight_Component	rdfs:String
Distance	Flight_Component	rdfs:Integer
Flight_id	Flight	rdfs:String
ExeID	Flight_Execution	rdfs: String
Date	Flight_Execution	rdfs:String
FullName	Person	rdfs:String
Address	Person	rdfs:String
Age	Person	rdfs:String
Employee_id	Employee	rdfs:String
EmpAge_id	Employee	rdfs:String
Customer_id	Customer	rdfs:String
telephone_id	Customer	rdfs:String
Admin_id	Administrator	rdfs:String
Education_id	Administrator	rdfs:String
Host_id	Hostess	rdfs:String
Work_years	Hostess	rdfs: Integer
Pilot_id	Pilot	rdfs:String
flightHours_id	Pilot	rdfs: Integer
GovernorID	GovernorPilot	rdfs:String
CopilotID	CopilotPilot	rdfs:String

6.3.2.1. Data properties

```

<!--
////////////////////////////////////
//
// Data properties
//
////////////////////////////////////
-->

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#AT -->

```

```

<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#AT">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Address -->

```

```

<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Address">
  <Address rdf:datatype="&xsd:string">Heraklion</Address>
  <Address xml:lang="en"></Address>
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#AddressAgency -->

```

```

<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#AddressAgency">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Admin_id -->

```

```

<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Admin_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Age -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Age">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#AirplaneName -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#AirplaneName">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Arr_time -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Arr_time">
  <rdfs:range rdf:resource="&xsd:dateTime"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Class -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Class">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Code_ID -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Code_ID">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Company_ID -->
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#Company_ID">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#CopiloTID -->
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#CopiloTID">  
  <rdfs:range rdf:resource="&xsd:int"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_id -->
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#Customer_id">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Dep_time -->
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#Dep_time">  
  <rdfs:range rdf:resource="&xsd:dateTime"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#DestinationDay -->
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#DestinationDay">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Destination_Place --  
>
```

```
<owl:DatatypeProperty rdf:about="http://www.owl-  
ontologies.com/Ontology1369670699.owl#Destination_Place">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Distance -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Distance">
  <rdfs:range rdf:resource="&xsd;float"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Education_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Education_id">
  <rdfs:range rdf:resource="&xsd;string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Employee_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Employee_id">
  <rdfs:range rdf:resource="&xsd;string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#ExecutionFlight -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#ExecutionFlight">
  <Address xml:lang="en"></Address>
  <rdfs:range rdf:resource="&xsd;boolean"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#F_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#F_id">
  <rdfs:range rdf:resource="&xsd;string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_id">
  <rdfs:range rdf:resource="&xsd;string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FullName -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FullName">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Full_Name -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Full_Name">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#GovernoRID -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#GovernoRID">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Host_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Host_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#ID -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#ID">
  <rdfs:range rdf:resource="&xsd:int"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Name -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Name">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Number -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Number">
  <rdfs:range rdf:resource="&xsd:int"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#PersonAddress -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#PersonAddress">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot_id -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Pilot_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Price -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Price">
  <rdfs:range rdf:resource="&xsd;float"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_id -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#StartingDay -->
```

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#StartingDay">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Starting_Place -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Starting_Place">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_ID -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_ID">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Work_years -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Work_years">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#flightHours_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#flightHours_id">
  <rdfs:range rdf:resource="&xsd:int"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#telephone_id -->

```
<owl:DatatypeProperty                                rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#telephone_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

6.3.2.2. *bject Properties*

```

<!--
////////////////////////////////////
//
// Object Properties
//
////////////////////////////////////
-->

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Belong_to -->

<owl:ObjectProperty rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Belong_to">
  <rdfs:range rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
  <rdfs:domain rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket"/>
</owl:ObjectProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Books -->

<owl:ObjectProperty rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Books">
  <rdfs:domain rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Person"/>
  <rdfs:range rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat"/>
</owl:ObjectProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Drives -->

<owl:ObjectProperty rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Drives">
  <rdfs:range rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <rdfs:domain rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Pilot"/>
</owl:ObjectProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#HaS -->

<owl:ObjectProperty rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#HaS">
  <rdfs:domain rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>

```

```
<rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Has -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Has">
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Has_Employee -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Has_Employee">
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#HasonlyOne -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#HasonlyOne">
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Issues_a -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Issues_a">
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Manages -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Manages">  
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Administrator"/>  
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>  
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Owns -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Owns">  
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>  
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>  
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Participates_in -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Participates_in">  
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee"/>  
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>  
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#RefersTo -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#RefersTo">  
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>  
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>  
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Refers_to -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Refers_to">
```

```
<rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
<rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Serves -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Serves">
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Hostess"/>
</owl:ObjectProperty>
```

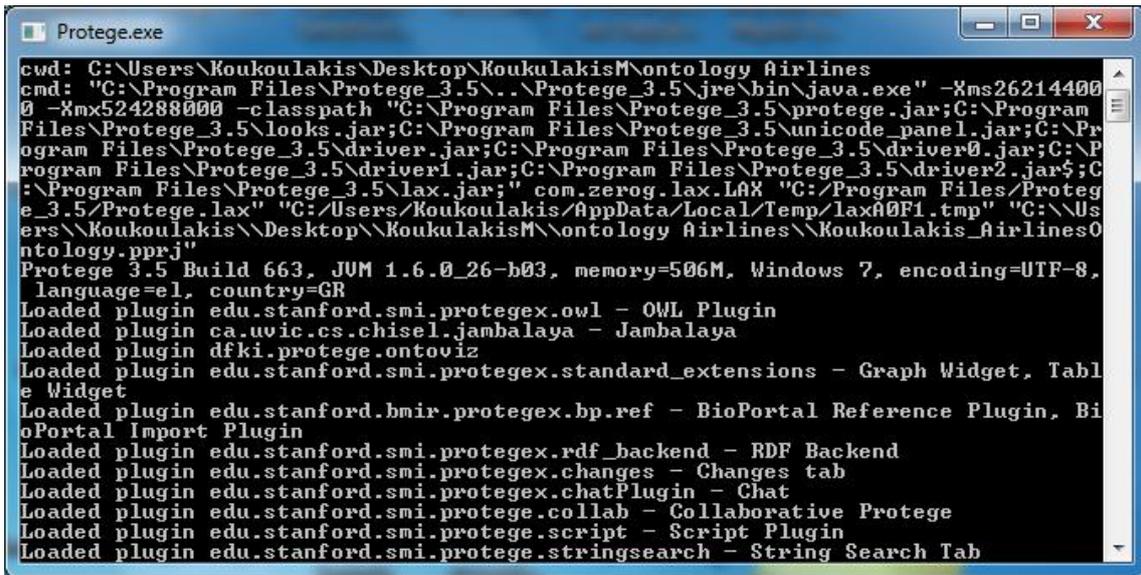
```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Works_For -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Works_For">
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Works_With -->
```

```
<owl:ObjectProperty rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Works_With">
  <rdfs:domain rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <rdfs:range rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
</owl:ObjectProperty>
```

6.4. E A O Protégé (RDF/ RDF Schema) μ X

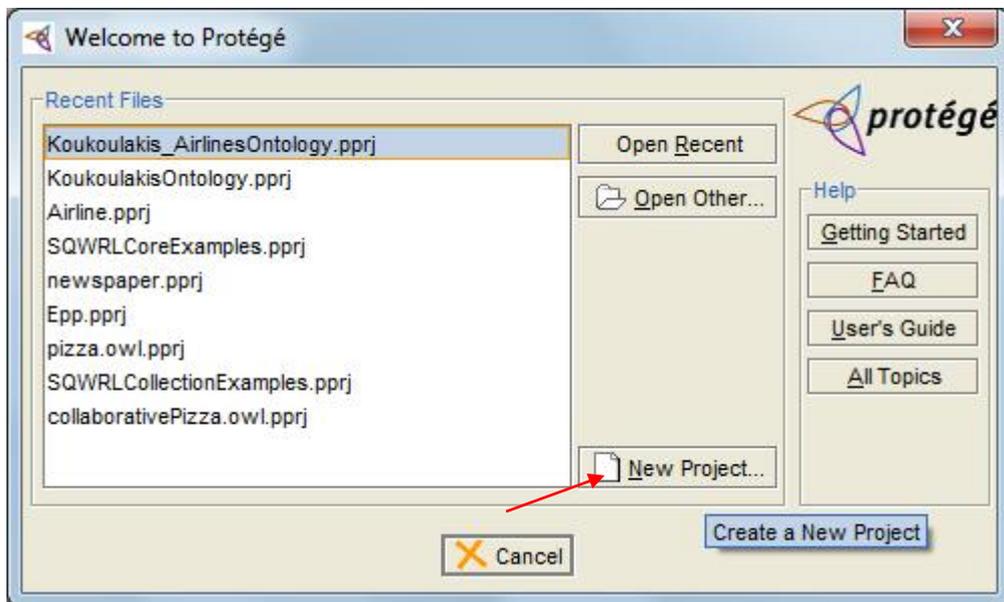


26-E A O Protégé.

6.4.1. μ Project Protégé

, μ " μ

Project...":



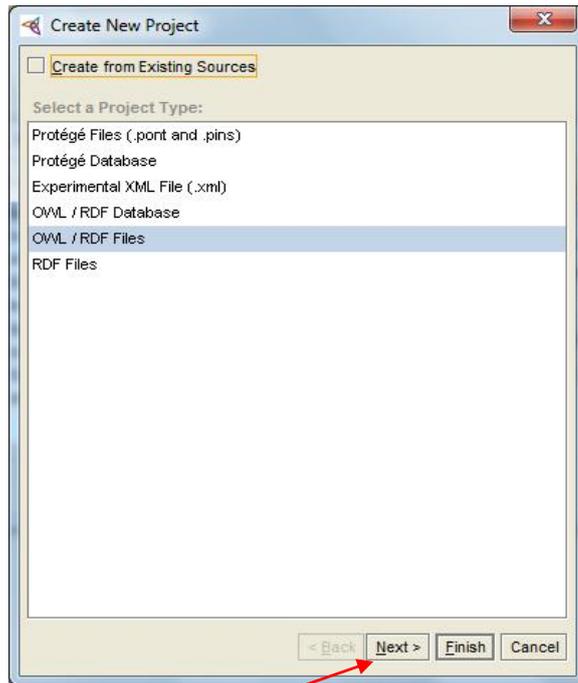
27- μ Project Protege.

μ

μ

Project

:



28-

μ
Protege.

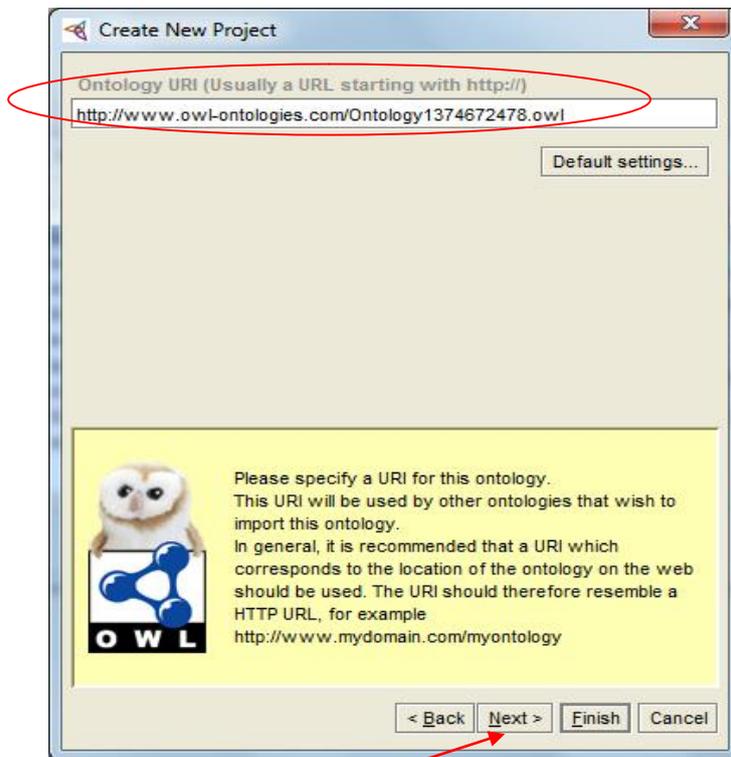
Project

μ OWL / RDF

μ

Next>.

μ μ URI,
μ .



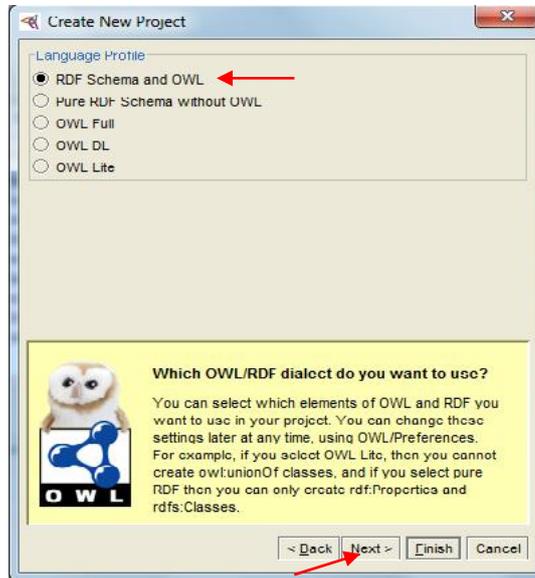
29.-

μ μ

URI

μ Next>.

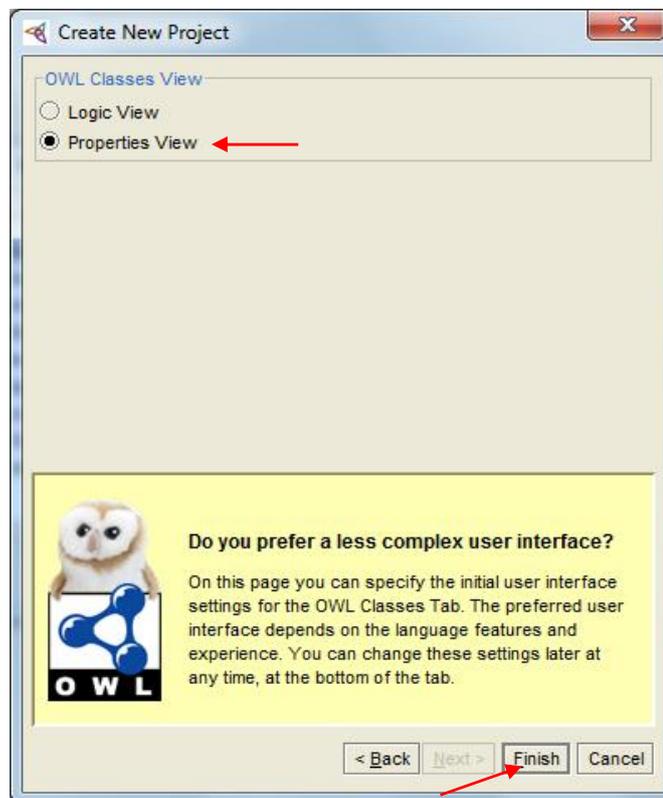
μ RDF Schema and OWL Language Profile:



30-Language Profile Protege.

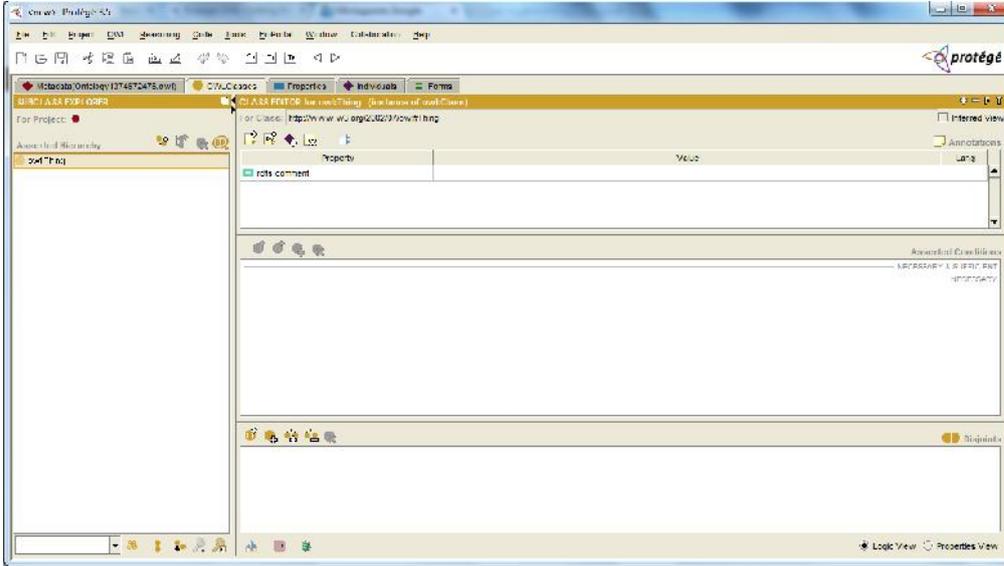
μ Next>.

μ OWLClasses Properties View.



31-Properties View Protege.

Properties View
 Finish. μ Project μ . μ μ
 μ μ μ .



32-K Project Protege.

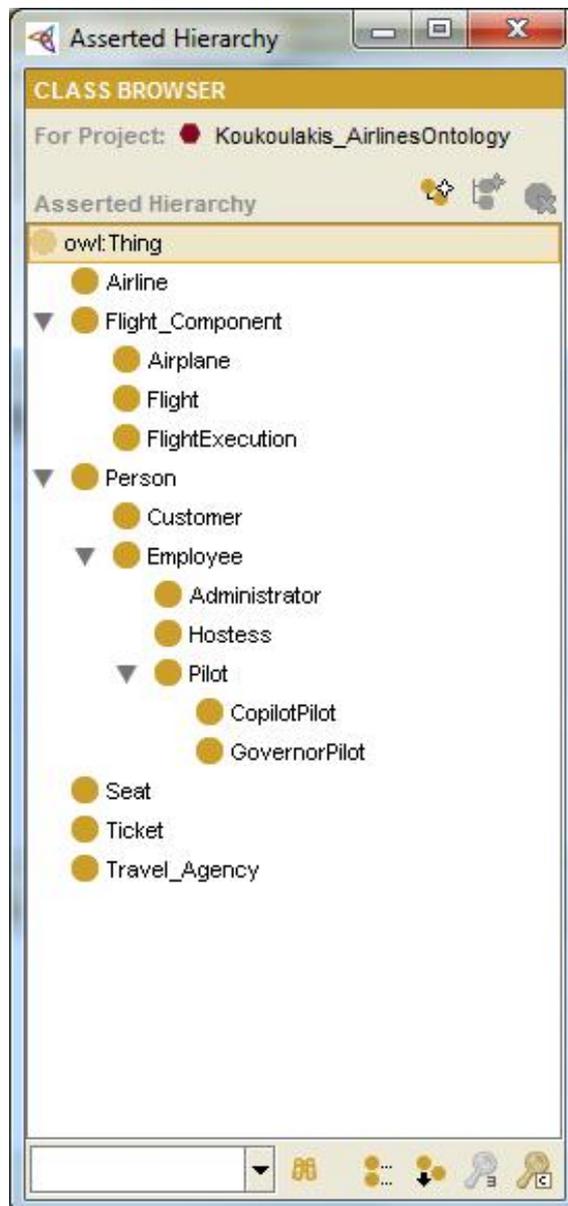
6.4.2.

AirlineOntology

μ , μ AirlineOntology, (6.1).
 : Airline, Flight_Component, μ
 Person, Seat, Ticket Travel_Agency. μ

- **Airline** ():
 - **Flight_Component** ():
 - **Person** ():
 - **Administrator** ():
 - **Hostess** ():
 - **Airplane** (), **FlightExecution** ().
 - **Customer** ()
Employee (μ)

- **Pilot** (): μ ,
 - **GovernorPilot** ():
 - **CopilotPilot** ():
- **Seat** ():
- **Ticket** ():
- **Travel_Agency** (μ μ):



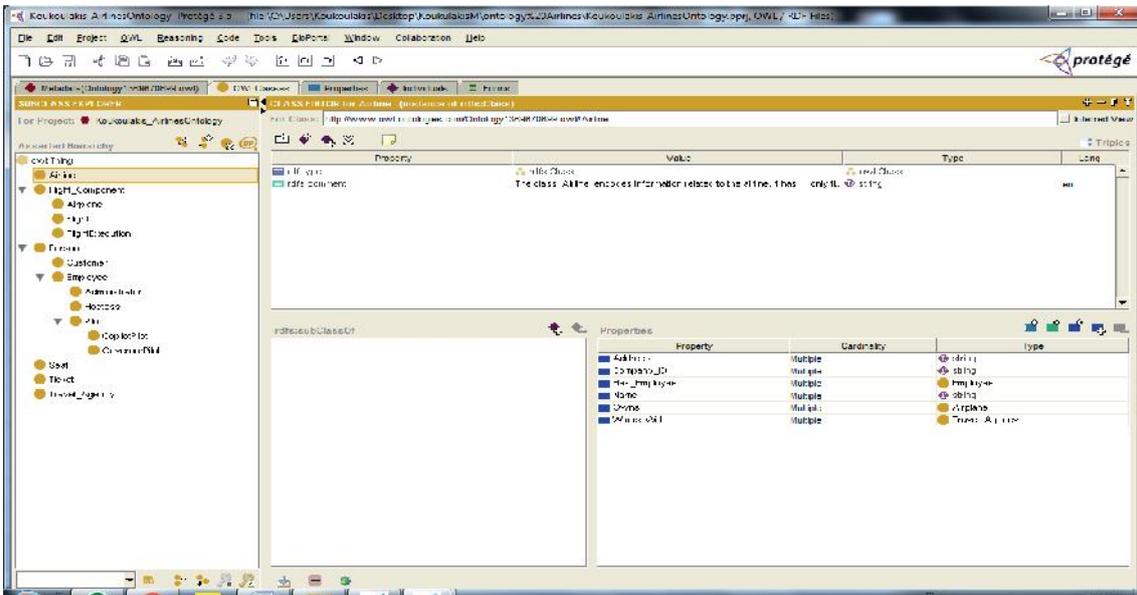
33-

6.4.3.

(datatype property)
 (object property),
 .

6.4.3.1. Airline

Company_ID
 Name
 Address
 string,
 (string).
 : Has_Employee, Owns Works_With.
 Has_Employee Airline μ Employee μ
 Owns Airline μ
 Works_With Airline μ
 Travel_Agency



34-Class Airline.

Αρχείο OWL (Κλάση Airline):

```

<!--class Airline-->

</rdfs:Class>
  <rdfs:Class rdf:ID="Airline">
    <rdfs:comment xml:lang="en">The class Airline encodes
information related to the airline. It has
    only three Datatype Properties, which are the following:
Company_ID, Name
    and Address. Also it has three Object Properties, which are
the following:
    Has_Employee, Owns and Works_With.</rdfs:comment>
  </rdfs:Class>

<!--Property Address-->

<rdf:Property rdf:ID="Address">
  <rdfs:domain rdf:resource="#Airline"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

<!--Property Name -->

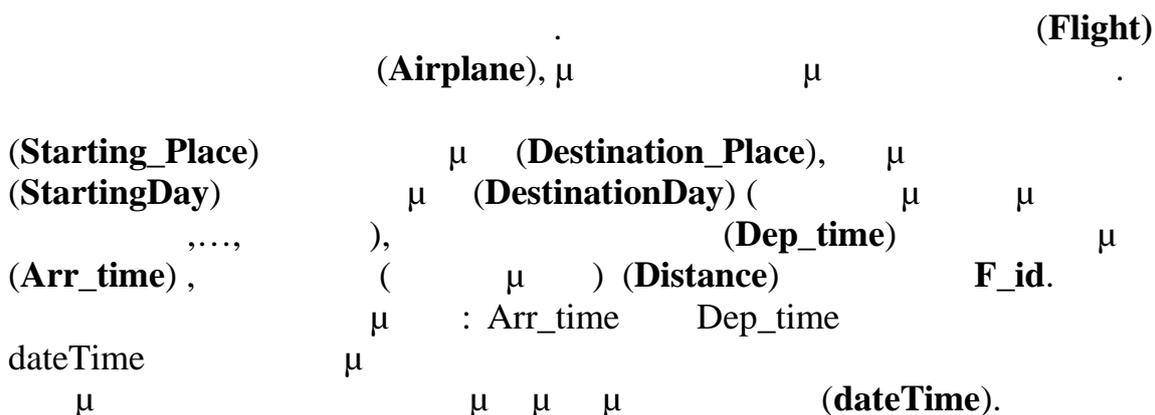
<rdf:Property rdf:ID="Name">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Airline"/>
</rdf:Property>

<!--Property Company_ID -->

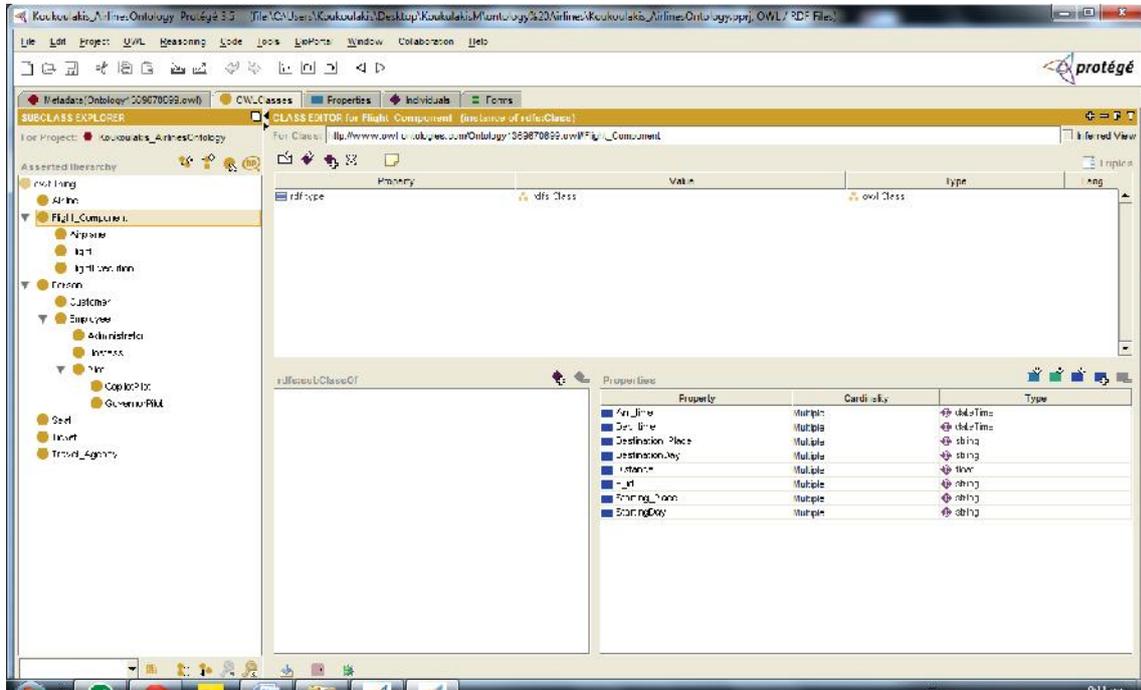
  <rdf:Property rdf:ID="Company_ID">
    <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    <rdfs:domain rdf:resource="#Airline"/>
  </rdf:Property>

```

6.4.3.2. Flight_Component



Starting_Place StartingDay : Destination_Place, DestinationDay, F_id, string, μ
 (string). : Distance float, μ
 μ (float). μ



35-Class Flight_Component

Αρχείο OWL (Κλάση Flight_Component):

```
<!--class Flight_Component-->
<rdfs:Class rdf:ID="Flight_Component" />
<!--Property Dep_time-->
<rdf:Property rdf:ID="Dep_time">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#dateTime"/>
  <rdfs:domain rdf:resource="#Flight_Component"/>
  </rdf:Property>
<!--Property DestinationDay-->
  <rdf:Property rdf:ID="DestinationDay">
    <rdfs:domain rdf:resource="#Flight_Component"/>
    <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    </rdf:Property>
```

```
<!--Property F_id-->

<rdf:Property rdf:ID="F_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Flight_Component"/>
</rdf:Property>

<!--Property Distance-->

<rdf:Property rdf:ID="Distance">
  <rdfs:domain rdf:resource="#Flight_Component"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#float"/>
</rdf:Property>

<!--Property Destination_Place-->

<rdf:Property rdf:ID="Destination_Place">
  <rdfs:domain rdf:resource="#Flight_Component"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

<!--Property Starting_Place-->

<rdf:Property rdf:ID="Starting_Place">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Flight_Component"/>
</rdf:Property>

<!--Property Arr_time-->

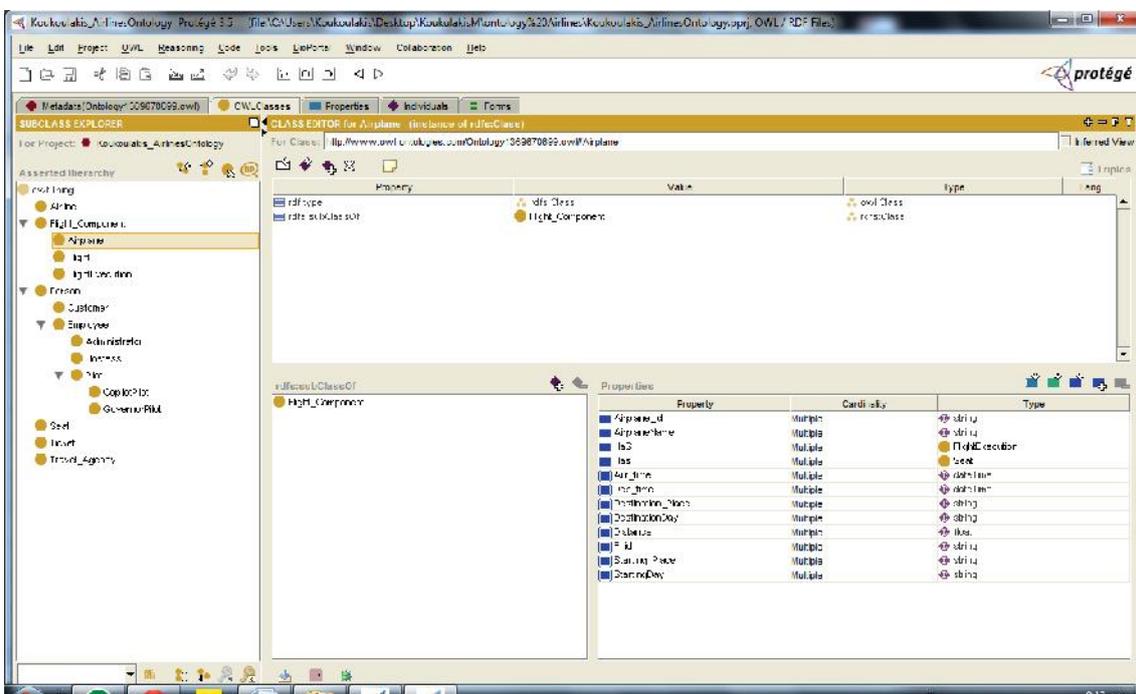
<rdf:Property rdf:ID="Arr_time">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#dateTime"/>
  <rdfs:domain rdf:resource="#Flight_Component"/>
</rdf:Property>

<!--Property StartingDay-->

<rdf:Property rdf:ID="StartingDay">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Flight_Component"/>
</rdf:Property>
```

6.4.3.2.1. Airplane

Airplane
 (AirplaneName).
 (Airplane_id)
 string,
 (string).
 :Has
 Airplane μ
 FlightExecution.
 μ Has
 Airplane μ
 Seat
 .



36-Class Airplane.

Αρχείο OWL (Κλάση Airplane):

```

<!--class Airplane-->

<rdfs:Class rdf:ID="Airplane">
  <rdfs:subClassOf rdf:resource="#Flight_Component"/>
</rdfs:Class>

<!--Property Airplane_id-->

<rdf:Property rdf:ID="Airplane_id">
  <rdfs:domain rdf:resource="#Airplane"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  </rdf:Property>

<!--Property AirplaneName-->
    
```



```
<!--Property Flight_id-->
<rdf:Property rdf:ID="Flight_id">
  <rdfs:domain rdf:resource="#Flight"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>
```

6.4.3.2.3. FlightExecution

FlightExecution

(Flight Execution)

ExecutionFlight .

Flight : ID ExecutionFlight.

Flight int,

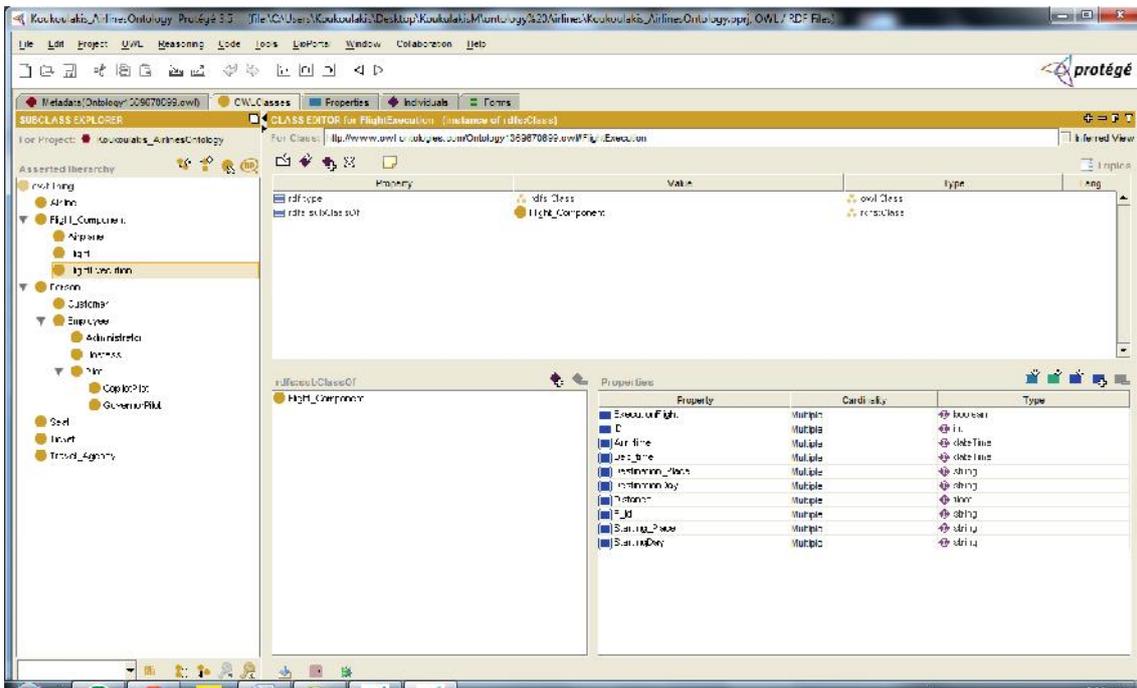
(int).

ExecutionFlight Flight

Boolean,

(

), " (Boolean).



38-Class FlightExecution.

Αρχείο OWL (Κλάση FlightExecution):

```
<!--class FlightExecution-->
<rdfs:Class rdf:ID="FlightExecution">
  <rdfs:subClassOf>
    <rdfs:Class rdf:ID="Flight_Component"/>
  </rdfs:subClassOf>
</rdfs:Class>
```

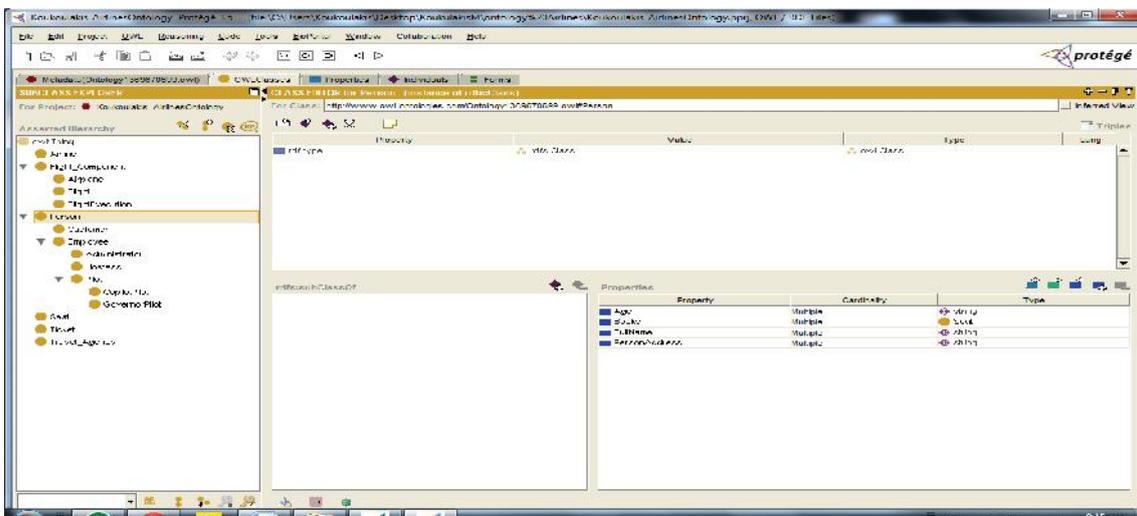
```

<!--Property ExecutionFlight-->
<rdf:Property rdf:ID="ExecutionFlight">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#boolean"/>
  <rdfs:domain rdf:resource="#FlightExecution"/>
</rdf:Property>
<!--Property ID-->
<rdf:Property rdf:ID="ID">
  <rdfs:domain rdf:resource="#FlightExecution"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#int"/>
</rdf:Property>

```

6.4.3.3. Person

Person μ
 μ μ
 (Employee) (Customer),
 Person.
 μ μ (Person) μ μ
 μ μ (FullName), (PersonAddress)
 (Age). μ μ , :
FullName, PersonAddress Age.
 μ string,
 μ μ (string). μ μ μ μ ,
 : **Books.** μ Books μ ,
 Person μ Seat.



39-Class Person.

Αρχείο OWL (Κλάση Person):

```

<!--class Person-->

<rdfs:Class rdf:ID="Person"/>

<!--Property Person-->

rdf:Property rdf:ID="PersonAddress">
  <rdfs:domain rdf:resource="#Person"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  </rdf:Property>

<!--Property Age-->

<rdf:Property rdf:ID="Age">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Person"/>
  </rdf:Property>

<!--Property FullName-->

  <rdf:Property rdf:ID="FullName">
    <rdfs:domain rdf:resource="#Person"/>
    <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    </rdf:Property>

```

6.4.3.3.1. Customer

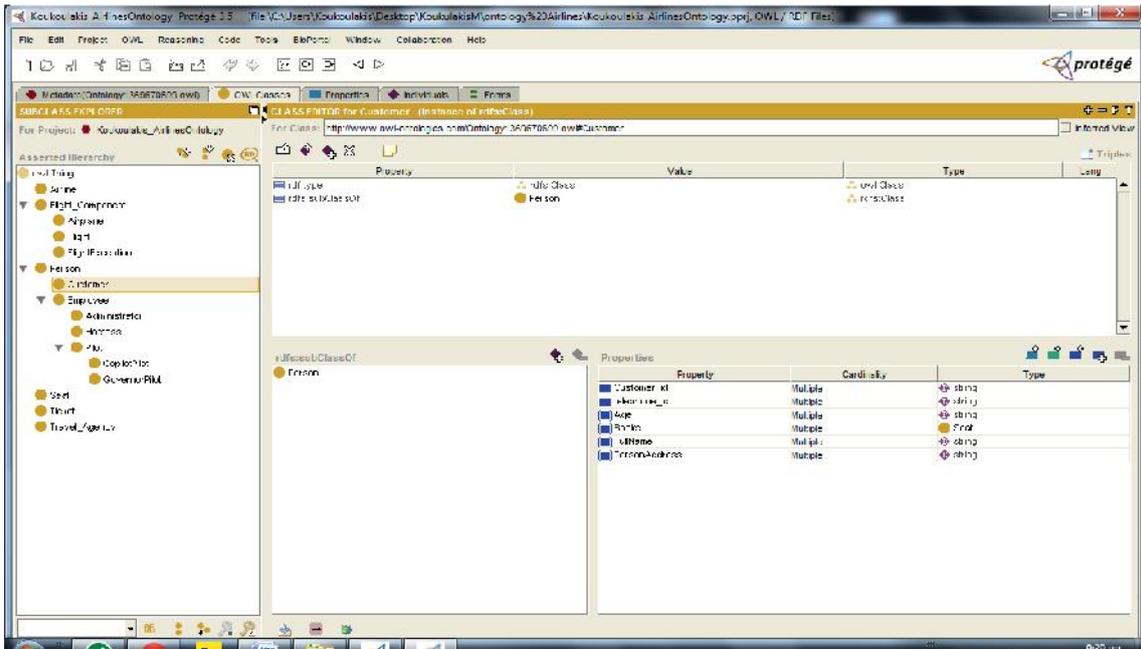
Customer μ

id μ (telephone_id) . μ μ (Customer_id) μ

μ , : Customer_id telephone_id. μ

μ string, μ

μ (string).



40-Class Customer .

Αρχείο OWL (Κλάση Customer):

```

<!--class Customer -->

<rdfs:Class rdf:ID="Customer">
  <rdfs:subClassOf>
    <rdfs:Class rdf:ID="Person" />
  </rdfs:subClassOf>
</rdfs:Class>

<!--Property telephone_id-->

<rdf:Property rdf:ID="telephone_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Customer"/>
</rdf:Property>
<!--Property Customer_id-->

<rdf:Property rdf:ID="Customer_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Customer"/>
</rdf:Property>
  
```

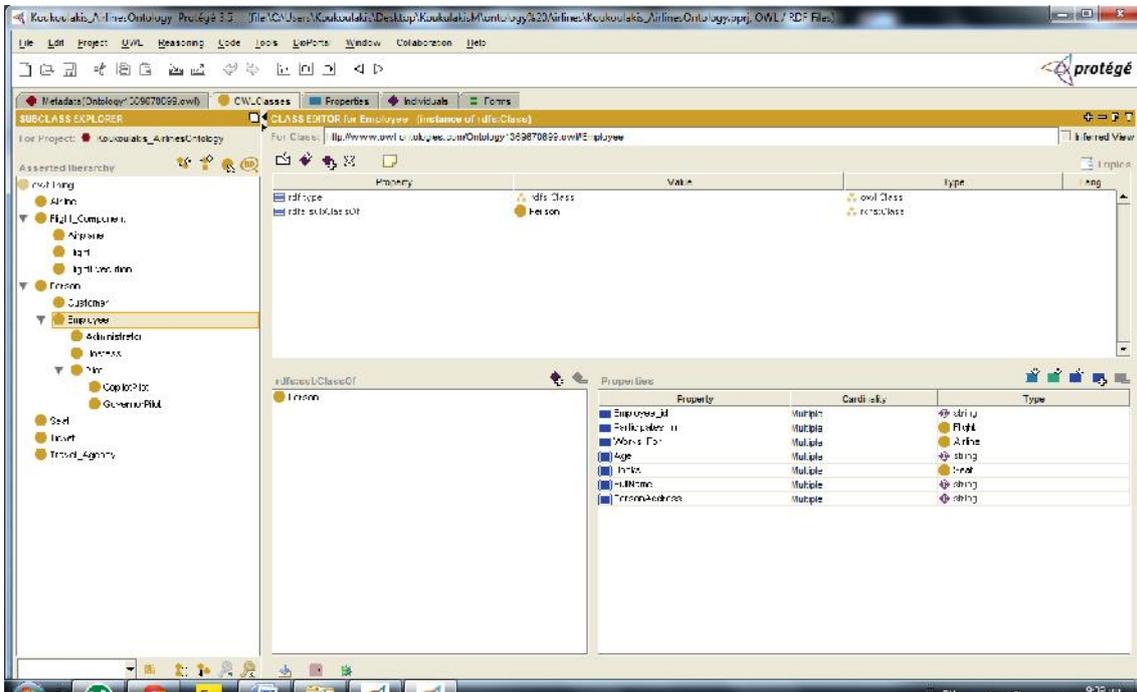
6.4.3.3.2. Employee

Employee

Employee_id : Employee_id.

string, (string).

Participates_in , Works_for. μ , :
 Employee μ Flight, Participates_in
 Works_for Employee μ Airline.



41-Class Employee.

Αρχείο OWL (Κλάση Employee):

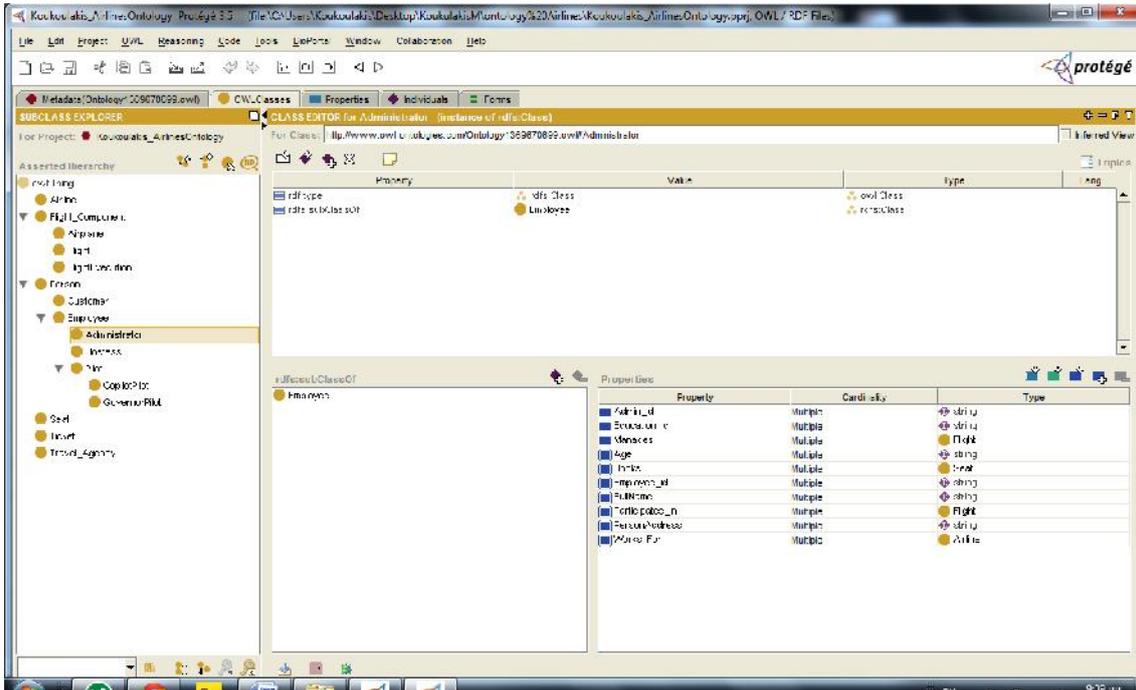
```
<!--class Employee-->
<rdfs:Class rdf:ID="Employee">
  <rdfs:subClassOf rdf:resource="#Person"/>
</rdfs:Class>
<!--Property Employee_id-->
<rdf:Property rdf:ID="Employee_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Employee"/>
</rdf:Property>
```

6.4.3.3.2.1. Administrator

Administrator μ : Admin_id
 Education_id. μ string,
 μ (string), μ

: **Manages.**
Administrator μ

μ **Manages**
Flight.



42-Class Administrator.

Αρχείο OWL (Κλάση Administrator):

```

<!--class Administrator-->

<rdfs:Class rdf:ID="Administrator">
  <rdfs:subClassOf rdf:resource="#Employee"/>
</rdfs:Class>

<!--Property Admin_id-->

<rdf:Property rdf:ID="Admin_id">
  <rdfs:domain rdf:resource="#Administrator"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  </rdf:Property>

<!--Property Education_id-->

<rdf:Property rdf:ID="Education_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Administrator"/>
  </rdf:Property>
  
```

6.4.3.3.2.2. Hostess

Hostess

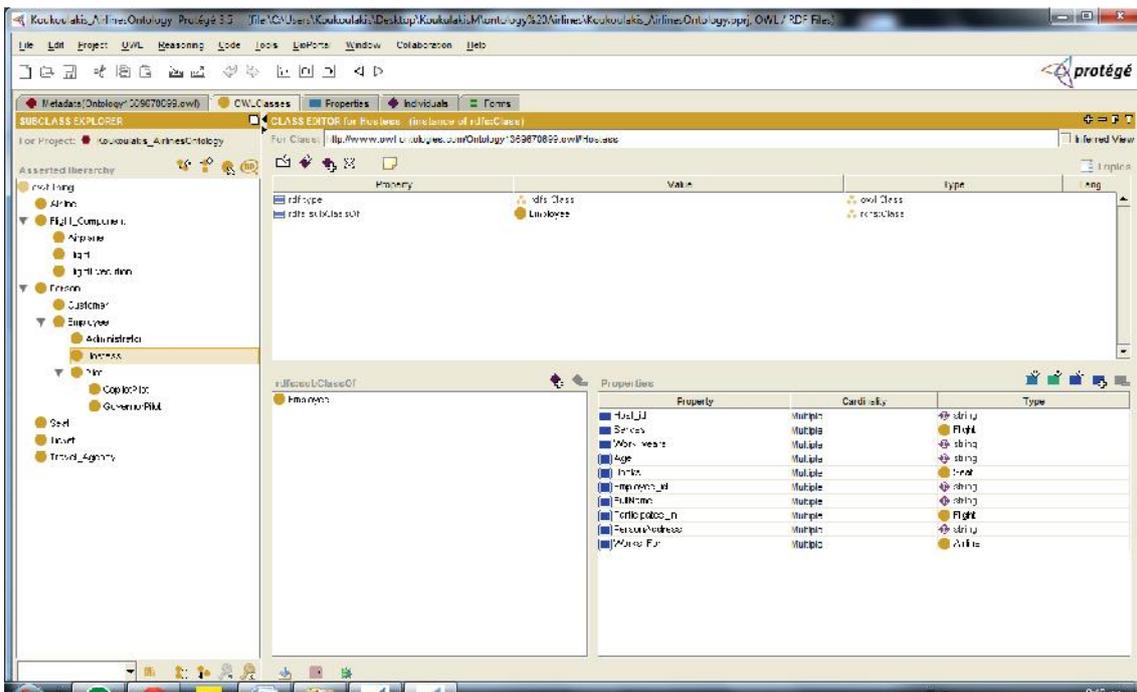
μ : Host_id Work_years.

μ string, μ (string).

μ , μ : Serves.

μ Serves Hostess μ

Flight.



43-Class Hostess .

Αρχείο OWL (Κλάση Hostess):

```

<!--class Hostess -->
<rdfs:Class rdf:ID="Hostess">
  <rdfs:subClassOf rdf:resource="#Employee"/>
</rdfs:Class>

<!--Property Work_years-->
<rdf:Property rdf:ID="Work_years">
  <rdfs:domain rdf:resource="#Hostess"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

<!--Property Host_id-->
<rdf:Property rdf:ID="Host_id">
  <rdfs:domain rdf:resource="#Hostess"/>
  
```

```
<rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>
```

6.4.3.3.2.3. Pilot

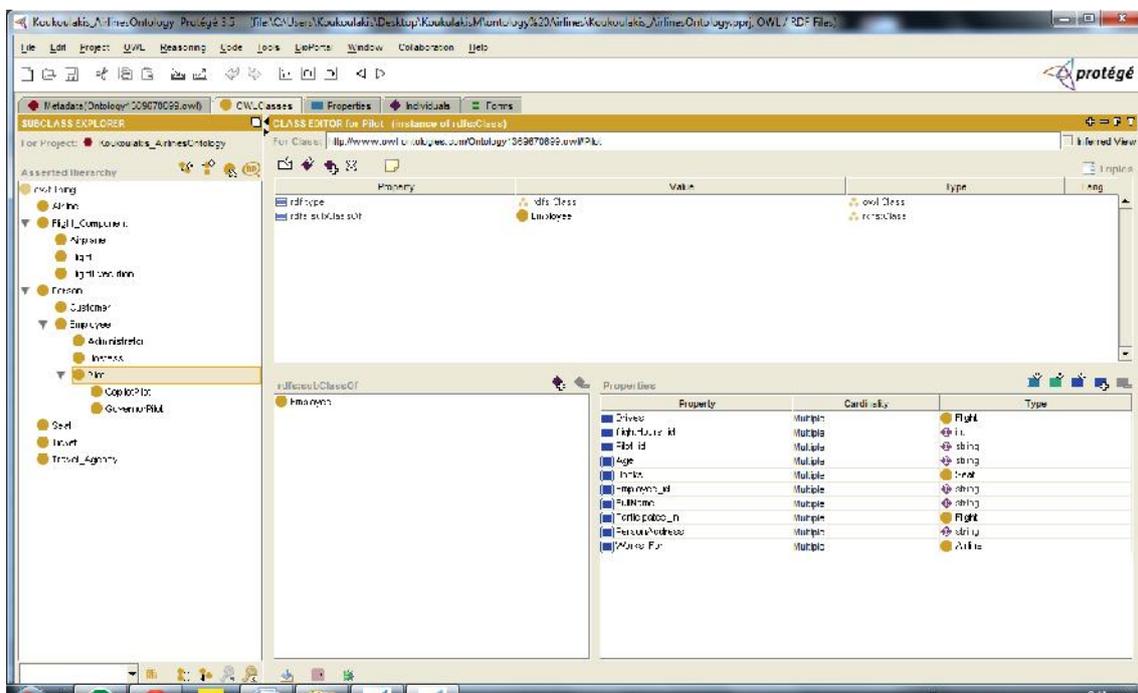
Pilot

FlightHours_id : **Pilot_id** **FlightHours_id.H**

int, (int).

Drives **Pilot_id** string, **Pilot**

Flight.



44-Class Pilot.

Αρχείο OWL (Κλάση Pilot):

```
<!--class Pilot-->
<rdfs:Class rdf:about="#Pilot">
  <rdfs:subClassOf rdf:resource="#Employee"/>
</rdfs:Class>
<!--Property flightHours_id-->
<rdf:Property rdf:ID="flightHours_id">
  <rdfs:domain rdf:resource="#Pilot"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#int"/>
```

```

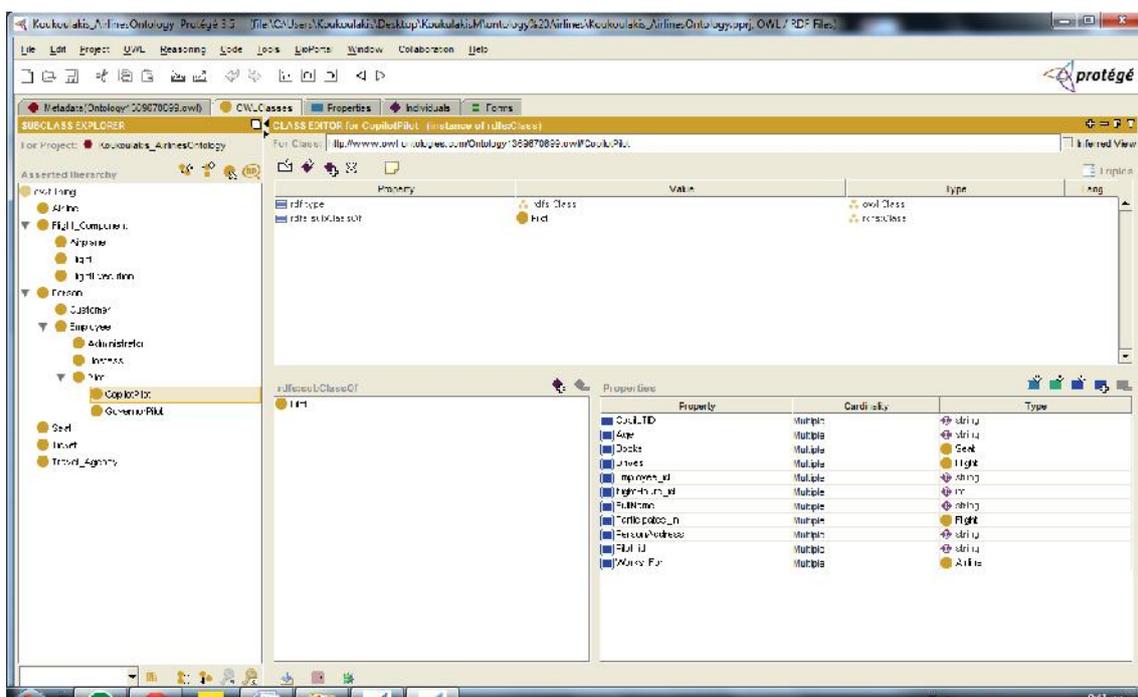
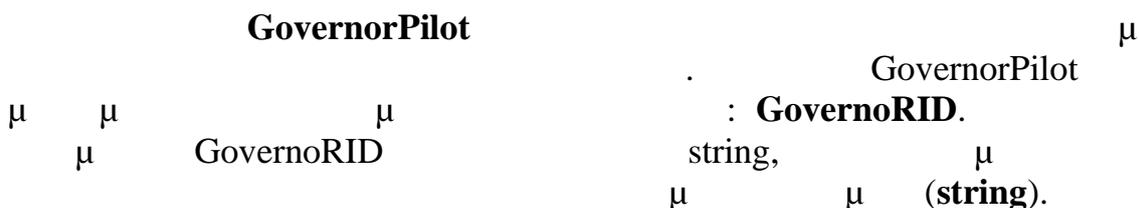
</rdf:Property>

<!--Property Pilot_id-->

<rdf:Property rdf:ID="Pilot_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Pilot"/>
</rdf:Property>

```

6.4.3.3.2.3.1. GovernorPilot



45-Class GovernorPilot.

Αρχείο OWL (Κλάση GovernorPilot):

```

<!--class GovernorPilot-->

<rdfs:Class rdf:ID="GovernorPilot">
  <rdfs:subClassOf>
    <rdfs:Class rdf:about="#Pilot"/>
  </rdfs:subClassOf>

<!--Property GovernoRID-->

<rdf:Property rdf:ID="GovernoRID">

```

```

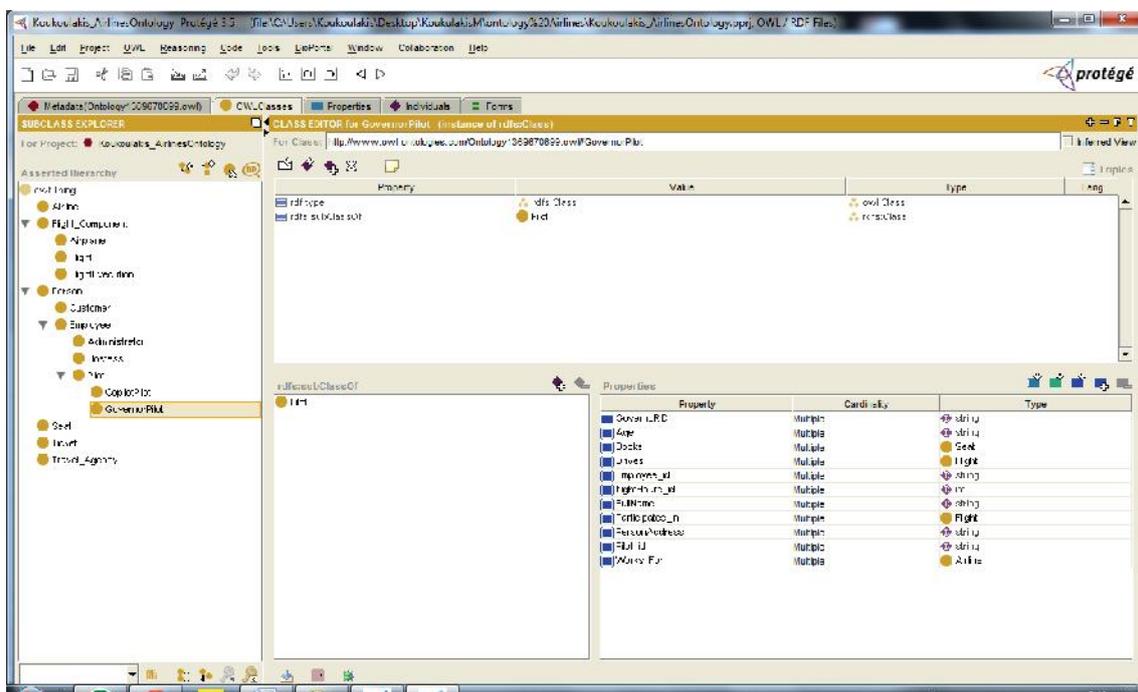
<rdfs:domain rdf:resource="#GovernorPilot"/>
<rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

```

6.4.3.3.2.3.2.

CopilotPilot

" " CopilotPilot
 μ μ : Copilo ID.
 μ Copilo ID string, μ
 μ μ (string).



46-Class CopilotPilot.

Αρχείο OWL (Κλάση CopilotPilot):

```

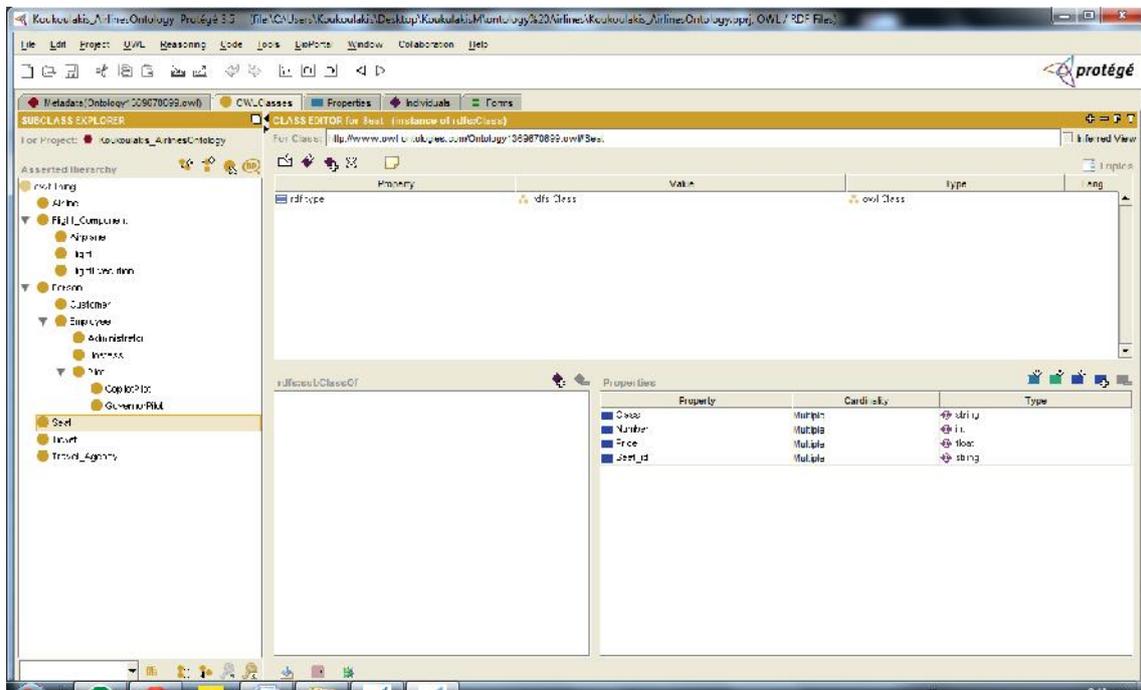
<!--class CopilotPilot-->
<rdfs:Class rdf:ID="CopilotPilot">
  <rdfs:subClassOf>
    <rdfs:Class rdf:ID="Pilot"/>
  </rdfs:subClassOf>
</rdfs:Class>

<!--Property CopiloTID-->
<rdf:Property rdf:ID="CopiloTID">
  <rdfs:domain rdf:resource="#CopilotPilot"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

```

6.4.3.4. Seat

Class. **Seat** (Seat_id), (Number), (Price) (Class). A_class B_class. : Seat_id, Number, Price
 Class. Seat_id Class string,
 (string). Number int,
 Price float, (int).
 (float).



47-Class Seat.

Αρχείο OWL (Κλάση Seat):

```

<!--class Seat-->
<rdfs:Class rdf:ID="Seat" />
<!--Property Number-->
<rdf:Property rdf:ID="Number">
  <rdfs:range
  rdf:resource="http://www.w3.org/2001/XMLSchema#int" />
  <rdfs:domain rdf:resource="#Seat" />
</rdf:Property>
    
```

```

<!--Property Seat_id-->

<rdf:Property rdf:ID="Seat_id">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Seat"/>
</rdf:Property>

<!--Property Class-->

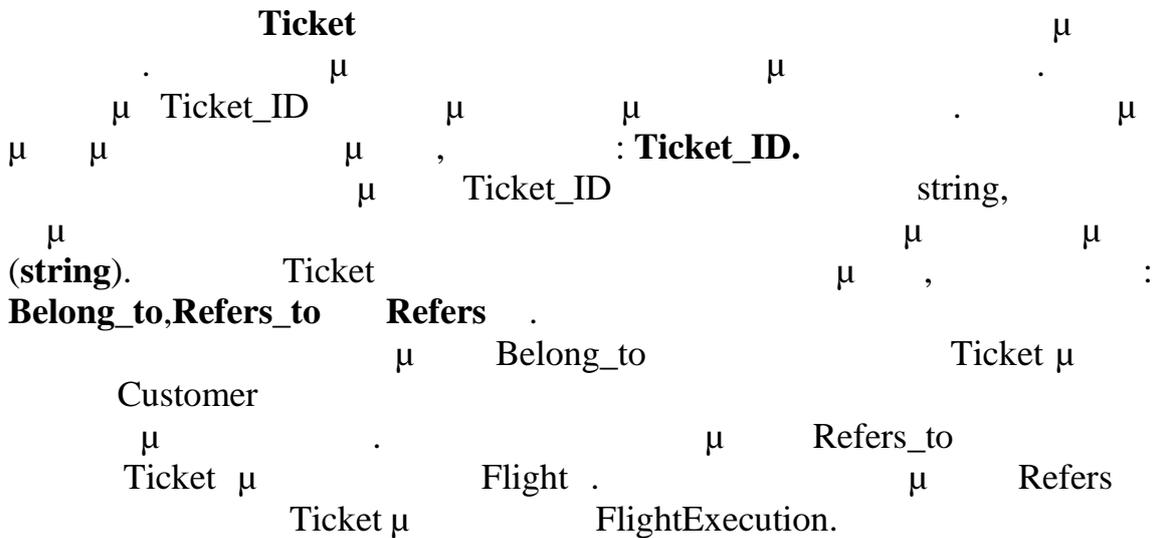
<rdf:Property rdf:ID="Class">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
  <rdfs:domain rdf:resource="#Seat"/>
</rdf:Property>

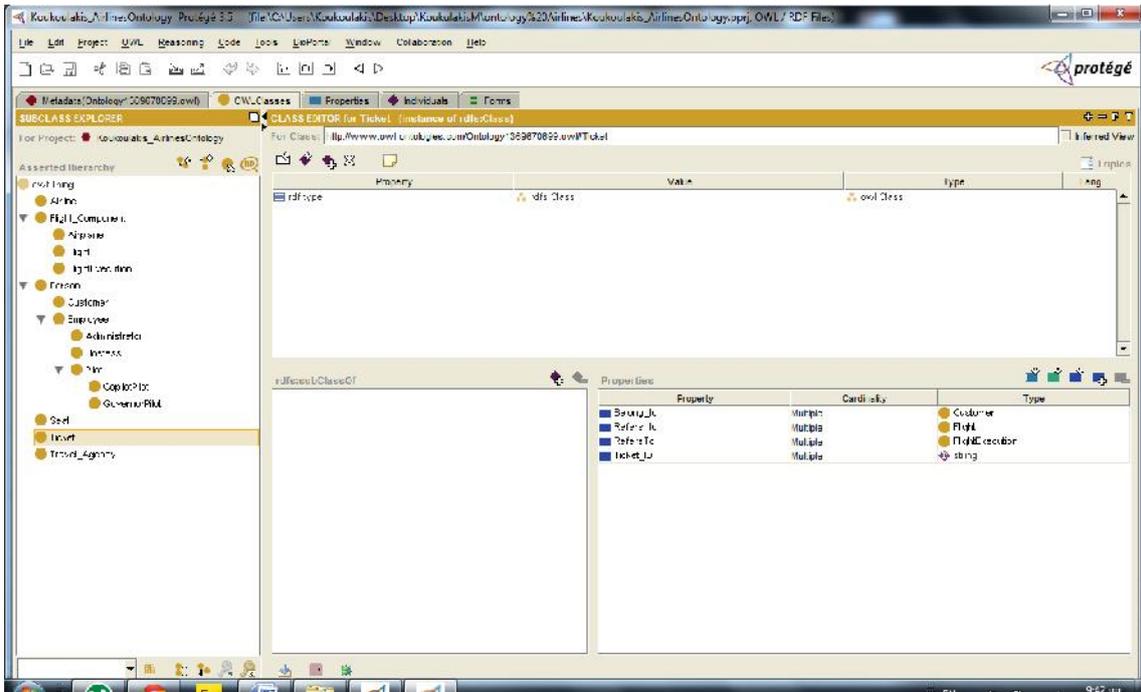
<!--Property Price-->

<rdf:Property rdf:ID="Price">
  <rdfs:domain rdf:resource="#Seat"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#float"/>
</rdf:Property>

```

6.4.3.5. Ticket





48-Class Ticket.

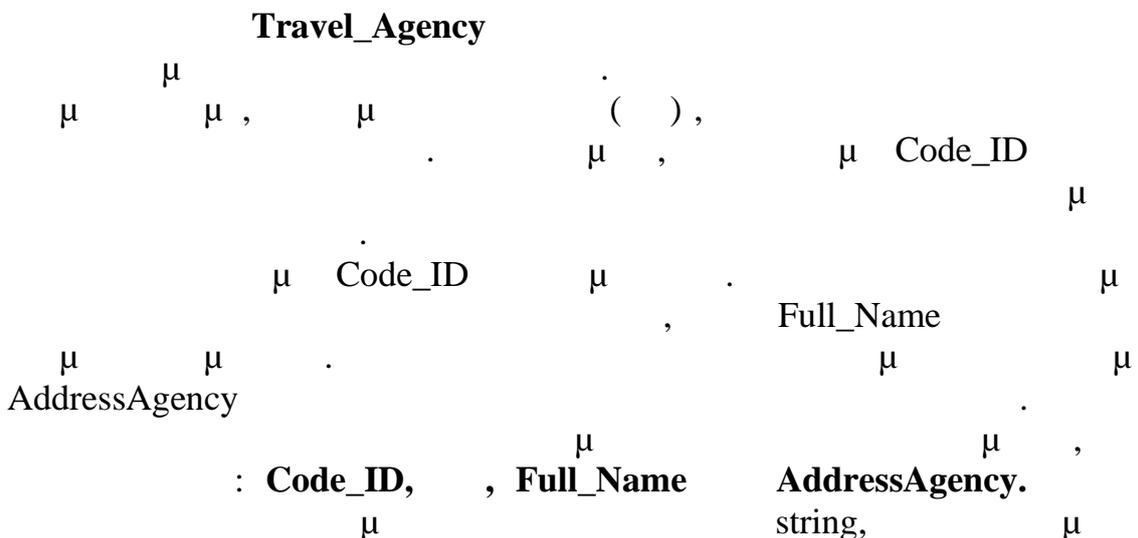
Αρχείο OWL (Κλάση Ticket):

```

<!-- class Ticket-->
<rdfs:Class rdf:ID="Ticket"/>
<!--Property Ticket_ID-->
<rdf:Property rdf:ID="Ticket_ID">
  <rdfs:domain rdf:resource="#Ticket"/>
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
</rdf:Property>

```

6.4.3.6. Travel_Agency



(string).
Issues_a.

,

μ

μ

,

μ

:

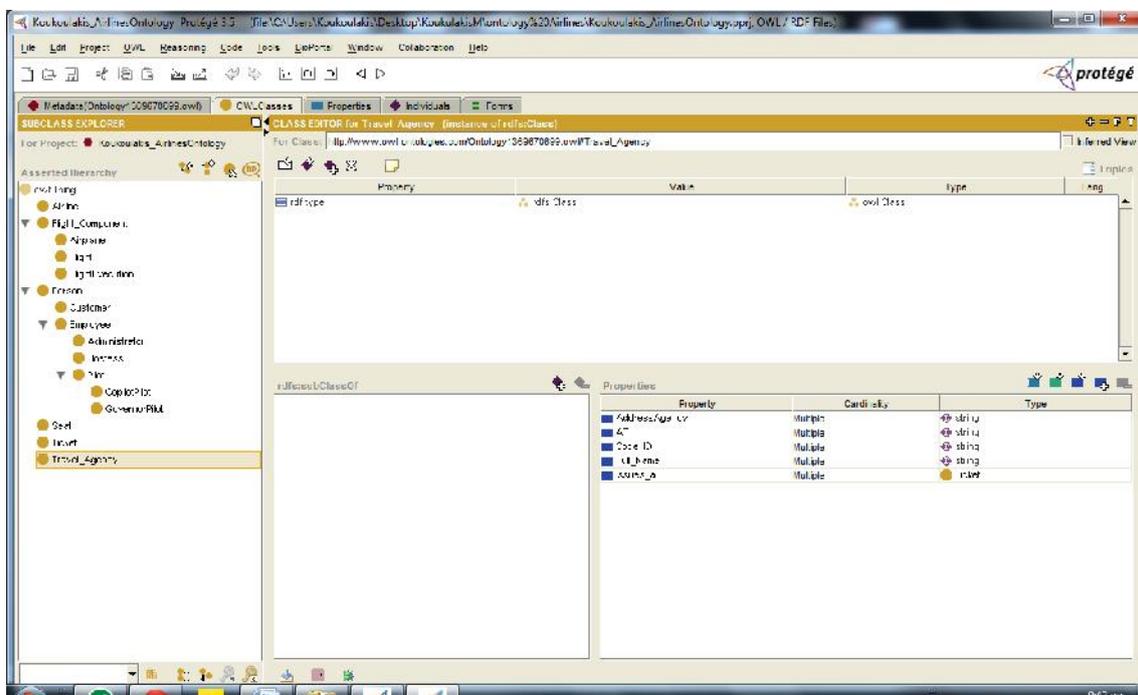
μ

Ticket

μ Issues_a

Travel_Agency

μ



49- Class Travel_Agency.

Αρχείο OWL (Κλάση Travel_Agency):

```
<!-- Class Travel_Agency-->
<rdfs:Class rdf:ID="Travel_Agency" />

<!--Property Code_ID-->
<rdf:Property rdf:ID="Code_ID">
  <rdfs:domain rdf:resource="#Travel_Agency" />
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string" />
  </rdf:Property>

<!--Property AddressAgency-->
<rdf:Property rdf:ID="AddressAgency">
  <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string" />
  <rdfs:domain rdf:resource="#Travel_Agency" />
  </rdf:Property>

<!--Property AT-->
<rdf:Property rdf:ID="AT">
  <rdfs:domain rdf:resource="#Travel_Agency" />
```

```

    <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    </rdf:Property>

<!--Property Full_Name-->

<rdf:Property rdf:ID="Full_Name">
    <rdfs:range
rdf:resource="http://www.w3.org/2001/XMLSchema#string"/>
    <rdfs:domain rdf:resource="#Travel_Agency"/>
    </rdf:Property>

```

6.4.4. Classes (OWL Protégé)

```

<!--
////////////////////////////////////
//
// Classes
//
////////////////////////////////////
-->

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Administrator -->

<owl:Class rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Administrator">
    <rdfs:subClassOf rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Employee"/>
</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline -->

<owl:Class rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline">
    <rdfs:comment rdf:datatype="&xsd:string">This class encodes information related
to the airline. It has only three Data properties , which are: Company_ID, Name and
Address. In addition, there are three Object properties, which are the following:
Has_Employee, Owns and Works_With.</rdfs:comment>
</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane -->

<owl:Class rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane">
    <rdfs:subClassOf rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_Component"/>

```

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#CopilotPilot -->

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#CopilotPilot">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot"/>
</owl:Class>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer -->

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Person"/>
</owl:Class>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Employee -->

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Person"/>
</owl:Class>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight -->

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_Component"/>
</owl:Class>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution -->

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_Component"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_Component -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_Component">
  <rdfs:comment rdf:datatype="&xsd:string">This class generally encodes all the
  information associated with the flight.
```

```
</rdfs:comment>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#GovernorPilot -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#GovernorPilot">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Hostess -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Hostess">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Person -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Person">
  <rdfs:comment rdf:datatype="&xsd:string">The class :Person ,encodes all the
  information about the people involved in this whole process.</rdfs:comment>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot">
  <rdfs:subClassOf rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Employee"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency -->
```

```
<owl:Class rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
```

6.4.5. μ (OWL Protégé)

```
<!--  
////////////////////////////////////  
//  
// Individuals  
//  
////////////////////////////////////  
-->
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_1 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_1">  
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>  
  <Address rdf:datatype="&xsd:string"></Address>  
  <Address xml:lang="en">Address_1</Address>  
  <Company_ID xml:lang="en">Company_ID1</Company_ID>  
  <Name xml:lang="en">Name_1</Name>  
  <Owns rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_1"/>  
  <Works_With rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_1"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_10 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_10">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_10</Address>
  <Company_ID xml:lang="en">Company_ID10</Company_ID>
  <Name xml:lang="en">Name_10</Name>
  <Owns rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_2 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_2">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_2</Address>
  <Company_ID xml:lang="en">Company_ID2</Company_ID>
  <Name xml:lang="en">Name_2</Name>
  <Owns rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_2"/>
  <Works_With rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_2"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_3 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_3">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_3</Address>
  <Company_ID xml:lang="en">Company_ID3</Company_ID>
  <Name xml:lang="en">Name_3</Name>
  <Owns rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_3"/>
  <Works_With rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_3"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_4 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_4">
```

```

<rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_4</Address>
  <Company_ID xml:lang="en">Company_ID4</Company_ID>
  <Name xml:lang="en">Name_4</Name>
  <Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_5 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline_5">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_5</Address>
  <Company_ID xml:lang="en">Company_ID5</Company_ID>
  <Name xml:lang="en">Name_5</Name>
  <Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_6 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline_6">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_6</Address>
  <Company_ID xml:lang="en">Company_ID6</Company_ID>
  <Name xml:lang="en">Name_6</Name>
  <Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_7 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline_7">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>

```

```

<Address xml:lang="en">Address_7</Address>
<Company_ID xml:lang="en">Company_ID7</Company_ID>
<Name xml:lang="en">Name_7</Name>
<Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
<Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_8 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline_8">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_8</Address>
  <Company_ID xml:lang="en">Company_ID8</Company_ID>
  <Name xml:lang="en">Name_8</Name>
  <Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_9 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline_9">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airline"/>
  <Address xml:lang="en">Address_9</Address>
  <Company_ID xml:lang="en">Company_ID9</Company_ID>
  <Name xml:lang="en">Name_9</Name>
  <Owns rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4"/>
  <Works_With rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_1 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_1">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Distance rdf:datatype="&xsd;float">145.0</Distance>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-05-31T15:00:34</Dep_time>

```

```

<Arr_time rdf:datatype="&xsd;dateTime">2013-06-01T12:15:55</Arr_time>
<Destination_Place xml:lang="en">Athens</Destination_Place>
<StartingDay xml:lang="en">Friday</StartingDay>
<Starting_Place xml:lang="en">Heraklio</Starting_Place>
<F_id xml:lang="en">HertoAth145</F_id>
<Airplane_id xml:lang="en">Oly001Air</Airplane_id>
<AirplaneName xml:lang="en">Olympic340</AirplaneName>
<DestinationDay xml:lang="en">Saturday</DestinationDay>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_1"/>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_10 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_10">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_4"/>
  <Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_2 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_2">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-06-14T13:50:10</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-06-15T15:52:08</Arr_time>
  <Distance rdf:datatype="&xsd;float">300.0</Distance>
  <Airplane_id xml:lang="en">Aeg002Air</Airplane_id>
  <AirplaneName xml:lang="en">Aegean420</AirplaneName>
  <StartingDay xml:lang="en">Friday</StartingDay>
  <Destination_Place xml:lang="en">Heraklio</Destination_Place>

```

```

<Starting_Place xml:lang="en">Rodes</Starting_Place>
<F_id xml:lang="en">RotoHer300</F_id>
<DestinationDay xml:lang="en">Saturday</DestinationDay>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_5"/>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_2"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_3 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_3">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-08-06T15:20:58</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-08-07T16:17:19</Arr_time>
  <Distance rdf:datatype="&xsd:float">256.0</Distance>
  <Starting_Place xml:lang="en">Athens</Starting_Place>
  <F_id xml:lang="en">AthtoRod256</F_id>
  <Airplane_id xml:lang="en">Min003Air</Airplane_id>
  <AirplaneName xml:lang="en">Minoan140</AirplaneName>
  <Destination_Place xml:lang="en">Rodes</Destination_Place>
  <StartingDay xml:lang="en">Tuesday</StartingDay>
  <DestinationDay xml:lang="en">Wednesday</DestinationDay>
  <Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
  <Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_3"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_4 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_4">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd:float">483.0</Distance>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_2"/>

```

```
<Has rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_5 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_5">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd:float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <HaS rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_5"/>
  <Has rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_6 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_6">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd:float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <HaS rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_2"/>
  <Has rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_7 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_7">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd:float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <HaS rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_5"/>
  <Has rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_8 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_8">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane"/>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-09-16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-09-17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd:float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <HaS rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
  <Has rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_9 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_9">
```

```

<rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane"/>
<Dep_time rdf:datatype="&xsd;dateTime">2013-09-16T16:21:23</Dep_time>
<Arr_time rdf:datatype="&xsd;dateTime">2013-09-17T11:00:00</Arr_time>
<Distance rdf:datatype="&xsd;float">483.0</Distance>
<StartingDay xml:lang="en"> Monday</StartingDay>
<Destination_Place xml:lang="en">Cyprus</Destination_Place>
<Starting_Place xml:lang="en">Heraklio</Starting_Place>
<F_id xml:lang="en">HertoCyp483</F_id>
<Airplane_id xml:lang="en">Sky004Air</Airplane_id>
<AirplaneName xml:lang="en">Sky580</AirplaneName>
<DestinationDay xml:lang="en">Tuesday</DestinationDay>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_9"/>
<Has rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_1 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_1">
<rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
<Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_2 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_2">
<rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
<Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_2"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_3 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_3">
<rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
<Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_3"/>
</owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_4 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_4">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_71 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_71">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_49"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_72 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_72">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_51"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_73 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_73">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_50"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_74 -->

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_74">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_51"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_75 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_75">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
  <Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_51"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_76 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_76">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer"/>
  <PersonAddress rdf:datatype="&xsd:string"></PersonAddress>
  <Books rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_52"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_1 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_1">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_10 ->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_10">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_2 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_2">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_3 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_3">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
```

```

<ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
<Destination_Place xml:lang="en">Athens</Destination_Place>
<DestinationDay xml:lang="en">Monday</DestinationDay>
<StartingDay xml:lang="en">Monday</StartingDay>
<Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_4 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_4">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd:float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_5 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_5">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd:dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd:float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_6 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_6">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_7 --
>

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_7">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_8 --
>

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_8">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>

```

```
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_9 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_9">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd:boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_1 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_1">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">333.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs2524</F_id>
  <HasonlyOne rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_1"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_10 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_10">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-23T11:42:24</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-24T11:42:33</Dep_time>
```

```

<Distance rdf:datatype="&xsd;float">219.0</Distance>
<Flight_id xml:lang="en">340Air</Flight_id>
<Destination_Place xml:lang="en">Heraklion</Destination_Place>
<StartingDay xml:lang="en">Monday</StartingDay>
<DestinationDay xml:lang="en">Monday</DestinationDay>
<Starting_Place xml:lang="en">Rodes</Starting_Place>
<F_id xml:lang="en">rs2565</F_id>
<HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_9"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_2 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_2">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">564.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rh77</F_id>
  <HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_8"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_3 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_3">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <Distance rdf:datatype="&xsd;float">12.0</Distance>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">ry6654</F_id>
  <HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_2"/>
</owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_4 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_4">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">98.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs97</F_id>
  <HasonlyOne rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_5 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_5">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">333.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs2524</F_id>
  <HasonlyOne rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_10"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_6 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_6">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">76.0</Distance>
```

```

<Flight_id xml:lang="en">340Air</Flight_id>
<Destination_Place xml:lang="en">Heraklion</Destination_Place>
<StartingDay xml:lang="en">Monday</StartingDay>
<DestinationDay xml:lang="en">Monday</DestinationDay>
<Starting_Place xml:lang="en">Rodes</Starting_Place>
<F_id xml:lang="en">rt98</F_id>
<HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_3"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_7 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_7">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">333.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs2524</F_id>
  <HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_3"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_8 -->

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_8">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">98.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rv29</F_id>
  <HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_5"/>
</owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_9 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_9">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight"/>
  <Distance rdf:datatype="&xsd;float">100.0</Distance>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-25T11:43:43</Dep_time>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs20</F_id>
  <HasonlyOne rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_1 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_1">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd;int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_2 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat_2">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd;int">1</Number>
  <Price rdf:datatype="&xsd;float">120.0</Price>
  <Seat_id xml:lang="en">B1c0036C</Seat_id>
  <Class xml:lang="en">B_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_3 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_3">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Price rdf:datatype="&xsd;float">60.0</Price>
  <Number rdf:datatype="&xsd;int">9</Number>
  <Seat_id xml:lang="en">A9c0027C</Seat_id>
  <Class xml:lang="es">A_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Price rdf:datatype="&xsd;float">135.0</Price>
  <Number rdf:datatype="&xsd;int">3</Number>
  <Seat_id xml:lang="en">B3c0018C</Seat_id>
  <Class xml:lang="en">B_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_47 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_47">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd;int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_48 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_48">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd;int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_49 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_49">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd:float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_50 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_50">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd:float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_51 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_51">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd:float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_52 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_52">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd:float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
```

</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_1 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_1">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">A_45ClassA01</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_71"/>
  <RefersTo rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_1"/>
  <Refers_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_1"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_2 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_2">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_36ClassB01</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_75"/>
  <RefersTo rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
  <Refers_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_9"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_3 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_3">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">A_27ClassA09</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_2"/>
  <RefersTo rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_4"/>
  <Refers_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_10"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_4 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_4">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_75"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_6"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_8"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_53 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_53">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_72"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_2"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_10"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_54 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_54">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_76"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_4"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_7"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_55 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_55">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_2"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_4"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_6"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_56 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_56">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_2"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_9"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_3"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_57 -->

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_57">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Customer_71"/>
  <RefersTo rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#FlightExecution_7"/>
  <Refers_to rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_7"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_58 -->

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_58">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_76"/>
  <RefersTo rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_3"/>
  <Refers_to rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_10"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_1 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_1">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AT xml:lang="en">GM123</AT>
  <Code_ID xml:lang="en">GM_012123</Code_ID>
  <AddressAgency xml:lang="en">N.Herklion, Zaros zarou, T.K
70002</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency001</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_2 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_2">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AT xml:lang="en">CV456</AT>
  <Code_ID xml:lang="en">CV_034456</Code_ID>
  <AddressAgency xml:lang="en">N.Herklion, Metaksoxwri 145, T.K
71704</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency002</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_2"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_3 --
>

```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_3">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AT xml:lang="en">LK789</AT>
  <Code_ID xml:lang="en">LK_056789</Code_ID>
  <AddressAgency xml:lang="en">Messara, Zaros 12 T.K 70002</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency003</Full_Name>
  <Issues_a rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_3"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_4 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_4">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_4"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_59 -->
```

```
<owl:NamedIndividual rdf:about="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_59">
  <rdf:type rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_56"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_61 -->
```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_61">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-
T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_54"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_63 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_63">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-
T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_58"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_65 --
>

```

```

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_65">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-
T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_67 --
>

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_67">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-
T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_56"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency_69 --
>

<owl:NamedIndividual rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_69">
  <rdf:type rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos Heraklio-
T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="http://www.owl-
ontologies.com/Ontology1369670699.owl#Ticket_57"/>
</owl:NamedIndividual>
</rdf:RDF>

```

6.5. μ μ RDF/RDFS

μ μ RDF

μ μ .

:

μ

μ μ μ μ μ μ

Airline Employee . μ μ μ μ μ μ

μ μ

7.

(Querying) "SPARQL" Protégé.

7.1. (Querying) SPARQL Jena API

SPARQL Jena API
 ARQ. SPARQL java ,
 com.hp.hp1.jena.query.
 QueryFactory create() String.
 Query Object, instance
 QueryExecution,
 QueryExecution,
 QueryExecutionFactory.create(query, model),
 Query Model
 jena.
 query FROM .
 SELECT ,
 ResultSet. ResultSet
 QuerySolution
 execSelect(),
 QuerySolution

7.2. (Querying) SPARQL Protégé

Protégé Airline.
 SPARQL, H SPARQL
 RDF.
 subject - predicate - object

7.2.1. μ

SPARQL
 (graph patterns).
 RDF,
 RDF

μ μ

μ μ μ μ μ
, μ .

Query_1

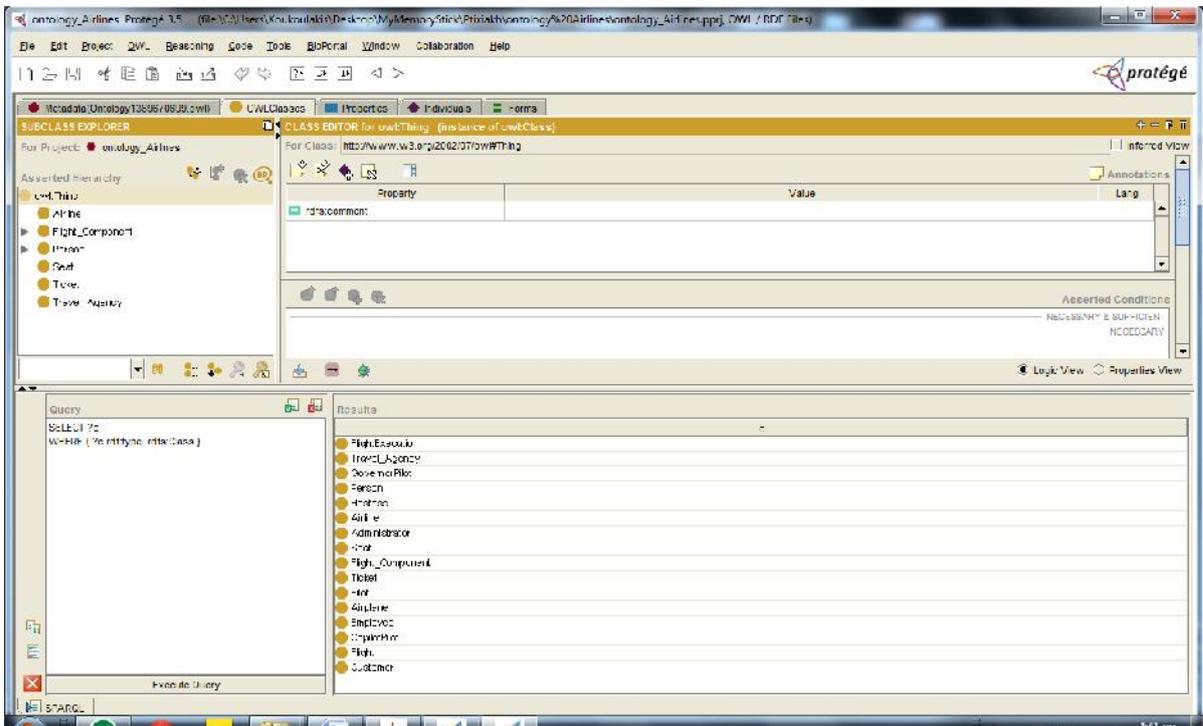
μ μ :

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?c
WHERE
{
  ?c rdf:type rdfs:Class
}

```



50-Query_1- μ .

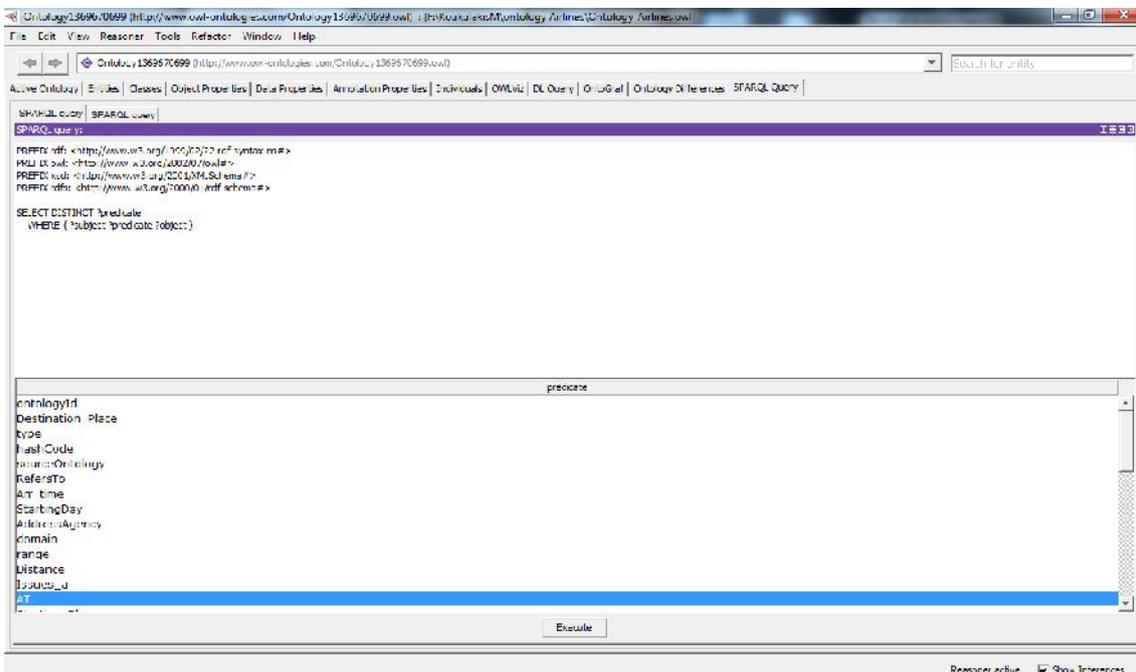
μ
 rdf:type μ rdfs: Class μ ,
 (, μ .
 μ)

Query_2

μ : "Object Properties"
"Data Properties" :

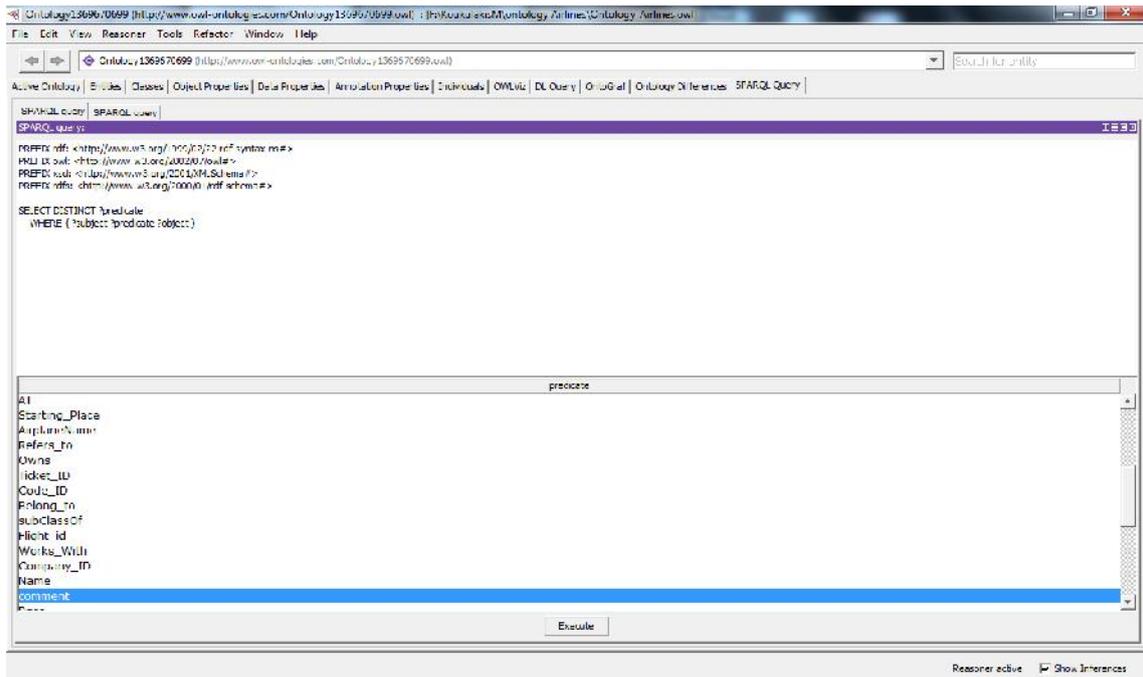
```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>  
PREFIX owl: <http://www.w3.org/2002/07/owl#>  
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>  
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
SELECT DISTINCT ?predicate  
WHERE { ?subject ?predicate ?object }
```

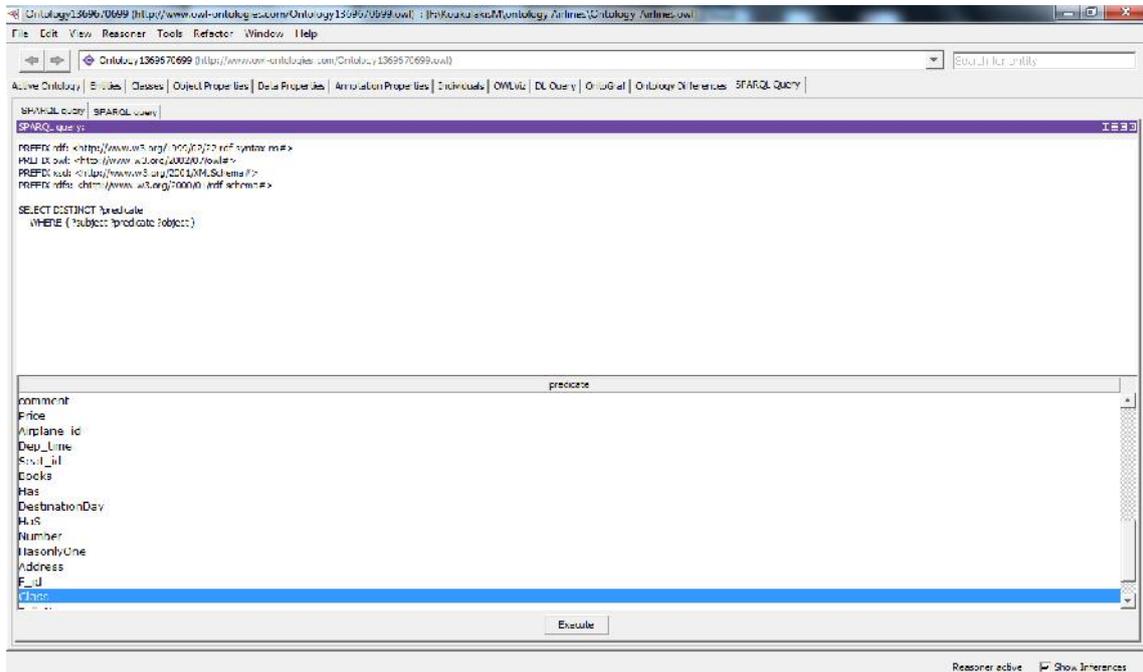


51-Query_2-

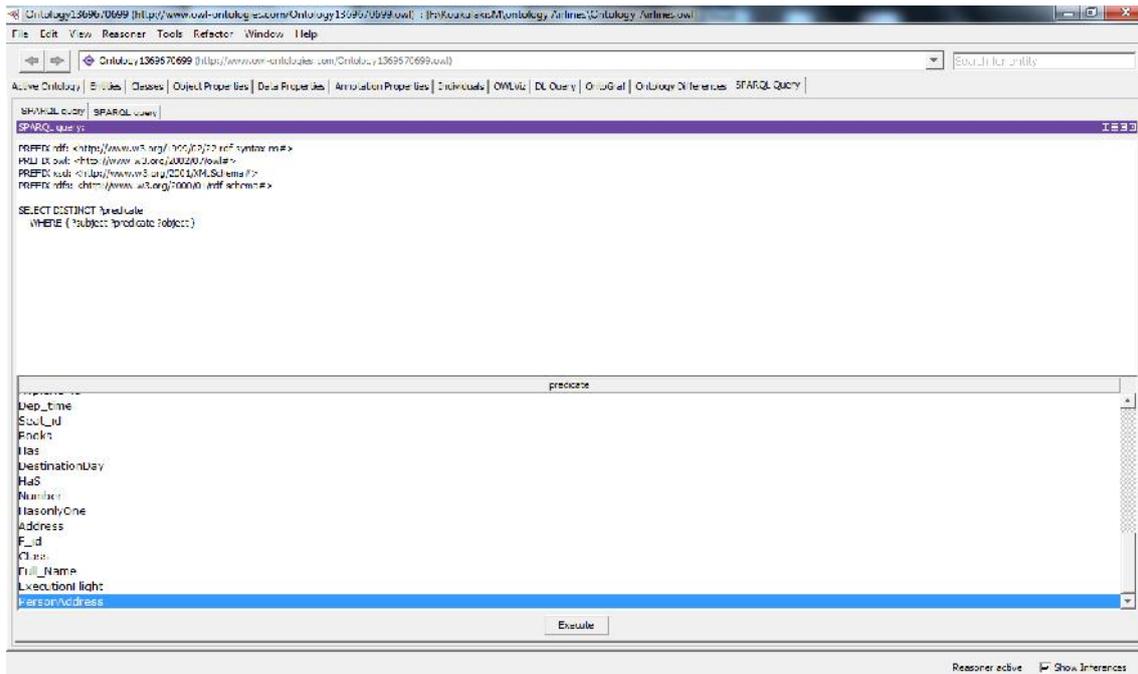
μ .



52-Query_2.



53-Query_2.



54-Query_2.

Query_3

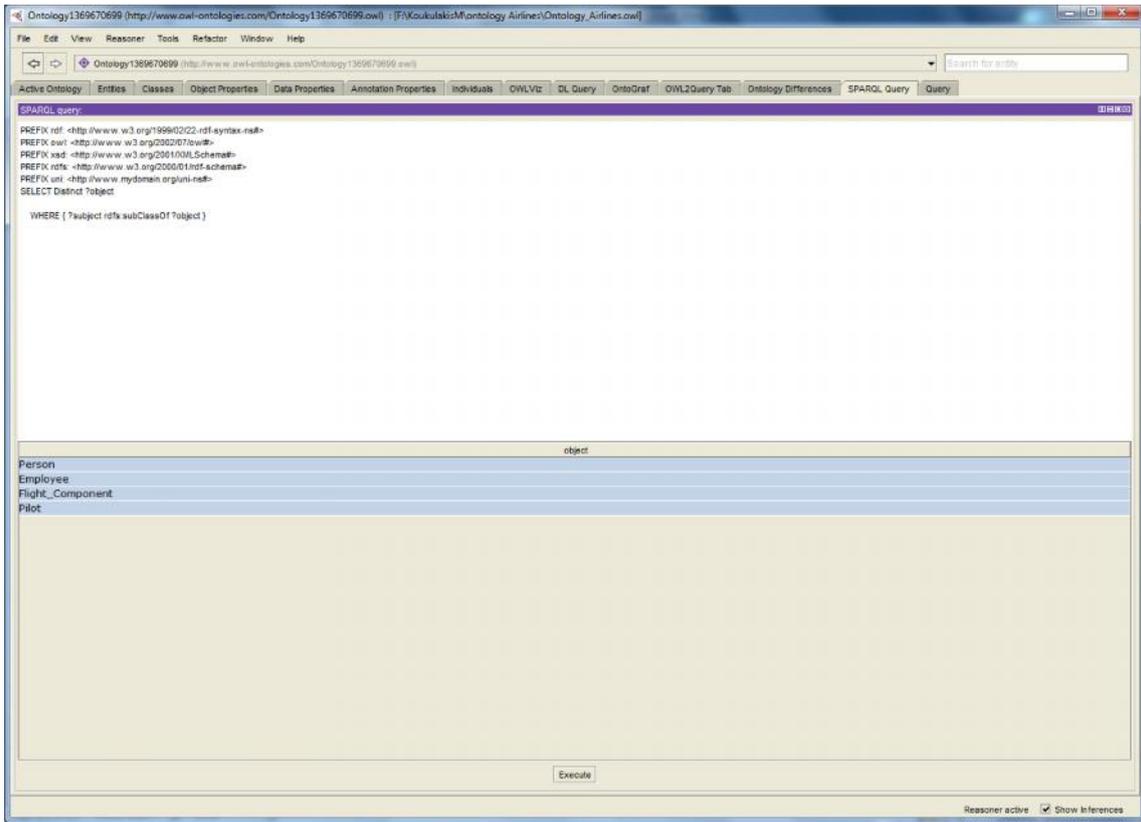
μ

:

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT Distinct ?object
WHERE { ?subject rdfs:subClassOf ?object }
    
```



55-Query_3-

μ ..

7.2.2.

μ

μ SPARQL
WHERE:

μ

SELECT- FROM-

- SELECT

(projection):

μ

μ μ .

- FROM

μ

μ

,

μ .

μ μ

μ

μ

μ

μ

μ

.

- WHERE

μ

μ

μ

μ

,

μ

μ

(Boolean)

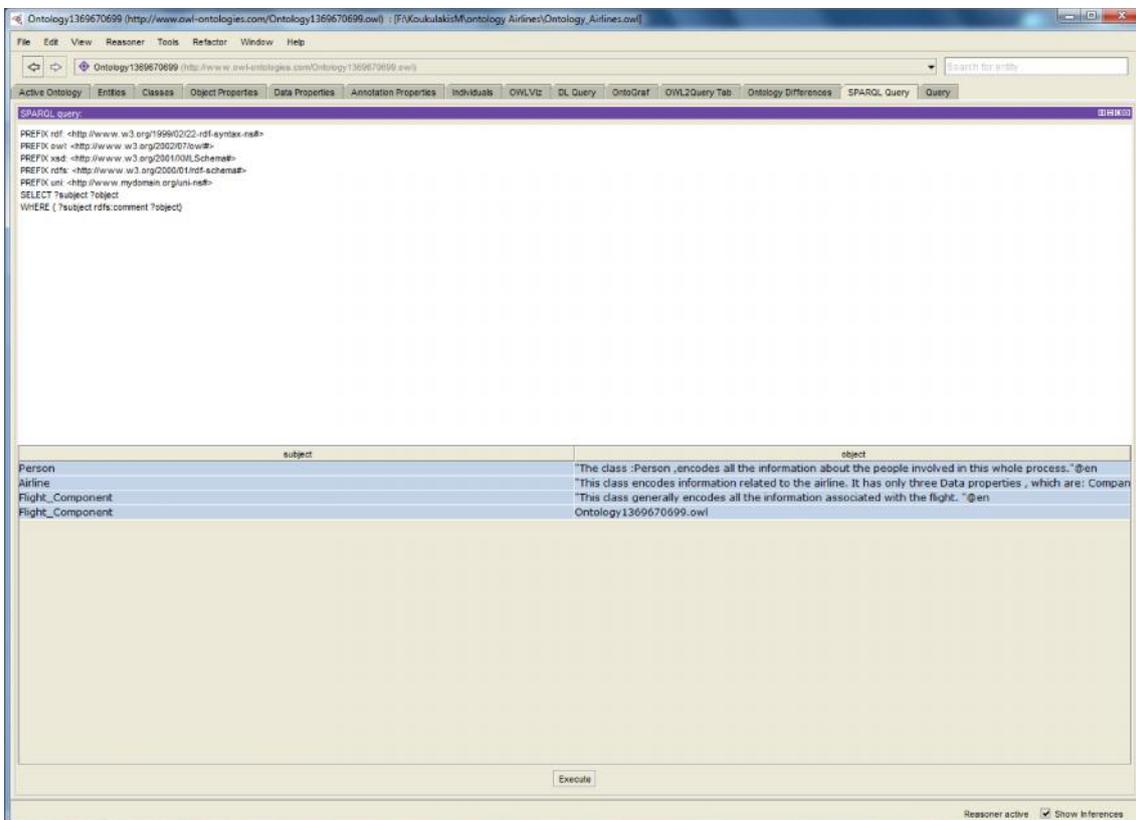
μ .

Query_1

" μ μ ":

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
SELECT ?subject ?object
WHERE { ?subject rdfs:comment ?object }
```



56-Query_1-

μ .

subject	object
Person	"The class :Person ,encodes all the information about the people involved in this whole process." @en
Airline	"This class encodes information related to the airline. It has only three Data properties , which are: Company_ID, Name and Address. In addition, there are three Obj
Flight_Component	"This class generally encodes all the information associated with the flight." @en
Flight_Component	Ontology:1369670699.owl

57-Query_1.

Query_2

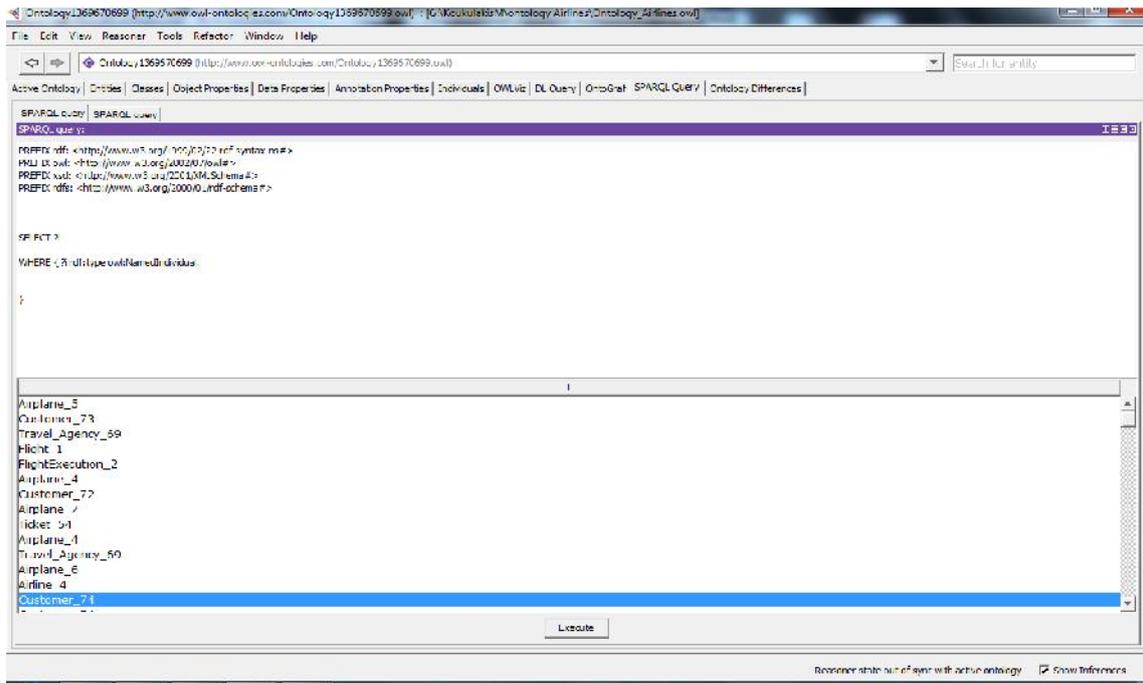
(<http://www.owl-ontologies.com/Ontology1369670699.owl>), μ : μ

```

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?i
WHERE { ?i rdf:type owl:NamedIndividual.
}

```



58-Query_2-

μ .

The screenshot shows the Protege SPARQL query editor interface. The query is as follows:

```
PREFIX rdf: <http://www.w3.org/1999/02/22/rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?i
WHERE {
  ?i rdfs:type owl:NamedIndividual .
}
```

The results pane displays the following individuals:

- Flight_5
- Customer_75
- Travel_Agency_57
- Customer_75
- Airplane_8
- Travel_Agency_65
- Seat_4
- Airplane_9
- Flight_4
- Airplane_10
- Travel_Agency_50
- Travel_Agency_53
- Customer_2
- Airplane_1

59-Query_2.

The screenshot shows the Protege SPARQL query editor interface. The query is as follows:

```
PREFIX rdf: <http://www.w3.org/1999/02/22/rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?i
WHERE {
  ?i rdfs:type owl:NamedIndividual .
}
```

The results pane displays the following individuals:

- Flight_8
- Ticket_57
- Airplane_1
- Travel_Agency_51
- Airplane_1
- Airplane_3
- Seat_1
- Airplane_2
- Airline_10
- Travel_Agency_3
- Flight_7
- Seat_30
- Seat_49
- Ticket_53

60-Query_2.

The screenshot shows the Protege SPARQL query interface. The query is as follows:

```
SPARQL query:
PREFIX rdf: <http://www.w3.org/1999/02/22/rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT ?i
WHERE {
  ?i rdfs:type owl:NamedIndividual .
}
```

The results pane shows the following individuals:

- FlightExecution_7
- Customer_72
- Seat_2
- Seat_3
- Seat_1
- Seat_40
- TravelAgency_65
- Flight_2
- Customer_71
- Ticket_56
- Airline_7
- Seat_40
- Customer_3
- Seat_67

61-Query_2.

The screenshot shows the Protege SPARQL query interface with the same query as above. The results pane shows the following individuals:

- Ticket_1
- Seat_4
- Customer_75
- Seat_3
- Customer_2
- Customer_1
- Airplane_7
- Ticket_1
- Customer_71
- Ticket_3
- Ticket_54
- FlightExecution_4
- Airline_6
- FlightExecution_10

62-Query_2.

SPARQL Query:

```

PREFIX rdflib: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

CONSTRUCT {
  ?s ?p ?o .
  ?s ?p2 ?o2 .
  ?s ?p3 ?o3 .
  ?s ?p4 ?o4 .
}
    
```

Airplane	type	Photo	Objec
Airplane_4	type		Airplane
Airplane_4	NamedIndividual		NamedIndividual
Airplane_4	DateTime		"2013-09-16T16:21:03"^^xsd:dateTime
Airplane_4	DestinationDay		"Tuesday"@en
Airplane_4	StartingPlace		"Heraklio"@en
Airplane_4	Fuel		"Heraklio-Cyprus163"@en
Airplane_4	Has		"Fuel_4"
Airplane_4	Airplane_id		"skv034Air"@en
Airplane_4	AirplaneName		"skv330"@en
Airplane_4	Has		"Flightoperation_2"
Airplane_4	StartingDay		"Monday"@en
Airplane_4	DateTime		"483.0"^^xsd:float
Airplane_4	DestinationPlace		"Cyprus"@en
f99e89b0-c689-4925-b14e-b290c633f856	sourceOntology		2ed03d2c-24e4-4103-b4df-3e0f0e6074ff
1aedd1d2c-51e1-4153-b101-3abb3e0724ff	ontologyId		Ontology1369670699.owl

Execute

Browser active Show Information

68-Query_3-

μ

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μ

:

```
<?xml version="1.0"?>
```

```
<!DOCTYPE rdf:RDF [
  <!ENTITY owl "http://www.w3.org/2002/07/owl#" >
  <!ENTITY uni "http://www.mydomain.org/uni-ns#" >
  <!ENTITY swrl "http://www.w3.org/2003/11/swrl#" >
  <!ENTITY swrlb "http://www.w3.org/2003/11/swrlb#" >
  <!ENTITY xsd "http://www.w3.org/2001/XMLSchema#" >
  <!ENTITY rdfs "http://www.w3.org/2000/01/rdf-schema#" >
  <!ENTITY rdf "http://www.w3.org/1999/02/22-rdf-syntax-ns#" >
  <!ENTITY protege "http://protege.stanford.edu/plugins/owl/protege#" >
  <!ENTITY xsp "http://www.owl-ontologies.com/2005/08/07/xsp.owl#" >
  <!ENTITY ontology1369670699 "http://www.owl-
ontologies.com/Ontology1369670699.owl#" >
]>
```

```
<rdf:RDF xmlns="http://www.owl-
ontologies.com/Ontology1369670699.owl#"
  xml:base="http://www.owl-ontologies.com/Ontology1369670699.owl"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:swrl="http://www.w3.org/2003/11/swrl#"
  xmlns:protege="http://protege.stanford.edu/plugins/owl/protege#"
  xmlns:xsp="http://www.owl-ontologies.com/2005/08/07/xsp.owl#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema#"
  xmlns:swrlb="http://www.w3.org/2003/11/swrlb#"
  xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:uni="http://www.mydomain.org/uni-ns#"
  xmlns:ontology1369670699="http://www.owl-
ontologies.com/Ontology1369670699.owl#">
  <owl:Ontology rdf:about="http://www.owl-
ontologies.com/Ontology1369670699.owl"/>
```

```

<!--
////////////////////////////////////
//
// Annotation properties
//
////////////////////////////////////
-->

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#AT -->

```

```

<owl:AnnotationProperty rdf:about="&ontology1369670699;AT">
  <rdfs:domain rdf:resource="&ontology1369670699;Travel_Agency"/>
</owl:AnnotationProperty>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Address --
>

```

```

<owl:AnnotationProperty rdf:about="&ontology1369670699;Address">
  <Address rdf:datatype="&xsd:string">Heraklion</Address>
  <Address xml:lang="en"></Address>
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>
</owl:AnnotationProperty>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#AddressAgency -->

```

```

<owl:AnnotationProperty
rdf:about="&ontology1369670699;AddressAgency">
  <rdfs:domain rdf:resource="&ontology1369670699;Travel_Agency"/>
</owl:AnnotationProperty>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Admin_id -
->

```

```

<owl:AnnotationProperty rdf:about="&ontology1369670699;Admin_id">
  <rdfs:domain rdf:resource="&ontology1369670699;Administrator"/>
</owl:AnnotationProperty>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Age -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Age">
 <rdfs:domain rdf:resource="&ontology1369670699;Person"/>
</owl:AnnotationProperty>

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#AirplaneName -->

<owl:AnnotationProperty
rdf:about="&ontology1369670699;AirplaneName">
 <rdfs:domain rdf:resource="&ontology1369670699;Airplane"/>
</owl:AnnotationProperty>

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_id -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Airplane_id">
 <rdfs:domain rdf:resource="&ontology1369670699;Airplane"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Arr_time --
>

<owl:AnnotationProperty rdf:about="&ontology1369670699;Arr_time">
 <rdfs:domain
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Belong_to
-->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Belong_to"/>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Books -->

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Books"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Class -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Class">  
  <rdfs:domain rdf:resource="&ontology1369670699;Seat"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Code_ID -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Code_ID">  
  <rdfs:domain rdf:resource="&ontology1369670699;Travel_Agency"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Company_ID -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Company_ID">  
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#CopilotTID  
-->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;CopilotTID">  
  <rdfs:domain rdf:resource="&ontology1369670699;CopilotPilot"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Customer_id -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Customer_id">  
  <rdfs:domain rdf:resource="&ontology1369670699;Customer"/>
```

</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Dep_time -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Dep_time">
 <rdfs:domain
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#DestinationDay -->

<owl:AnnotationProperty
rdf:about="&ontology1369670699;DestinationDay">
 <rdfs:domain
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Destination_Place -->

<owl:AnnotationProperty
rdf:about="&ontology1369670699;Destination_Place">
 <rdfs:domain
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Distance -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Distance">
 <rdfs:domain
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Drives -->

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Drives"/>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Education_id -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Education_id">  
  <rdfs:domain rdf:resource="&ontology1369670699;Administrator"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Employee_id -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Employee_id">  
  <rdfs:domain rdf:resource="&ontology1369670699;Employee"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#ExecutionFlight -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;ExecutionFlight">  
  <Address xml:lang="en"></Address>  
  <rdfs:domain rdf:resource="&ontology1369670699;FlightExecution"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#F_id -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;F_id">  
  <rdfs:domain  
rdf:resource="&ontology1369670699;Flight_Component"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_id --  
>
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Flight_id">
  <rdfs:domain rdf:resource="&ontology1369670699;Flight"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FullName -
-->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;FullName">
  <rdfs:domain rdf:resource="&ontology1369670699;Person"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Full_Name
-->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Full_Name">
  <rdfs:domain rdf:resource="&ontology1369670699;Travel_Agency"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#GovernoRID -->
```

```
<owl:AnnotationProperty
rdf:about="&ontology1369670699;GovernoRID">
  <rdfs:domain rdf:resource="&ontology1369670699;GovernorPilot"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#HaS -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;HaS"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Has -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Has"/>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Has_Employee -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Has_Employee"/>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#HasonlyOne -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;HasonlyOne"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Host_id -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Host_id">  
  <rdfs:domain rdf:resource="&ontology1369670699;Hostess"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#ID -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;ID">  
  <rdfs:domain rdf:resource="&ontology1369670699;FlightExecution"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Issues_a --  
>
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Issues_a"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Manages --  
>
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Manages"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Name -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Name">
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Number -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Number">
  <rdfs:domain rdf:resource="&ontology1369670699;Seat"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Owns -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Owns"/>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Participates_in -->
```

```
<owl:AnnotationProperty
rdf:about="&ontology1369670699;Participates_in"/>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#PersonAddress -->
```

```
<owl:AnnotationProperty
rdf:about="&ontology1369670699;PersonAddress">
  <rdfs:domain rdf:resource="&ontology1369670699;Person"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot_id -->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Pilot_id">
  <rdfs:domain rdf:resource="&ontology1369670699;Pilot"/>
</owl:AnnotationProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Price -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Price">
 <rdfs:domain rdf:resource="&ontology1369670699;Seat"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#RefersTo -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;RefersTo"/>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Refers_to -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Refers_to"/>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_id -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Seat_id">
 <rdfs:domain rdf:resource="&ontology1369670699;Seat"/>
</owl:AnnotationProperty>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Serves -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;Serves"/>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#StartingDay -->

<owl:AnnotationProperty rdf:about="&ontology1369670699;StartingDay">
 <rdfs:domain
 rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:AnnotationProperty>

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Starting_Place -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Starting_Place">  
  <rdfs:domain  
rdf:resource="&ontology1369670699;Flight_Component"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_ID -  
->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Ticket_ID">  
  <rdfs:domain rdf:resource="&ontology1369670699;Ticket"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Work_years -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Work_years">  
  <rdfs:domain rdf:resource="&ontology1369670699;Hostess"/>  
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Works_For  
-->
```

```
<owl:AnnotationProperty rdf:about="&ontology1369670699;Works_For"/>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Works_With -->
```

```
<owl:AnnotationProperty  
rdf:about="&ontology1369670699;Works_With"/>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#flightHours_id -->
```

```
<owl:AnnotationProperty
rdf:about="&ontology1369670699;flightHours_id">
  <rdfs:domain rdf:resource="&ontology1369670699;Pilot"/>
</owl:AnnotationProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#telephone_id -->
```

```
<owl:AnnotationProperty
rdf:about="&ontology1369670699;telephone_id">
  <rdfs:domain rdf:resource="&ontology1369670699;Customer"/>
</owl:AnnotationProperty>
```

```
<!--
////////////////////////////////////
//
// Object Properties
//
////////////////////////////////////
-->
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Belong_to
-->
```

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Belong_to">
  <rdfs:range rdf:resource="&ontology1369670699;Customer"/>
  <rdfs:domain rdf:resource="&ontology1369670699;Ticket"/>
</owl:ObjectProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Books -->
```

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Books">
  <rdfs:domain rdf:resource="&ontology1369670699;Person"/>
  <rdfs:range rdf:resource="&ontology1369670699;Seat"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Drives -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Drives">
  <rdfs:range rdf:resource="&ontology1369670699;Flight"/>
  <rdfs:domain rdf:resource="&ontology1369670699;Pilot"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#HaS -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;HaS">
  <rdfs:domain rdf:resource="&ontology1369670699;Airplane"/>
  <rdfs:range rdf:resource="&ontology1369670699;FlightExecution"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Has -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Has">
  <rdfs:domain rdf:resource="&ontology1369670699;Airplane"/>
  <rdfs:range rdf:resource="&ontology1369670699;Seat"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Has_Employee -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Has_Employee">
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>
  <rdfs:range rdf:resource="&ontology1369670699;Employee"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#HasonlyOne -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;HasonlyOne">
  <rdfs:domain rdf:resource="&ontology1369670699;Flight"/>
  <rdfs:range rdf:resource="&ontology1369670699;FlightExecution"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Issues_a -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Issues_a">
  <rdfs:range rdf:resource="&ontology1369670699;Ticket"/>
  <rdfs:domain rdf:resource="&ontology1369670699;Travel_Agency"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Manages -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Manages">
  <rdfs:domain rdf:resource="&ontology1369670699;Administrator"/>
  <rdfs:range rdf:resource="&ontology1369670699;Flight"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Owns -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Owns">
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>
  <rdfs:range rdf:resource="&ontology1369670699;Airplane"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Participates_in -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Participates_in">
  <rdfs:domain rdf:resource="&ontology1369670699;Employee"/>
  <rdfs:range rdf:resource="&ontology1369670699;Flight"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#RefersTo -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;RefersTo">
  <rdfs:range rdf:resource="&ontology1369670699;FlightExecution"/>
  <rdfs:domain rdf:resource="&ontology1369670699;Ticket"/>
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Refers_to -
-->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Refers_to">  
  <rdfs:range rdf:resource="&ontology1369670699;Flight"/>  
  <rdfs:domain rdf:resource="&ontology1369670699;Ticket"/>  
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Serves -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Serves">  
  <rdfs:range rdf:resource="&ontology1369670699;Flight"/>  
  <rdfs:domain rdf:resource="&ontology1369670699;Hostess"/>  
</owl:ObjectProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Works_For
-->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Works_For">  
  <rdfs:range rdf:resource="&ontology1369670699;Airline"/>  
  <rdfs:domain rdf:resource="&ontology1369670699;Employee"/>  
</owl:ObjectProperty>
```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Works_With -->

```
<owl:ObjectProperty rdf:about="&ontology1369670699;Works_With">  
  <rdfs:domain rdf:resource="&ontology1369670699;Airline"/>  
  <rdfs:range rdf:resource="&ontology1369670699;Travel_Agency"/>  
</owl:ObjectProperty>
```

```
<!--  
////////////////////////////////////  
//  
// Data properties  
//  
////////////////////////////////////  
-->
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#AT -->  
  
<owl:DatatypeProperty rdf:about="&ontology1369670699;AT">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Address --  
>  
  
<owl:DatatypeProperty rdf:about="&ontology1369670699;Address">  
  <Address rdf:datatype="&xsd:string">Heraklion</Address>  
  <Address xml:lang="en"></Address>  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#AddressAgency -->  
  
<owl:DatatypeProperty  
rdf:about="&ontology1369670699;AddressAgency">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Admin_id -  
->  
  
<owl:DatatypeProperty rdf:about="&ontology1369670699;Admin_id">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Age -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Age">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#AirplaneName -->
```

```
<owl:DatatypeProperty  
rdf:about="&ontology1369670699;AirplaneName">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Airplane_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Airplane_id">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Arr_time --  
>
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Arr_time">  
  <rdfs:range rdf:resource="&xsd:dateTime"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Class -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Class">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Code_ID -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Code_ID">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Company_ID -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Company_ID">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#CopiloTID  
-->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;CopiloTID">  
  <rdfs:range rdf:resource="&xsd:int"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Customer_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Customer_id">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Dep_time -  
->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Dep_time">  
  <rdfs:range rdf:resource="&xsd:dateTime"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#DestinationDay -->
```

```
<owl:DatatypeProperty
rdf:about="&ontology1369670699;DestinationDay">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Destination_Place -->
```

```
<owl:DatatypeProperty
rdf:about="&ontology1369670699;Destination_Place">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Distance --
>
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Distance">
  <rdfs:range rdf:resource="&xsd:float"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Education_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Education_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Employee_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Employee_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#ExecutionFlight -->
```

```
<owl:DatatypeProperty
rdf:about="&ontology1369670699;ExecutionFlight">
  <Address xml:lang="en"></Address>
  <rdfs:range rdf:resource="&xsd:boolean"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#F_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;F_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Flight_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#FullName ->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;FullName">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Full_Name -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Full_Name">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#GovernoRID -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;GovernoRID">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Host_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Host_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#ID -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;ID">
  <rdfs:range rdf:resource="&xsd:int"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Name -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Name">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Number -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Number">
  <rdfs:range rdf:resource="&xsd:int"/>
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#PersonAddress -->
```

```
<owl:DatatypeProperty
rdf:about="&ontology1369670699;PersonAddress">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot_id -->

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Pilot_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Price -->

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Price">
  <rdfs:range rdf:resource="&xsd:float"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_id -->

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Seat_id">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#StartingDay -->

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;StartingDay">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Starting_Place -->

```
<owl:DatatypeProperty
rdf:about="&ontology1369670699;Starting_Place">
  <rdfs:range rdf:resource="&xsd:string"/>
</owl:DatatypeProperty>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_ID ->

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Ticket_ID">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Work_years -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;Work_years">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#flightHours_id -->
```

```
<owl:DatatypeProperty  
rdf:about="&ontology1369670699;flightHours_id">  
  <rdfs:range rdf:resource="&xsd:int"/>  
</owl:DatatypeProperty>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#telephone_id -->
```

```
<owl:DatatypeProperty rdf:about="&ontology1369670699;telephone_id">  
  <rdfs:range rdf:resource="&xsd:string"/>  
</owl:DatatypeProperty>
```

```

<!--
////////////////////////////////////
//
// Classes
//
////////////////////////////////////
-->

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Administrator -->

```

```

<owl:Class rdf:about="&ontology1369670699;Administrator">
  <rdfs:subClassOf rdf:resource="&ontology1369670699;Employee"/>
</owl:Class>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline -->

```

```

<owl:Class rdf:about="&ontology1369670699;Airline">
  <rdfs:comment rdf:datatype="&xsd:string">This class encodes
information related to the airline. It has only three Data properties , which are:
Company_ID, Name and Address. In addition, there are three Object
properties, which are the following: Has_Employee, Owns and
Works_With.</rdfs:comment>
</owl:Class>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane --
>

```

```

<owl:Class rdf:about="&ontology1369670699;Airplane">
  <rdfs:subClassOf
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:Class>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#CopilotPilot -->

```

```

<owl:Class rdf:about="&ontology1369670699;CopilotPilot">

```

```
<rdfs:subClassOf rdf:resource="&ontology1369670699;Pilot"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Customer -
-->
```

```
<owl:Class rdf:about="&ontology1369670699;Customer">
  <rdfs:subClassOf rdf:resource="&ontology1369670699;Person"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Employee -
-->
```

```
<owl:Class rdf:about="&ontology1369670699;Employee">
  <rdfs:subClassOf rdf:resource="&ontology1369670699;Person"/>
</owl:Class>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight -->
```

```
<owl:Class rdf:about="&ontology1369670699;Flight">
  <rdfs:subClassOf
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:Class>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution -->
```

```
<owl:Class rdf:about="&ontology1369670699;FlightExecution">
  <rdfs:subClassOf
rdf:resource="&ontology1369670699;Flight_Component"/>
</owl:Class>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Flight_Component -->
```

```
<owl:Class rdf:about="&ontology1369670699;Flight_Component">
```

<rdfs:comment xml:lang="en">This class generally encodes all the information associated with the flight.

</rdfs:comment>

<rdfs:comment rdf:resource="http://www.owl-ontologies.com/Ontology1369670699.owl"/>

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#GovernorPilot -->

<owl:Class rdf:about="&ontology1369670699;GovernorPilot">

<rdfs:subClassOf rdf:resource="&ontology1369670699;Pilot"/>

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Hostess -->

<owl:Class rdf:about="&ontology1369670699;Hostess">

<rdfs:subClassOf rdf:resource="&ontology1369670699;Employee"/>

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Person -->

<owl:Class rdf:about="&ontology1369670699;Person">

<rdfs:comment xml:lang="en">The class :Person ,encodes all the information about the people involved in this whole process.</rdfs:comment>

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Pilot -->

<owl:Class rdf:about="&ontology1369670699;Pilot">

<rdfs:subClassOf rdf:resource="&ontology1369670699;Employee"/>

</owl:Class>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat -->

<owl:Class rdf:about="&ontology1369670699;Seat"/>

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket -->
```

```
<owl:Class rdf:about="&ontology1369670699;Ticket"/>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Travel_Agency -->
```

```
<owl:Class rdf:about="&ontology1369670699;Travel_Agency"/>
```

```
<!--  
////////////////////////////////////  
//  
// Individuals  
//  
////////////////////////////////////  
-->
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_1 -  
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_1">  
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>  
  <Address rdf:datatype="&xsd:string"></Address>  
  <Address xml:lang="en">Address_1</Address>  
  <Company_ID xml:lang="en">Company_ID1</Company_ID>  
  <Name xml:lang="en">Name_1</Name>  
  <Owns rdf:resource="&ontology1369670699;Airplane_1"/>  
  <Works_With  
rdf:resource="&ontology1369670699;Travel_Agency_1"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_10  
-->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_10">
```

```

    <rdf:type rdf:resource="&ontology1369670699;Airline"/>
    <Address xml:lang="en">Address_10</Address>
    <Company_ID xml:lang="en">Company_ID10</Company_ID>
    <Name xml:lang="en">Name_10</Name>
    <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
    <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
    </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_2 -
->

    <owl:NamedIndividual rdf:about="&ontology1369670699;Airline_2">
    <rdf:type rdf:resource="&ontology1369670699;Airline"/>
    <Address xml:lang="en">Address_2</Address>
    <Company_ID xml:lang="en">Company_ID2</Company_ID>
    <Name xml:lang="en">Name_2</Name>
    <Owns rdf:resource="&ontology1369670699;Airplane_2"/>
    <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_2"/>
    </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_3 -
->

    <owl:NamedIndividual rdf:about="&ontology1369670699;Airline_3">
    <rdf:type rdf:resource="&ontology1369670699;Airline"/>
    <Address xml:lang="en"> Address_3</Address>
    <Company_ID xml:lang="en">Company_ID3</Company_ID>
    <Name xml:lang="en">Name_3</Name>
    <Owns rdf:resource="&ontology1369670699;Airplane_3"/>
    <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_3"/>
    </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_4 -
->

    <owl:NamedIndividual rdf:about="&ontology1369670699;Airline_4">
    <rdf:type rdf:resource="&ontology1369670699;Airline"/>
    <Address xml:lang="en">Address_4</Address>

```

```

    <Company_ID xml:lang="en">Company_ID4</Company_ID>
    <Name xml:lang="en">Name_4</Name>
    <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
    <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
    </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_5 -
->

<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_5">
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>
  <Address xml:lang="en">Address_5</Address>
  <Company_ID xml:lang="en">Company_ID5</Company_ID>
  <Name xml:lang="en">Name_5</Name>
  <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
  <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
  </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_6 -
->

<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_6">
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>
  <Address xml:lang="en">Address_6</Address>
  <Company_ID xml:lang="en">Company_ID6</Company_ID>
  <Name xml:lang="en">Name_6</Name>
  <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
  <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
  </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_7 -
->

<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_7">
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>
  <Address xml:lang="en">Address_7</Address>
  <Company_ID xml:lang="en">Company_ID7</Company_ID>
  <Name xml:lang="en">Name_7</Name>

```

```

    <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
    <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_8 -
->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_8">
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>
  <Address xml:lang="en">Address_8</Address>
  <Company_ID xml:lang="en">Company_ID8</Company_ID>
  <Name xml:lang="en">Name_8</Name>
  <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
  <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airline_9 -
->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airline_9">
  <rdf:type rdf:resource="&ontology1369670699;Airline"/>
  <Address xml:lang="en">Address_9</Address>
  <Company_ID xml:lang="en">Company_ID9</Company_ID>
  <Name xml:lang="en">Name_9</Name>
  <Owns rdf:resource="&ontology1369670699;Airplane_4"/>
  <Works_With
rdf:resource="&ontology1369670699;Travel_Agency_4"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_1
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_1">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Distance rdf:datatype="&xsd;float">145.0</Distance>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-05-
31T15:00:34</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-06-
01T12:15:55</Arr_time>

```

```

<Destination_Place xml:lang="en">Athens</Destination_Place>
<StartingDay xml:lang="en">Friday</StartingDay>
<Starting_Place xml:lang="en">Heraklio</Starting_Place>
<F_id xml:lang="en">HertoAth145</F_id>
<Airplane_id xml:lang="en">Oly001Air</Airplane_id>
<AirplaneName xml:lang="en">Olympic340</AirplaneName>
<DestinationDay xml:lang="en">Saturday</DestinationDay>
<Has rdf:resource="&ontology1369670699;FlightExecution_1"/>
<Has rdf:resource="&ontology1369670699;Seat_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Airplane_10 -->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_10">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <Has rdf:resource="&ontology1369670699;FlightExecution_4"/>
  <Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_2
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_2">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-06-
14T13:50:10</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-06-
15T15:52:08</Arr_time>
  <Distance rdf:datatype="&xsd;float">300.0</Distance>
  <Airplane_id xml:lang="en">Aeg002Air</Airplane_id>

```

```

<AirplaneName xml:lang="en">Aegean420</AirplaneName>
<StartingDay xml:lang="en">Friday</StartingDay>
<Destination_Place xml:lang="en">Heraklio</Destination_Place>
<Starting_Place xml:lang="en">Rodes</Starting_Place>
<F_id xml:lang="en">RotoHer300</F_id>
<DestinationDay xml:lang="en">Saturday</DestinationDay>
<Has rdf:resource="&ontology1369670699;FlightExecution_5"/>
<Has rdf:resource="&ontology1369670699;Seat_2"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_3
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_3">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-08-
06T15:20:58</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-08-
07T16:17:19</Arr_time>
  <Distance rdf:datatype="&xsd;float">256.0</Distance>
  <Starting_Place xml:lang="en">Athens</Starting_Place>
  <F_id xml:lang="en">AthtoRod256</F_id>
  <Airplane_id xml:lang="en">Min003Air</Airplane_id>
  <AirplaneName xml:lang="en">Minoan140</AirplaneName>
  <Destination_Place xml:lang="en">Rodes</Destination_Place>
  <StartingDay xml:lang="en">Tuesday</StartingDay>
  <DestinationDay xml:lang="en">Wednesday</DestinationDay>
  <Has rdf:resource="&ontology1369670699;FlightExecution_7"/>
  <Has rdf:resource="&ontology1369670699;Seat_3"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_4
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_4">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>

```

```

<Starting_Place xml:lang="en">Heraklio</Starting_Place>
<F_id xml:lang="en">HertoCyp483</F_id>
<Airplane_id xml:lang="en">Sky004Air</Airplane_id>
<AirplaneName xml:lang="en">Sky580</AirplaneName>
<DestinationDay xml:lang="en">Tuesday</DestinationDay>
<Has rdf:resource="&ontology1369670699;FlightExecution_2"/>
<Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_5
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_5">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <Has rdf:resource="&ontology1369670699;FlightExecution_5"/>
  <Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_6
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_6">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>

```

```

<F_id xml:lang="en">HertoCyp483</F_id>
<Airplane_id xml:lang="en">Sky004Air</Airplane_id>
<AirplaneName xml:lang="en">Sky580</AirplaneName>
<DestinationDay xml:lang="en">Tuesday</DestinationDay>
<HaS rdf:resource="&ontology1369670699;FlightExecution_2"/>
<Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_7
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_7">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <HaS rdf:resource="&ontology1369670699;FlightExecution_5"/>
  <Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_8
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_8">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>

```

```

<Airplane_id xml:lang="en">Sky004Air</Airplane_id>
<AirplaneName xml:lang="en">Sky580</AirplaneName>
<DestinationDay xml:lang="en">Tuesday</DestinationDay>
<Has rdf:resource="&ontology1369670699;FlightExecution_7"/>
<Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Airplane_9
-->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Airplane_9">
  <rdf:type rdf:resource="&ontology1369670699;Airplane"/>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-09-
16T16:21:23</Dep_time>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-09-
17T11:00:00</Arr_time>
  <Distance rdf:datatype="&xsd;float">483.0</Distance>
  <StartingDay xml:lang="en"> Monday</StartingDay>
  <Destination_Place xml:lang="en">Cyprus</Destination_Place>
  <Starting_Place xml:lang="en">Heraklio</Starting_Place>
  <F_id xml:lang="en">HertoCyp483</F_id>
  <Airplane_id xml:lang="en">Sky004Air</Airplane_id>
  <AirplaneName xml:lang="en">Sky580</AirplaneName>
  <DestinationDay xml:lang="en">Tuesday</DestinationDay>
  <Has rdf:resource="&ontology1369670699;FlightExecution_9"/>
  <Has rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_1 -->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_1">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_2 -->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_2">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>

```

```
<Books rdf:resource="&ontology1369670699;Seat_2"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_3 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_3">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_3"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_4 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_4">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_4"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_71 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_71">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_49"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_72 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_72">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_51"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_73 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_73">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_50"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_74 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_74">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_51"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_75 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_75">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <Books rdf:resource="&ontology1369670699;Seat_51"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Customer_76 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Customer_76">
  <rdf:type rdf:resource="&ontology1369670699;Customer"/>
  <PersonAddress rdf:datatype="&xsd:string"></PersonAddress>
  <Books rdf:resource="&ontology1369670699;Seat_52"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_1 -->
```

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_1">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd:dateTime">2013-07-
24T11:47:37</Arr_time>
```

```

    <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
    <Distance rdf:datatype="&xsd;float">233.0</Distance>
    <F_id rdf:datatype="&xsd;string">km44</F_id>
    <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
    <Destination_Place xml:lang="en">Athens</Destination_Place>
    <DestinationDay xml:lang="en">Monday</DestinationDay>
    <StartingDay xml:lang="en">Monday</StartingDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_10 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_10">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_2 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_2">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>

```

```

<Destination_Place xml:lang="en">Athens</Destination_Place>
<StartingDay xml:lang="en">Monday</StartingDay>
<DestinationDay xml:lang="en">Monday</DestinationDay>
<Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_3 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_3">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_4 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_4">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd:string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#FlightExecution_5 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;FlightExecution_5">  
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>  
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-  
24T11:47:37</Arr_time>  
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-  
25T11:47:41</Dep_time>  
  <Distance rdf:datatype="&xsd;float">233.0</Distance>  
  <F_id rdf:datatype="&xsd;string">km44</F_id>  
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>  
  <Destination_Place xml:lang="en">Athens</Destination_Place>  
  <StartingDay xml:lang="en">Monday</StartingDay>  
  <DestinationDay xml:lang="en">Monday</DestinationDay>  
  <Starting_Place xml:lang="en">Rodes</Starting_Place>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#FlightExecution_6 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;FlightExecution_6">  
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>  
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-  
24T11:47:37</Arr_time>  
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-  
25T11:47:41</Dep_time>  
  <Distance rdf:datatype="&xsd;float">233.0</Distance>  
  <F_id rdf:datatype="&xsd;string">km44</F_id>  
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>  
  <Destination_Place xml:lang="en">Athens</Destination_Place>  
  <DestinationDay xml:lang="en">Monday</DestinationDay>  
  <StartingDay xml:lang="en">Monday</StartingDay>  
  <Starting_Place xml:lang="en">Rodes</Starting_Place>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#FlightExecution_7 -->
```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_7">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_8 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_8">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
  <Distance rdf:datatype="&xsd;float">233.0</Distance>
  <F_id rdf:datatype="&xsd;string">km44</F_id>
  <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
  <Destination_Place xml:lang="en">Athens</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#FlightExecution_9 -->

```

```

<owl:NamedIndividual
rdf:about="&ontology1369670699;FlightExecution_9">
  <rdf:type rdf:resource="&ontology1369670699;FlightExecution"/>

```

```

    <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:47:37</Arr_time>
    <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:47:41</Dep_time>
    <Distance rdf:datatype="&xsd;float">233.0</Distance>
    <F_id rdf:datatype="&xsd:string">km44</F_id>
    <ExecutionFlight rdf:datatype="&xsd;boolean">true</ExecutionFlight>
    <Destination_Place xml:lang="en">Athens</Destination_Place>
    <StartingDay xml:lang="en">Monday</StartingDay>
    <DestinationDay xml:lang="en">Monday</DestinationDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_1 --
>

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_1">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">333.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs2524</F_id>
  <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_1"/>
</owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_10 -
->

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_10">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
23T11:42:24</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:42:33</Dep_time>
  <Distance rdf:datatype="&xsd;float">219.0</Distance>

```

```

    <Flight_id xml:lang="en">340Air</Flight_id>
    <Destination_Place xml:lang="en">Heraklion</Destination_Place>
    <StartingDay xml:lang="en">Monday</StartingDay>
    <DestinationDay xml:lang="en">Monday</DestinationDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
    <F_id xml:lang="en">rs2565</F_id>
    <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_9"/>
  </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_2 --
>

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_2">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">564.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rh77</F_id>
  <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_8"/>
  </owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_3 --
>

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_3">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Distance rdf:datatype="&xsd;float">12.0</Distance>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>

```

```

    <StartingDay xml:lang="en">Monday</StartingDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
    <F_id xml:lang="en">ry6654</F_id>
    <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_2"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_4 --
>

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_4">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">98.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs97</F_id>
  <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_7"/>
  </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_5 --
>

```

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_5">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">333.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs2524</F_id>

```

```

    <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_10"/>
    </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_6 --
>

```

```

    <owl:NamedIndividual rdf:about="&ontology1369670699;Flight_6">
    <rdf:type rdf:resource="&ontology1369670699;Flight"/>
    <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
    <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
    <Distance rdf:datatype="&xsd;float">76.0</Distance>
    <Flight_id xml:lang="en">340Air</Flight_id>
    <Destination_Place xml:lang="en">Heraklion</Destination_Place>
    <StartingDay xml:lang="en">Monday</StartingDay>
    <DestinationDay xml:lang="en">Monday</DestinationDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
    <F_id xml:lang="en">rt98</F_id>
    <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_3"/>
    </owl:NamedIndividual>

```

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_7 --
>

```

```

    <owl:NamedIndividual rdf:about="&ontology1369670699;Flight_7">
    <rdf:type rdf:resource="&ontology1369670699;Flight"/>
    <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
    <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
    <Distance rdf:datatype="&xsd;float">333.0</Distance>
    <Flight_id xml:lang="en">340Air</Flight_id>
    <Destination_Place xml:lang="en">Heraklion</Destination_Place>
    <DestinationDay xml:lang="en">Monday</DestinationDay>
    <StartingDay xml:lang="en">Monday</StartingDay>
    <Starting_Place xml:lang="en">Rodes</Starting_Place>
    <F_id xml:lang="en">rs2524</F_id>
    <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_3"/>
    </owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_8 -->

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_8">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:37:30</Dep_time>
  <Distance rdf:datatype="&xsd;float">98.0</Distance>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rv29</F_id>
  <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_5"/>
</owl:NamedIndividual>

```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Flight_9 -->

```

<owl:NamedIndividual rdf:about="&ontology1369670699;Flight_9">
  <rdf:type rdf:resource="&ontology1369670699;Flight"/>
  <Distance rdf:datatype="&xsd;float">100.0</Distance>
  <Arr_time rdf:datatype="&xsd;dateTime">2013-07-
24T11:37:12</Arr_time>
  <Dep_time rdf:datatype="&xsd;dateTime">2013-07-
25T11:43:43</Dep_time>
  <Flight_id xml:lang="en">340Air</Flight_id>
  <Destination_Place xml:lang="en">Heraklion</Destination_Place>
  <DestinationDay xml:lang="en">Monday</DestinationDay>
  <StartingDay xml:lang="en">Monday</StartingDay>
  <Starting_Place xml:lang="en">Rodes</Starting_Place>
  <F_id xml:lang="en">rs20</F_id>
  <HasonlyOne
rdf:resource="&ontology1369670699;FlightExecution_7"/>
</owl:NamedIndividual>

```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_1 -->

<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_1">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_2 -->

<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_2">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">120.0</Price>
  <Seat_id xml:lang="en">B1c0036C</Seat_id>
  <Class xml:lang="en">B_Class</Class>
</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_3 -->

<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_3">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Price rdf:datatype="&xsd;float">60.0</Price>
  <Number rdf:datatype="&xsd:int">9</Number>
  <Seat_id xml:lang="en">A9c0027C</Seat_id>
  <Class xml:lang="es">A_Class</Class>
</owl:NamedIndividual>

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_4 -->

<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_4">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Price rdf:datatype="&xsd;float">135.0</Price>
  <Number rdf:datatype="&xsd:int">3</Number>
  <Seat_id xml:lang="en">B3c0018C</Seat_id>
  <Class xml:lang="en">B_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_47 -->

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_47">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_48 -->

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_48">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_49 -->

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_49">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_50 -->

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_50">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_51 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_51">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Seat_52 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Seat_52">
  <rdf:type rdf:resource="&ontology1369670699;Seat"/>
  <Number rdf:datatype="&xsd:int">1</Number>
  <Price rdf:datatype="&xsd;float">55.0</Price>
  <Seat_id xml:lang="en"></Seat_id>
  <Class xml:lang="en">A_Class</Class>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_1 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_1">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">A_45ClassA01</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_71"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_1"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_1"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_2 -->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_2">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_36ClassB01</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_75"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_7"/>
```

```
<Refers_to rdf:resource="&ontology1369670699;Flight_9"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_3 --
>
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_3">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">A_27ClassA09</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_2"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_4"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_10"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_4 --
>
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_4">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_75"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_6"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_8"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_53 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_53">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_72"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_2"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_10"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_54 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_54">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_76"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_4"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_7"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_55 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_55">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_2"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_4"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_6"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_56 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_56">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_2"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_9"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_3"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_57 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_57">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_71"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_7"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_7"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-ontologies.com/Ontology1369670699.owl#Ticket_58 -
->
```

```
<owl:NamedIndividual rdf:about="&ontology1369670699;Ticket_58">
  <rdf:type rdf:resource="&ontology1369670699;Ticket"/>
  <Ticket_ID xml:lang="en">B_18ClassB03</Ticket_ID>
  <Belong_to rdf:resource="&ontology1369670699;Customer_76"/>
  <RefersTo rdf:resource="&ontology1369670699;FlightExecution_3"/>
  <Refers_to rdf:resource="&ontology1369670699;Flight_10"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_1 -->
```

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;Travel_Agency_1">
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>
  <AT xml:lang="en">GM123</AT>
  <Code_ID xml:lang="en">GM_012123</Code_ID>
  <AddressAgency xml:lang="en">N.Herklion, Zaros zarou, T.K
70002</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency001</Full_Name>
  <Issues_a rdf:resource="&ontology1369670699;Ticket_1"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_2 -->
```

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;Travel_Agency_2">
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>
  <AT xml:lang="en">CV456</AT>
  <Code_ID xml:lang="en">CV_034456</Code_ID>
  <AddressAgency xml:lang="en">N.Herklion, Metaksoxwri 145, T.K
71704</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency002</Full_Name>
  <Issues_a rdf:resource="&ontology1369670699;Ticket_2"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_3 -->

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;Travel_Agency_3">
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>
  <AT xml:lang="en">LK789</AT>
  <Code_ID xml:lang="en">LK_056789</Code_ID>
  <AddressAgency xml:lang="en">Messara, Zaros 12 T.K
70002</AddressAgency>
  <Full_Name xml:lang="en">TravelAgency003</Full_Name>
  <Issues_a rdf:resource="&ontology1369670699;Ticket_3"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_4 -->

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;Travel_Agency_4">
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos
Heraklio- T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="&ontology1369670699;Ticket_4"/>
</owl:NamedIndividual>
```

<!-- http://www.owl-
ontologies.com/Ontology1369670699.owl#Travel_Agency_59 -->

```
<owl:NamedIndividual
rdf:about="&ontology1369670699;Travel_Agency_59">
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos
Heraklio- T.K.71501</AddressAgency>
  <AT xml:lang="en">KO741</AT>
  <Code_ID xml:lang="en">KO_078741</Code_ID>
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>
  <Issues_a rdf:resource="&ontology1369670699;Ticket_56"/>
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Travel_Agency_61 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;Travel_Agency_61">  
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>  
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos  
Heraklio- T.K.71501</AddressAgency>  
  <AT xml:lang="en">KO741</AT>  
  <Code_ID xml:lang="en">KO_078741</Code_ID>  
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>  
  <Issues_a rdf:resource="&ontology1369670699;Ticket_54"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Travel_Agency_63 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;Travel_Agency_63">  
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>  
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos  
Heraklio- T.K.71501</AddressAgency>  
  <AT xml:lang="en">KO741</AT>  
  <Code_ID xml:lang="en">KO_078741</Code_ID>  
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>  
  <Issues_a rdf:resource="&ontology1369670699;Ticket_58"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Travel_Agency_65 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;Travel_Agency_65">  
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>  
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos  
Heraklio- T.K.71501</AddressAgency>  
  <AT xml:lang="en">KO741</AT>  
  <Code_ID xml:lang="en">KO_078741</Code_ID>  
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>  
  <Issues_a rdf:resource="&ontology1369670699;Ticket_1"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Travel_Agency_67 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;Travel_Agency_67">  
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>  
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos  
Heraklio- T.K.71501</AddressAgency>  
  <AT xml:lang="en">KO741</AT>  
  <Code_ID xml:lang="en">KO_078741</Code_ID>  
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>  
  <Issues_a rdf:resource="&ontology1369670699;Ticket_56"/>  
</owl:NamedIndividual>
```

```
<!-- http://www.owl-  
ontologies.com/Ontology1369670699.owl#Travel_Agency_69 -->
```

```
<owl:NamedIndividual  
rdf:about="&ontology1369670699;Travel_Agency_69">  
  <rdf:type rdf:resource="&ontology1369670699;Travel_Agency"/>  
  <AddressAgency xml:lang="en">Agiou Artemiou ar.1 Nea Alikarnasos  
Heraklio- T.K.71501</AddressAgency>  
  <AT xml:lang="en">KO741</AT>  
  <Code_ID xml:lang="en">KO_078741</Code_ID>  
  <Full_Name xml:lang="en">TravelAgency004</Full_Name>  
  <Issues_a rdf:resource="&ontology1369670699;Ticket_57"/>  
</owl:NamedIndividual>  
</rdf:RDF>
```

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