

ΑΝΑΠΑΡΑΣΤΑΣΗ ΓΝΩΣΗΣ ΣΤΟΝ ΠΑΓΚΟΣΜΙΟ ΙΣΤΟ

2η ΕΡΓΑΣΙΑ

25/11/2022

ΠΡΑΠΠΑΣ ΤΡΙΑΝΤΑΦΥΛΛΟΣ 1067504

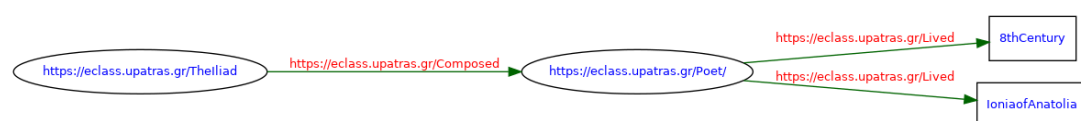
Ερώτημα 1

1a Iliad was composed by a poet who lived in the 8th century B.C. in Ionia of Anatolia.

Υποκείμενο	Κατηγορία	Αντικείμενο
Iliad	Composed	Poet
Poet	Lived	8 th century
Poet	Lived	Ionia of Anatolia

```
1: <?xml version="1.0"?>
2: <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
3:     xmlns:dc="https://eclass.upatras.gr/">
4:
5:   <rdf:Description rdf:about="https://eclass.upatras.gr/TheIliad">
6:     <dc:Composed
rdf:resource="https://eclass.upatras.gr/Poet/" />
7:   </rdf:Description>
8:
9:   <rdf:Description rdf:about="https://eclass.upatras.gr/Poet/">
10:     <dc:Lived>8thCentury</dc:Lived>
11:   </rdf:Description>
12:
13:   <rdf:Description rdf:about="https://eclass.upatras.gr/Poet/">
14:     <dc:Lived>IoniaofAnatolia</dc:Lived>
15:   </rdf:Description>
16:
17: </rdf:RDF>
```

Graph of the data model



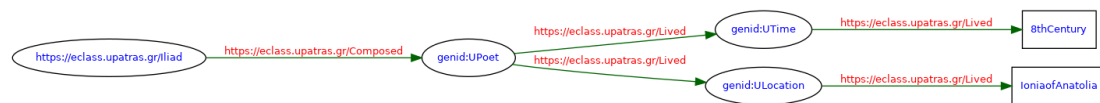
1b

```

1: <?xml version="1.0"?>
2: <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
3:   xmlns:dc="https://eclass.upatras.gr/">
4:
5:   <rdf:Description rdf:about="https://eclass.upatras.gr/Iliad">
6:     <dc:Composed rdf:nodeID="Poet"/>
7:   </rdf:Description>
8:
9:   <rdf:Description rdf:nodeID="Poet">
10:     <dc:Lived rdf:nodeID="Time"/>
11:     <dc:Lived rdf:nodeID="Location"/>
12:   </rdf:Description>
13:
14:   <rdf:Description rdf:nodeID="Time">
15:     <dc:Lived>8thCentury</dc:Lived>
16:   </rdf:Description>
17:
18:   <rdf:Description rdf:nodeID="Location">
19:     <dc:Lived>IoniaofAnatolia</dc:Lived>
20:   </rdf:Description>
21:
22: </rdf:RDF>

```

Graph of the data model



Ερώτημα 2

Google says that CEID is located at Rio

Υποκείμενο	Κατηγορήμα	Αντικείμενο
Google	Says	CEID
CEID	Located	Rio

```

1: <?xml version="1.0"?>
2: <rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
3:   xmlns:dc="http://purl.org/">
4:   <rdf:Description rdf:about="https://eclass.upatras.gr/">
5:     <rdf:type rdf:resource="http://www.w3.org/1999/02/22-rdf-
6:       syntax-ns#Statement"/>
7:     <rdf:subject>CEID</rdf:subject>
8:     <rdf:predicate>Located</rdf:predicate>
9:     <rdf:object>Rio</rdf:object>
10:   </rdf:Description>
11: <rdf:Description rdf:about="Google">

```

```

12: <dc:Says rdf:resource="https://eclass.upatras.gr/">
13: </rdf:Description>
14:
15: </rdf:RDF>

```

Graph of the data model



Ερώτημα 3

Το αρχείο βρίσκεται στο zip και έχει τεσταριστεί στο <http://www.w3.org/RDF/Validator/>.

Ερώτημα 4

Υλοποιήθηκε στο JENA API

i)

```

PREFIX dc:<https://eclass.upatras.gr/>
SELECT ?phone
WHERE
{
    ?Professor a dc:Professor.
    ?Professor dc:has_phone ?phone
}

```

	phone
1	6973728883
2	6919794717
3	6975811741
4	6942141676
5	6943139371
6	6981824206
7	6937580407
8	6934914607
9	6945004250
10	6964356381

ii)

```
PREFIX dc:<https://eclass.upatras.gr/>
SELECT ?phone
WHERE
{
    ?Student a dc:Student.
    ?Student dc:has_phone ?phone.
    ?Student dc:has_age ?age.
    FILTER(?age>"23")
}
```

	phone
1	6913899657
2	6910976453
3	6985068366
4	6977518688
5	6975754859
6	6971826238
7	6955225070
8	6972971479

iii)

```
PREFIX dc:<https://eclass.upatras.gr/>
SELECT ?name
WHERE
{
    ?Person dc:has_name ?name.
    ?Person dc:member_of ?member_of.
    ?member_of dc:dep_city "Patras"
}
```

	name
1	Galviz
2	Miller
3	Yuli
4	Rivera
5	David
6	Wilson
7	Rueda
8	Danny
9	Tapia
10	Yuri
11	Saul
12	Jackson
13	Carolina
14	Dimas
15	Gutierrez
16	Wite

iv)

```

PREFIX dc:<https://eclass.upatras.gr/>
SELECT ?room_name
WHERE
{
    ?Classroom a dc:Classroom.
    ?Classroom dc:room_name ?room_name.
    ?Classroom dc:room_capacity ?room_capacity.
    ?Classroom dc:room_department ?room_department.
    ?room_department dc:dep_city \"Patras\".
    FILTER (?room_capacity>\"150\")
}

```

	room_name
1	A11
2	A4
3	A18
4	A2
5	A5
6	A17
7	A26
8	A10
9	A21

Προσοχή στα `` δεν περνάνε σωστά με copy paste

5

Το περιβάλλον στο οποίο υλοποιήθηκε είναι το IntelliJ με την χρήση της βιβλιοθήκης Apache Jena.

```
Choose A, B or C:
```

Παραπάνω εμφανίζονται στην κονσόλα οι 3 επιλογές που έχει ο χρήστης. Κάθε μία αποτελεί ένα από τα τρία ερωτήματα της άσκησης 5.

Παρακάτω εμφανίζονται τα αποτελέσματα του ερωτήματος A, δηλαδή, όλα τα departments που βρίσκονται στο αρχείο RDF.

Πληκτρολογώντας το όνομα ενός department εμφανίζονται οι πληροφορίες για αυτό.

```
Telecommunications Networking Team
Division of Statistical Application Acquisition and Backup
Division of Database Acquisition and Programming
Division of Application Backup and Connectivity
Branch of PC Connectivity
Agency of PC Control and Acquisition
Choose a Department:
```

Choose a Department:

Agency of PC Control and Acquisition

Professors:

Name	Age	Phone	Email
=====			
"David"	"44"	"6981824206"	"David@upatras.gr"
"Miller"	"31"	"6942141676"	"Miller@upatras.gr"

Students:

Name	Age	Phone	Email
=====			
"Rivera"	"26"	"6975754859"	"Rivera@upnet.gr"
"Galviz"	"27"	"6977518688"	"Galviz@upnet.gr"
"Yuli"	"21"	"6981262485"	"Yuli@upnet.gr"

Lessons:

Name	Professor
=====	
"Software Technology"	"David"
"CPU Architecture I"	"Miller"

Classrooms:

Name	Capacity
=====	
"A20"	"112"
"A18"	"244"
"A2"	"181"
"A11"	"219"
"A24"	"130"
"A4"	"255"
"A29"	"130"

Παράδειγμα για ερώτημα Β

Choose A, B or C:
B
Name of Data to Insert
Professor
Name:
Something
Phone:
6912345678
Email:
something@something.gr
Age:
45
Member of:
Department1
Teaches:
Lesson1

```
<rdf:Description rdf:about="https://eclass.upatras.gr/Professor/Professor59">  
  <dc:teaches rdf:resource="https://eclass.upatras.gr/Lesson/Lesson1"/>  
  <dc:member_of rdf:resource="https://eclass.upatras.gr/Department/Department1"/>  
  <dc:has_age>45</dc:has_age>  
  <dc:has_email>something@something.gr</dc:has_email>  
  <dc:has_phone>6912345678</dc:has_phone>  
  <dc:has_name>Something</dc:has_name>  
  <rdf:type rdf:resource="https://eclass.upatras.gr/Professor"/>
```

Αντίστοιχα για τα υπόλοιπα