

Advanced set of SPARQL queries

The default data graph is <http://dbpedia.org>

1. Get all the properties that can be applied to instances of the Politician class (<<http://dbpedia.org/ontology/Politician>>)

```
SELECT DISTINCT ?properties
WHERE {
  ?x a <http://dbpedia.org/ontology/Politician> .
  ?x ?properties ?values.
}
```

Two triples. Im finding out all the properties that can be applied to the Politician class to extract a value, that's why I am selecting the predicate. The first triple extracts the politician class and the second one extracts the properties and values we can get of it.

2. Get all the properties, except `rdf:type`, that can be applied to instances of the Politician class

```
SELECT DISTINCT ?properties
WHERE {
  ?x a <http://dbpedia.org/ontology/Politician> .
  ?x ?properties ?values.
  FILTER(?properties != rdf:type).
}
```

We can do it adding a filter to the previous query, excluding the `rdf:type` property.

3. Which different values exist for the properties, except for `rdf:type`, applicable to the instances of Politician?

```
SELECT DISTINCT ?values
WHERE {
  ?x a <http://dbpedia.org/ontology/Politician> .
  ?x ?properties ?values.
  FILTER(?properties != rdf:type).
}
```

Now it is asking for the values. We just need to take the previous query and change the variable of SELECT DISTINCT.

4. For each of these applicable properties, except for `rdf:type`, which different values do they take globally for all those instances?

```
SELECT DISTINCT ?properties ?values
WHERE {
  ?x a <http://dbpedia.org/ontology/Politician> .
  ?x ?properties ?values.
  FILTER(?properties != rdf:type).
}
```

To see the different values for each instances of properties, we only need to show in the table the unique combinations of properties and values. The `DISTINCT` function will drop all the duplicate ones. We also can sort the results first by property and then by value, making it easier to see the combinations.

```
SELECT DISTINCT ?properties ?values
WHERE {
  ?x a <http://dbpedia.org/ontology/Politician> .
  ?x ?properties ?values.
  FILTER(?properties != rdf:type).
}
ORDER BY ?properties ?values
```

5. For each of these applicable properties, except for `rdf:type`, how many distinct values do they take globally for all those instances?

```
SELECT ?properties (COUNT(DISTINCT ?values) AS ?distinctCount)
WHERE {
    ?x a <http://dbpedia.org/ontology/Politician> .
    ?x ?properties ?value .
    FILTER(?properties != rdf:type).
}
```

I take the previous query, but in this case I select all the properties and count the distinct values of each, saving them in distinct count.

I don't know why, but when I execute the query several times, the distinctCount values change. How can I fix it?