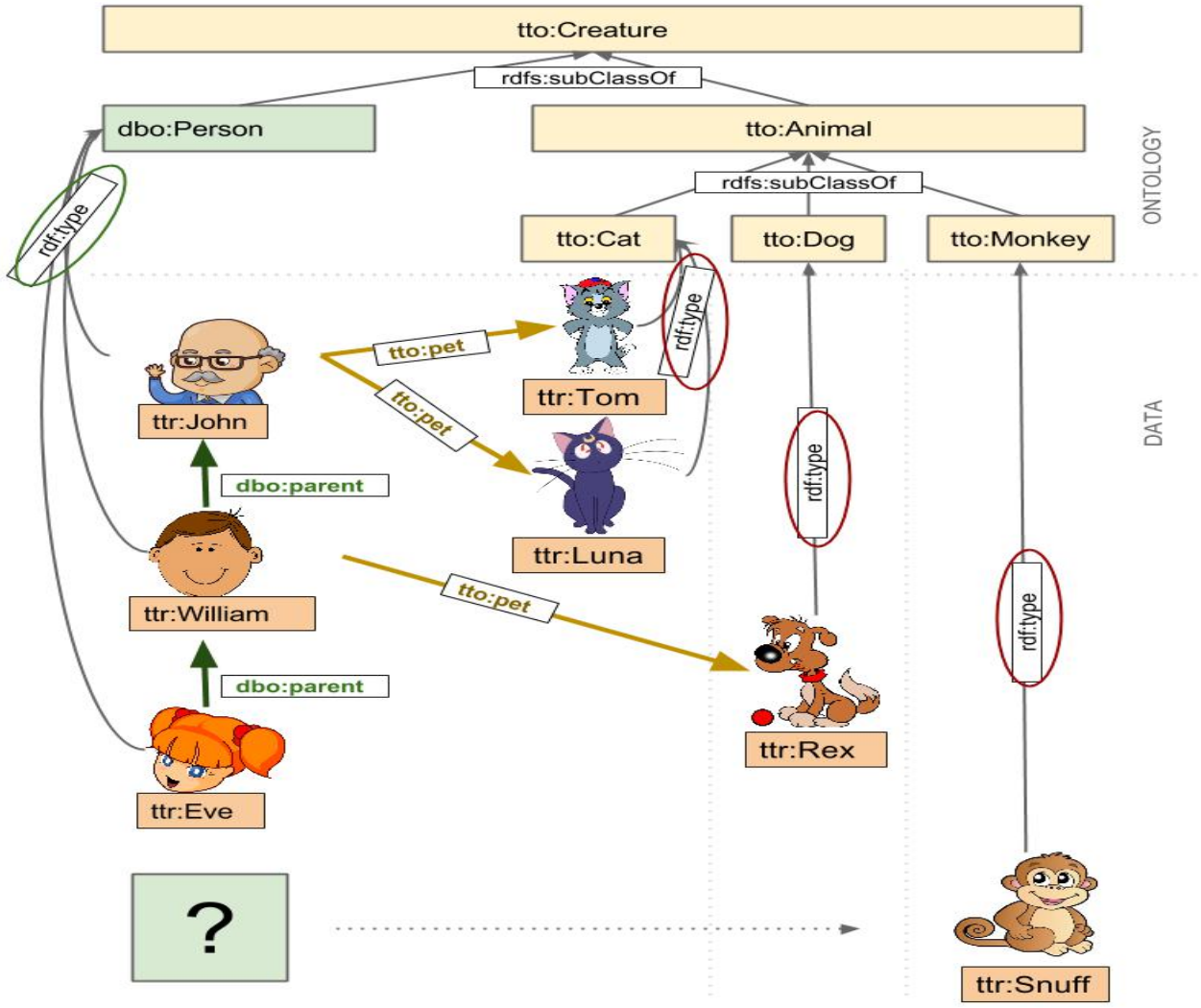
PRABAL GHOSH ROLL- AM.SC.P2CSC20040

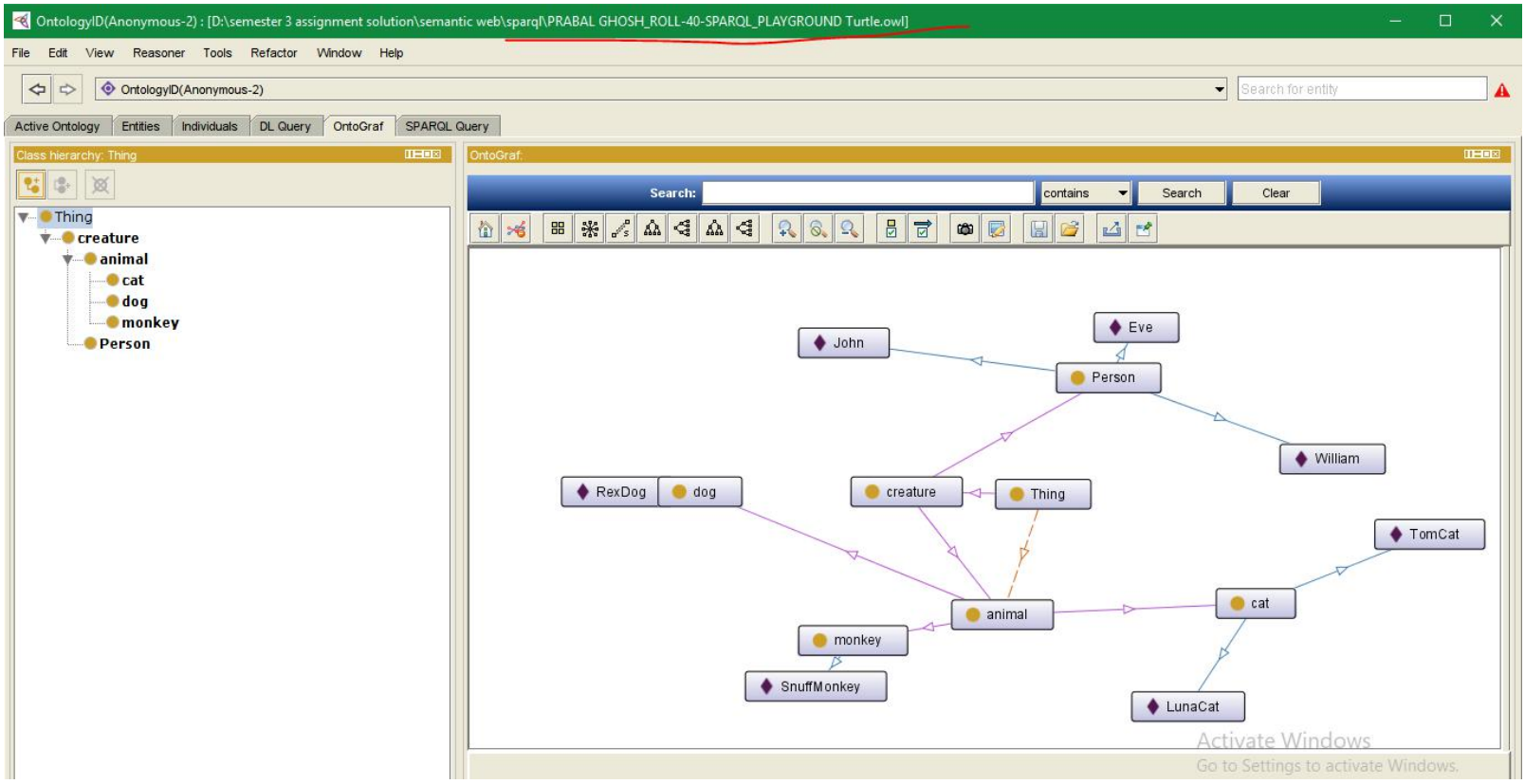
SEMANTIC WEB –SPARQL ASSIGNMNET

Assignment SPARQL
Create owl file to describe the following using Protégé:



1.
Run the queries in protege for the questions given in the site https://sparql playground.sib.swiss/ numbered - 200 till 209 using the owl file you have created. Then try to run 220 (by filling in the *** blanks). Take a screenshot of the SPARQL code box & the output and paste it in a word file for each question. (1.1 to 1.11)
2.
Write a SPARQL statement to find out: How many triplets are contained in the dataset? Take a screenshot of the SPARQL code box and the output and paste in the word file.
3.
Write a SPARQL statement to find out: How many instances of a “Animal” class are declared? Take a screenshot of the SPARQL code box and the output and paste below.

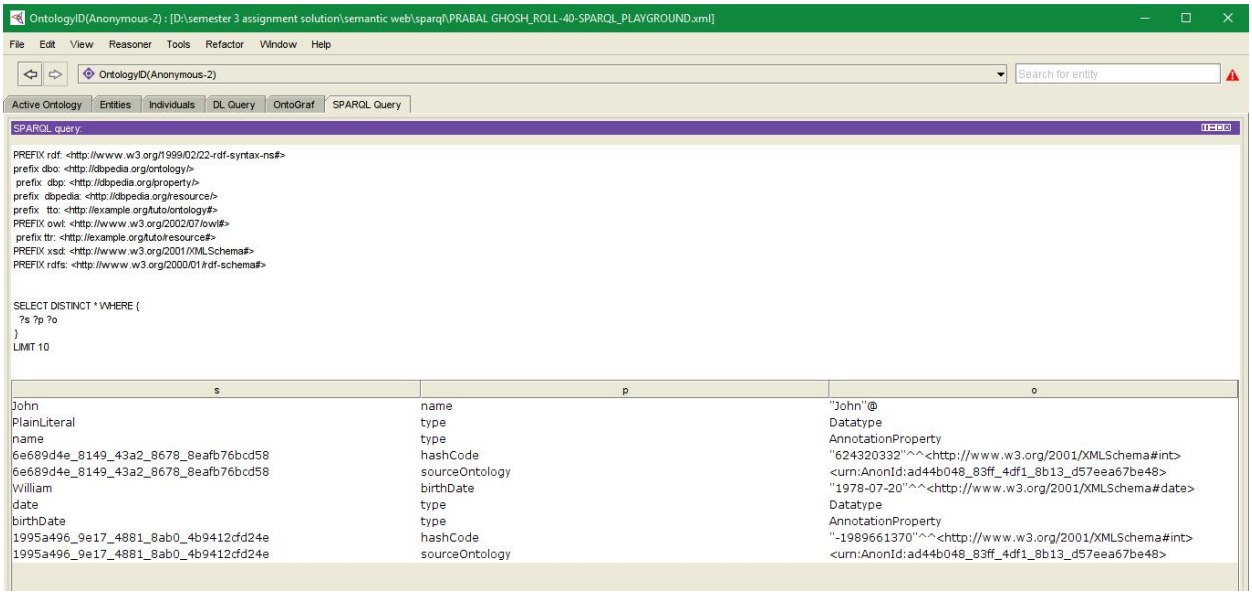
SOLUTION:



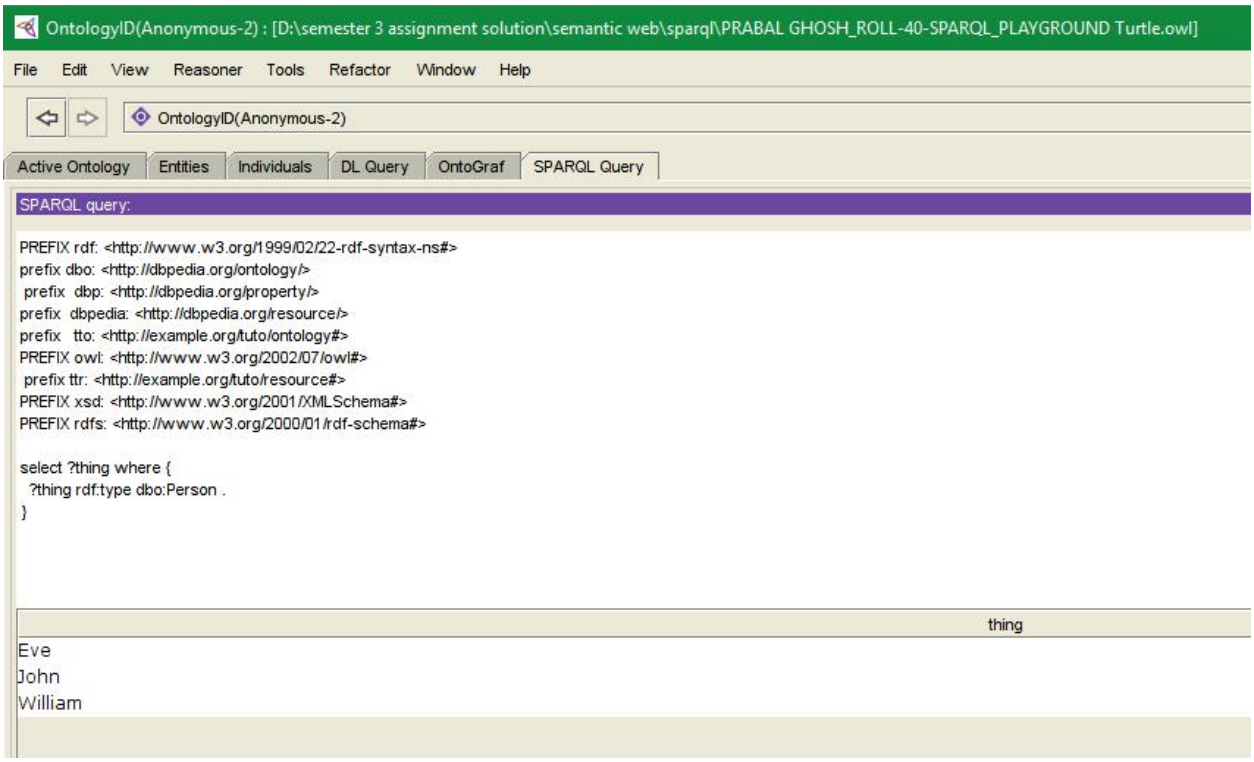
1>

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
prefix dbo: <http://dbpedia.org/ontology/>
 prefix  dbp: <http://dbpedia.org/property/>
prefix  dbpedia: <http://dbpedia.org/resource/>
prefix   tto: <http://example.org/tuto/ontology#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
 prefix ttr: <http://example.org/tuto/resource#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>


SELECT DISTINCT * WHERE {
  ?s ?p ?o
} LIMIT 10
```

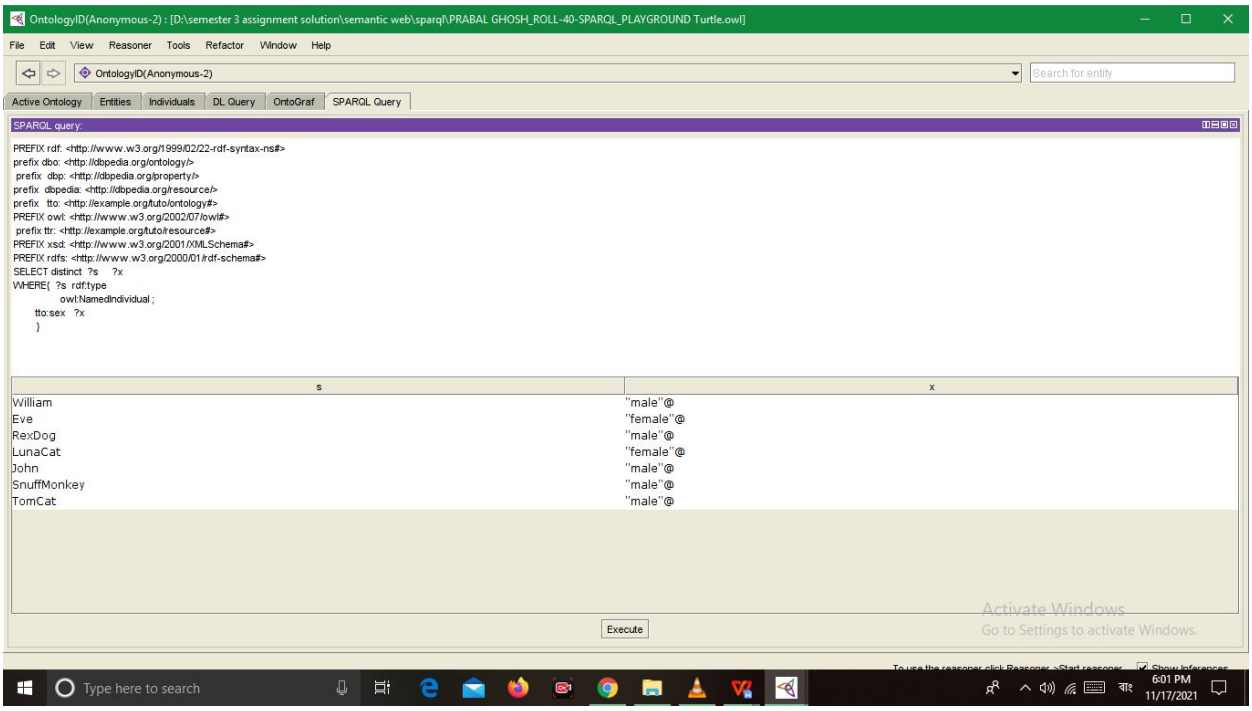


200)



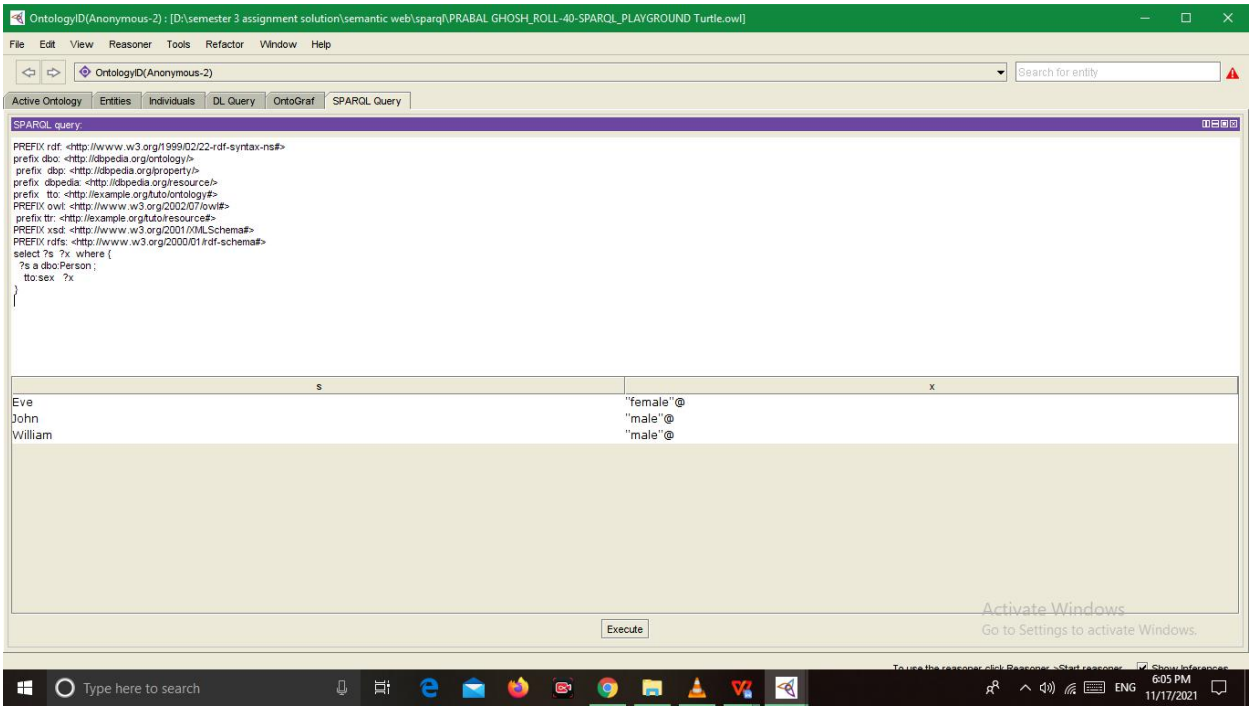
201)

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
prefix dbo: <http://dbpedia.org/ontology/>
 prefix  dbp: <http://dbpedia.org/property/>
prefix  dbpedia: <http://dbpedia.org/resource/>
prefix   tto: <http://example.org/tuto/ontology#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
 prefix ttr: <http://example.org/tuto/resource#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
SELECT distinct  ?s     ?x
WHERE{  ?s  rdf:type
            owl:NamedIndividual ;
      tto:sex   ?x
      }
```



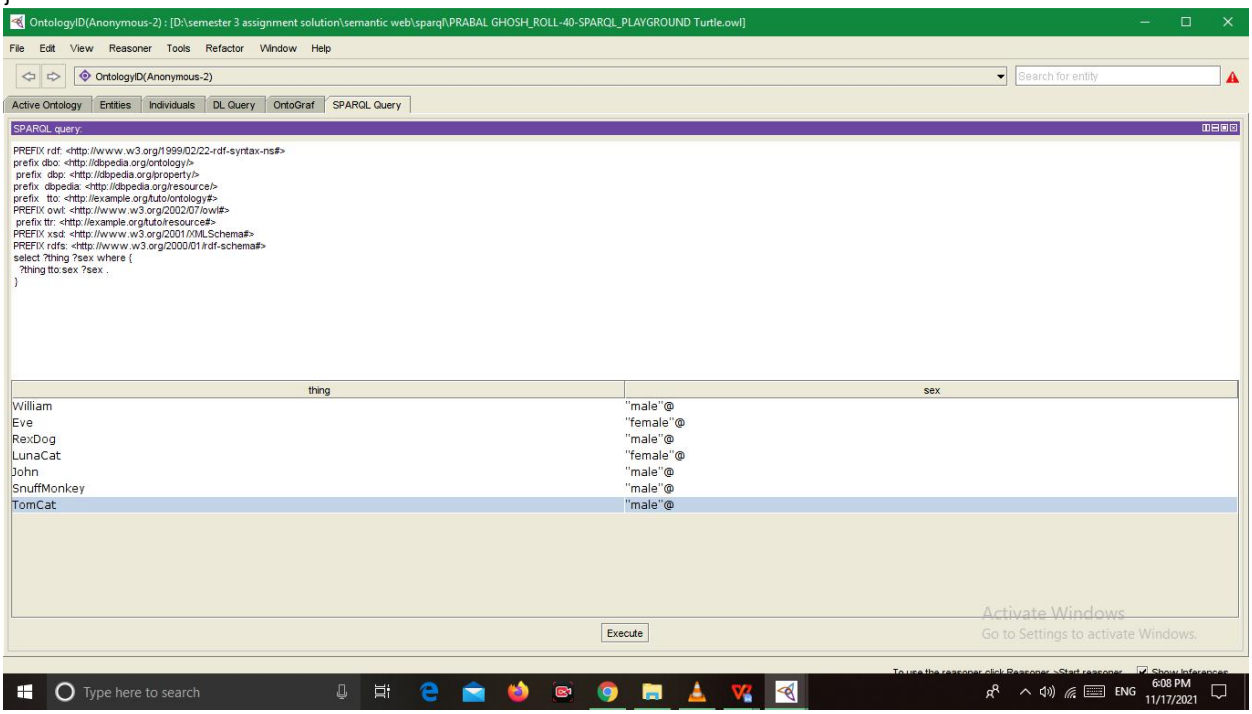
202)

```
select ?s  ?x  where {
  ?s a dbo:Person ;
    tto:sex   ?x
}
```



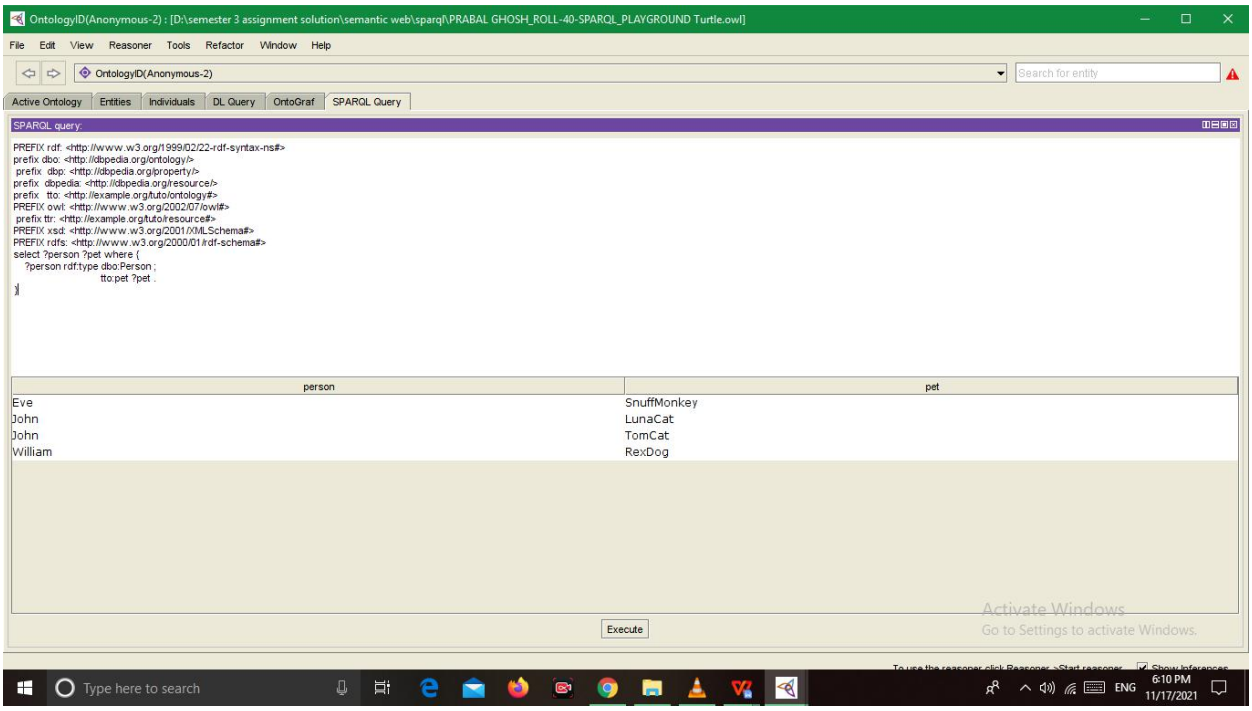
204)

```
select ?thing ?sex where {
  ?thing tto:sex ?sex .
}
```



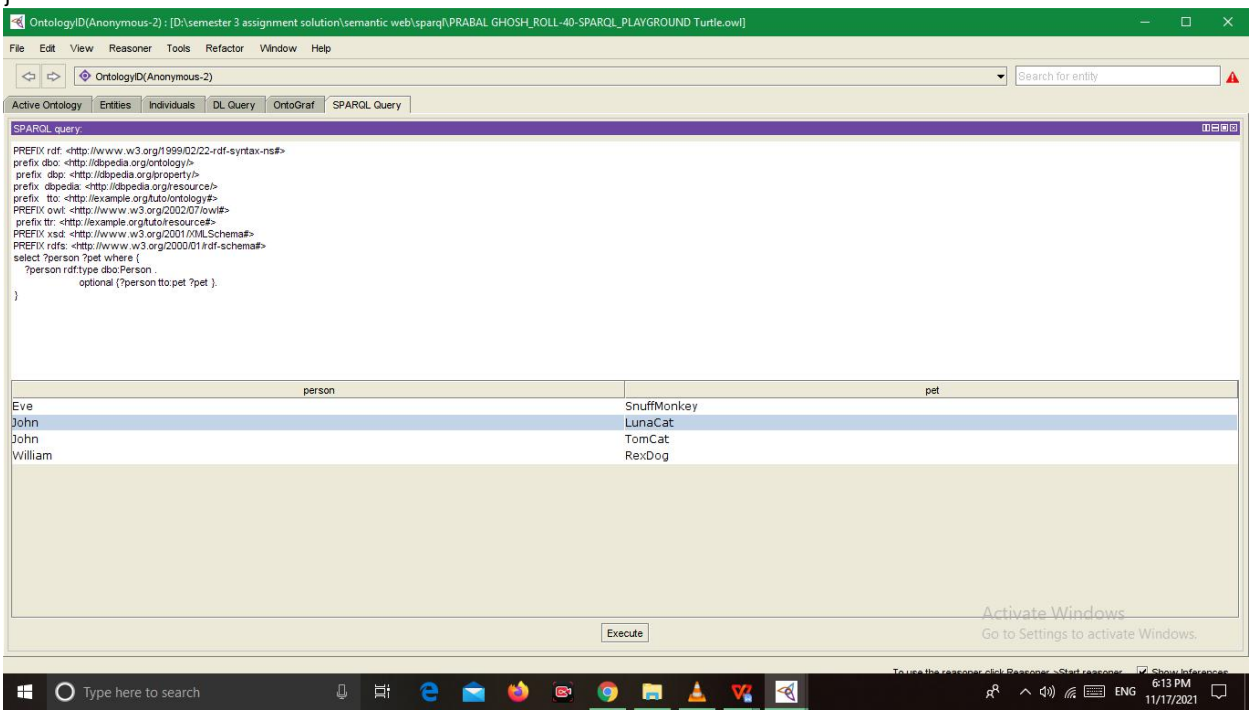
206)

```
select ?person ?pet where {
   ?person rdf:type dbo:Person ;
                    tto:pet ?pet .
}
```



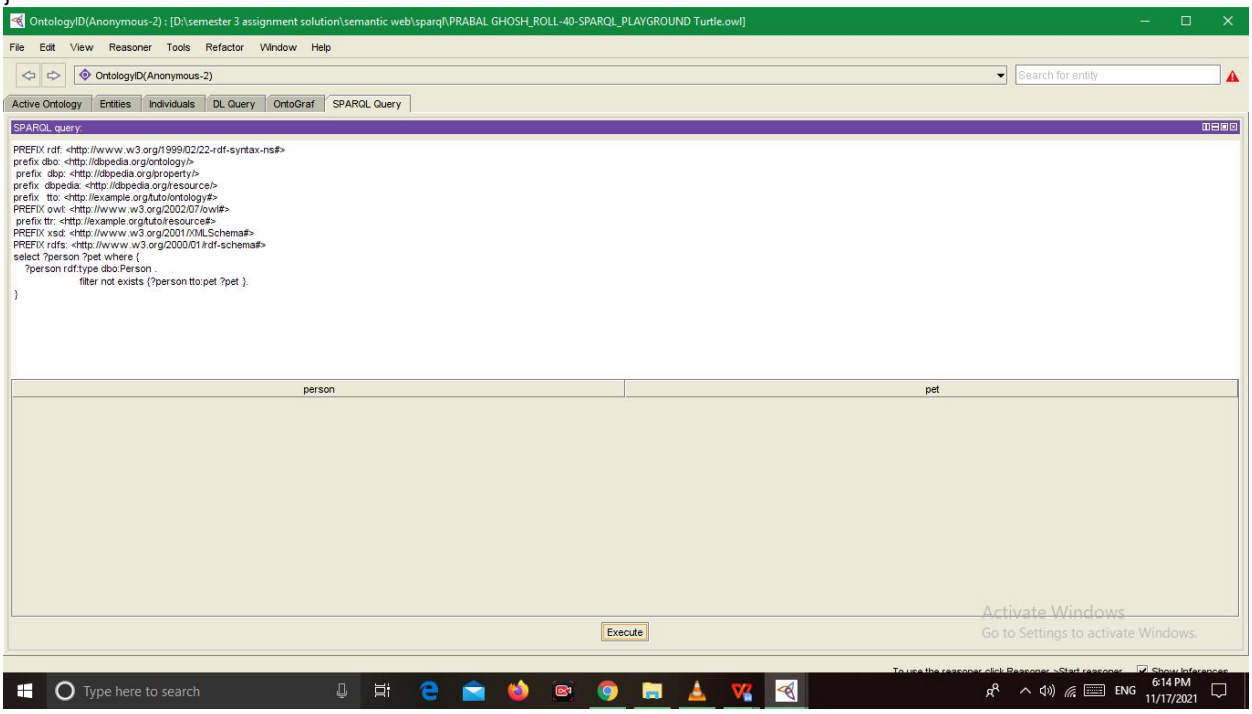
207)

```
select ?person ?pet where {
   ?person rdf:type dbo:Person .
            optional {?person tto:pet ?pet }.
}
```



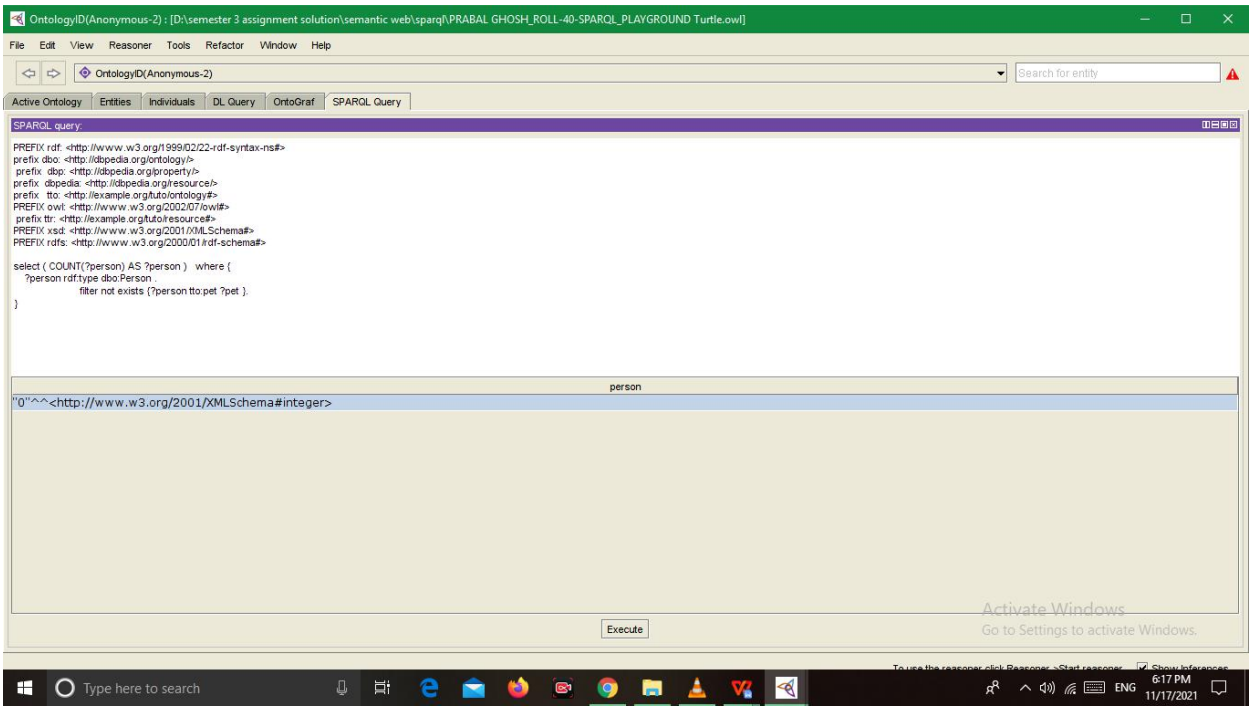
208)

```
select ?person ?pet where {
   ?person rdf:type dbo:Person .
            filter not exists {?person tto:pet ?pet }.
}
```



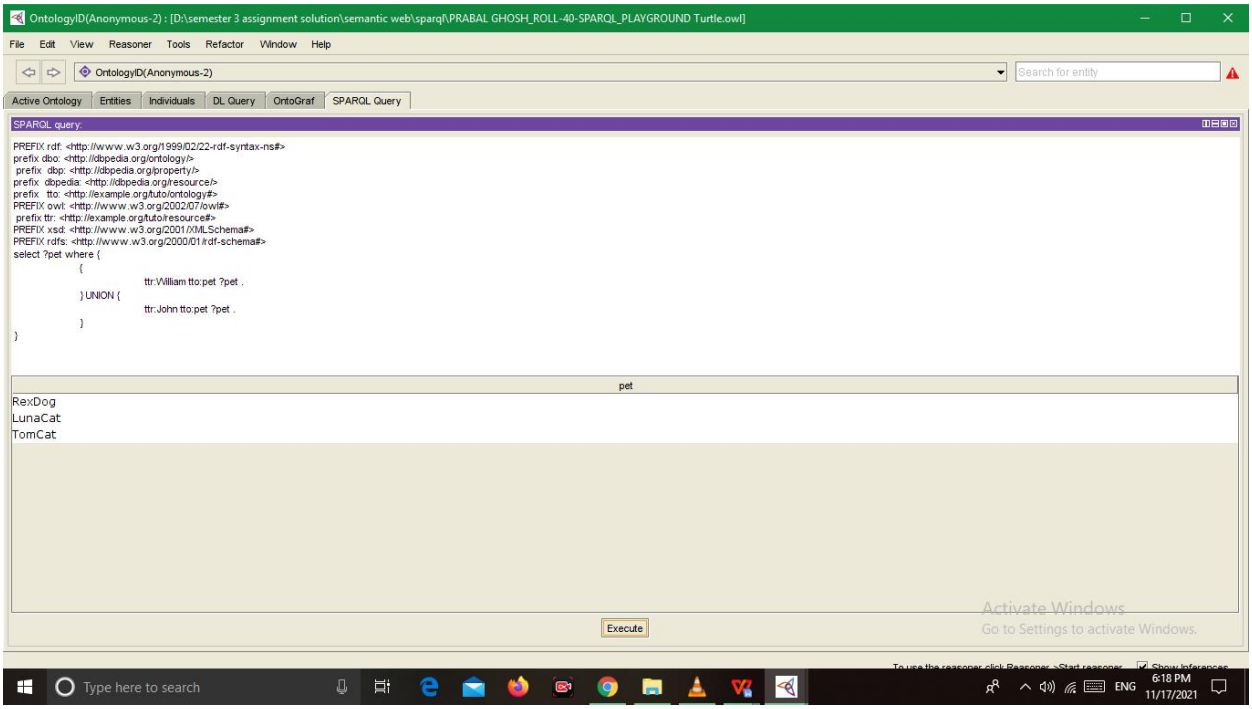
208)

```
select ( COUNT(?person) AS ?person )   where {
   ?person rdf:type dbo:Person .
            filter not exists {?person tto:pet ?pet }.
}
```



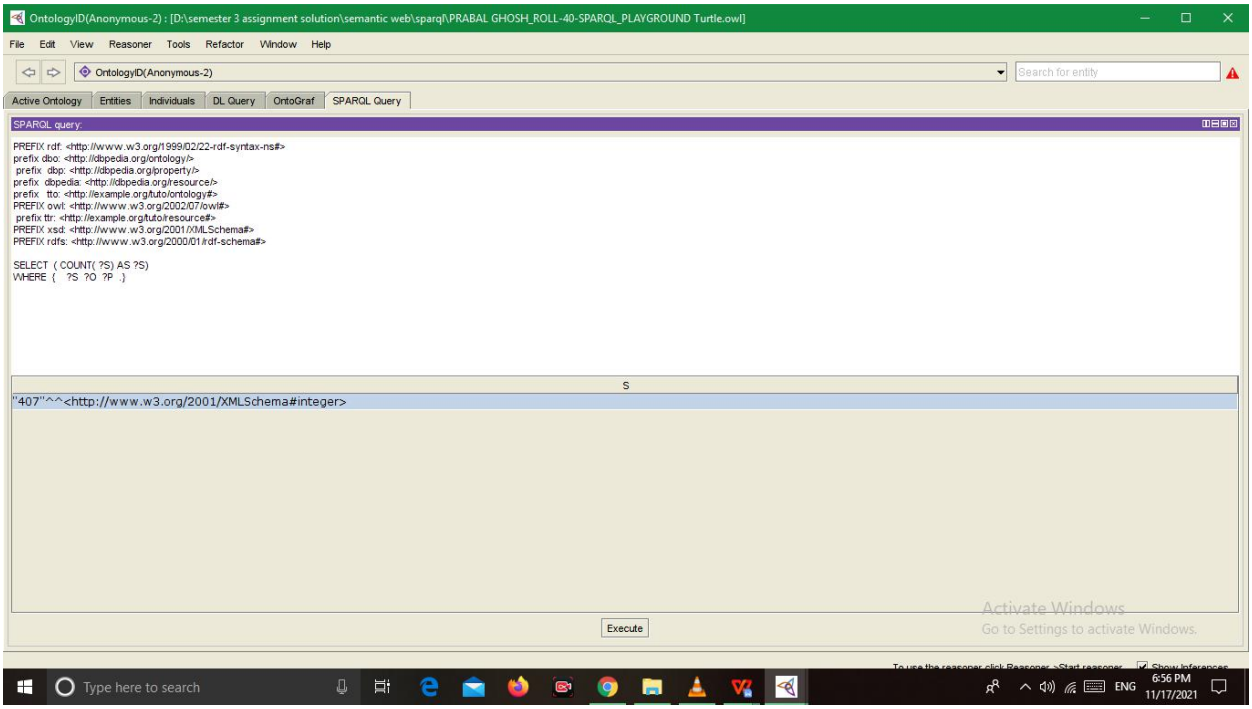
209)

```
select ?pet where {
	{
		ttr:William tto:pet ?pet .
	} UNION {
		ttr:John tto:pet ?pet .
	}
}
```



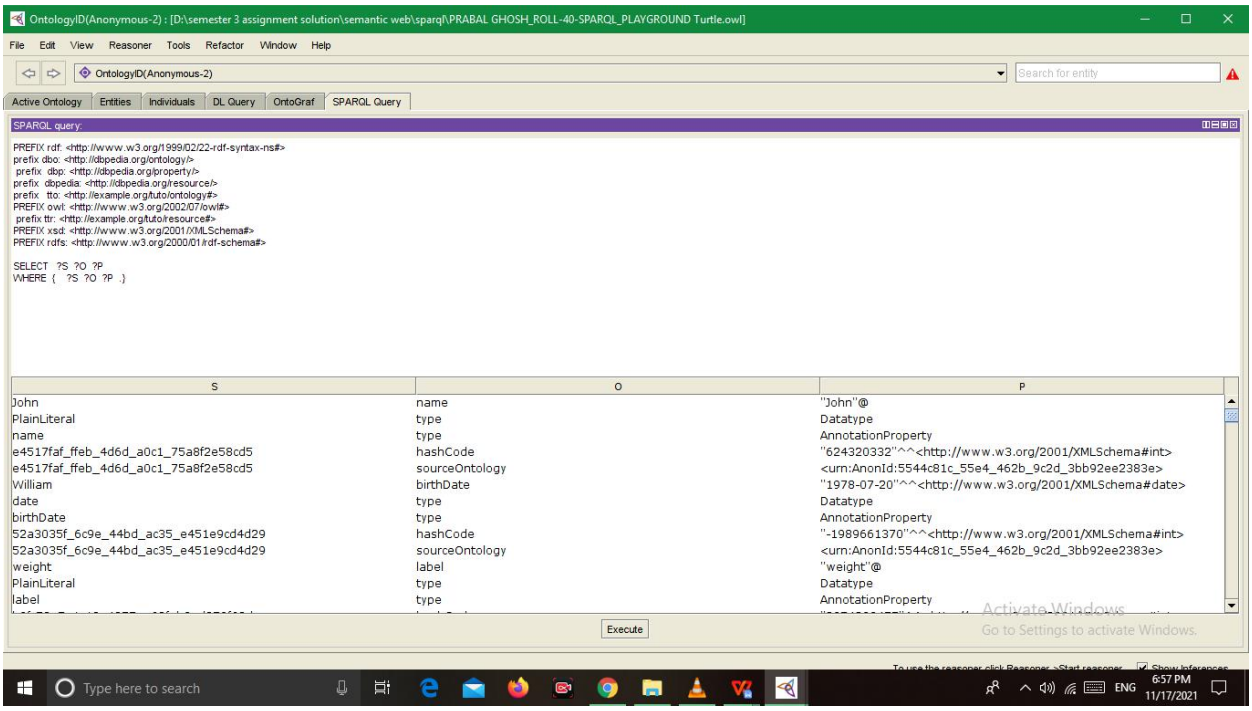
2) Write a SPARQL statement to find out: How many triplets are contained in the dataset? Take a screenshot of the SPARQL code box and the output and paste in the word file.

```
SELECT  ( COUNT( ?S) AS ?S)
WHERE {   ?S  ?O  ?P  .}
```



triplets are contained in the
Dataset ------

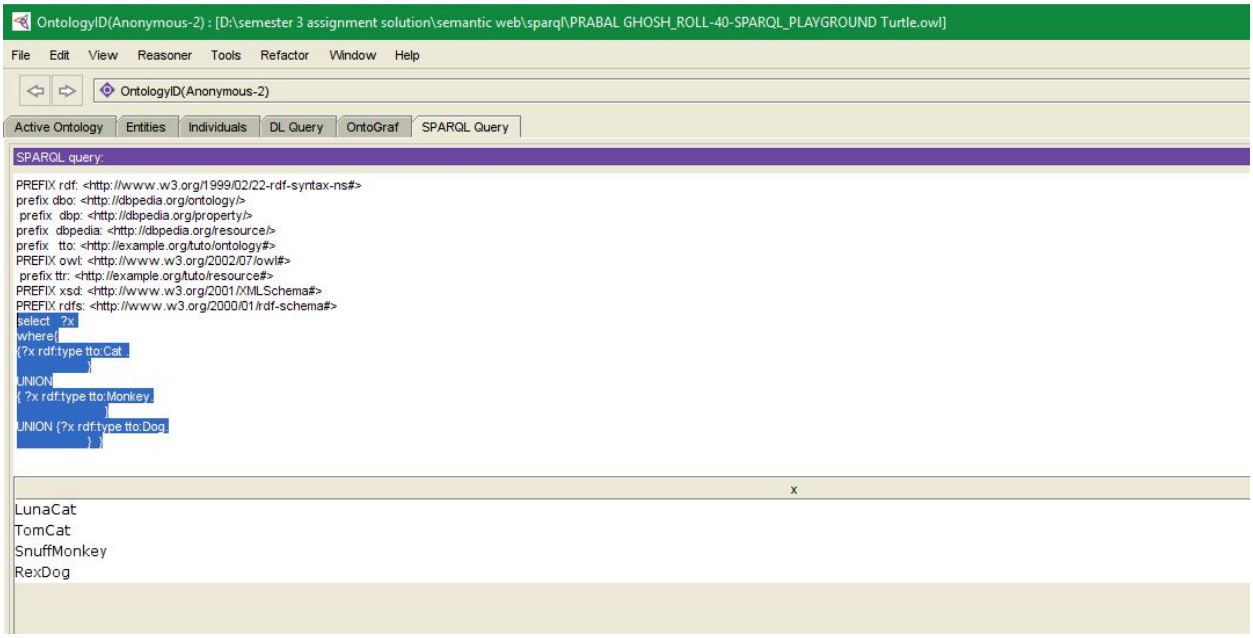
```
SELECT   ?S  ?O  ?P
WHERE {   ?S  ?O  ?P  .}
```



3.

Write a SPARQL statement to find out: How many instances of a “Animal” class are declared? Take a screenshot of the SPARQL code box and the output and paste below.

```
select   ?x
where{
{?x rdf:type tto:Cat .
            }
UNION
{ ?x rdf:type tto:Monkey.
              }
UNION {?x rdf:type tto:Dog.
            } }
```


OntologyID(Anonymous-2) : [D:\semester 3 assignment solution\semantic web\sparql\PRABAL GHOSH_ROLL-40-SPARQL_PLAYGROUND Turtle.owl]
File Edit View Reasoner Tools Refactor Window Help
OntologyID(Anonymous-2)
Active Ontology Entities Individuals DL Query OntoGraf SPARQL Query
SPARQL query:
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
prefix dbo: <http://dbpedia.org/ontology/>
prefix dbp: <http://dbpedia.org/property/>
prefix dbpedia: <http://dbpedia.org/resource/>
prefix tto: <http://example.org/tuto/ontology#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
prefix ttr: <http://example.org/tuto/resource#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
Select ?x
where{
{?x rdf:type tto:Cat .
}
UNION
{ ?x rdf:type tto:Monkey .
}
UNION {?x rdf:type tto:Dog .
} }
x
LunaCat
TomCat
SnuffMonkey
RexDog