ASSIGNMENT 3 – Advanced set of SPARQL queries

Create the SPARQL query and the result for the following queries expressed in natural language. The endpoint that you can use for this exercise is: http://es.dbpedia.org/sparql

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

Query text:

```
select distinct ?p

where

{

?x rdf:type<http://dbpedia.org/ontology/Politician> .

?x ?p ?z

}
```

Result:

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

Query text:

```
select distinct ?p

where

{

?x rdf:type<http://dbpedia.org/ontology/Politician> .
```

```
?x ?p ?z .

filter (?p != rdf:type)

}
```

Result:

SPARQL | HTML5 table

P
http://www.w3.org/2000/01/rdf-schema#label
http://www.w3.org/2000/01/rdf-schema#comment
http://www.w3.org/2000/01/rdf-schema#seeAlso
http://xmlns.com/foaf/0.1/name
http://xmlns.com/foaf/0.1/homepage
http://dbpedia.org/property/name
http://xmlns.com/foaf/0.1/depiction
http://dbpedia.org/ontology/birthPlace
http://dbpedia.org/ontology/deathPlace
http://dbpedia.org/property/deathPlace
http://dbpedia.org/ontology/deathDate
http://dbpedia.org/property/birthPlace
http://dbpedia.org/ontology/birthDate
http://purl.org/dc/terms/subject
http://dbpedia.org/ontology/wikiPageID
http://dbpedia.org/ontology/wikiPageRevisionID
http://dbpedia.org/ontology/wikiPageWikiLink
http://dbpedia.org/ontology/wikiPageExternalLink

While in exercise 1 we can see that type was the first result, now it is not there.

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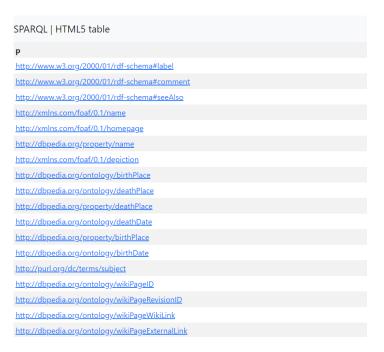
Query text:

```
select distinct ?p ?z

where

{

?x rdf:type<http://dbpedia.org/ontology/Politician> .

?x ?p ?z .

filter (?p != rdf:type)

}
```

Result:

Scrolling down we can see properties as the number of votes, for example.

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

Query text:

```
select distinct ?p (group_concat(distinct?z; separator="; ") as ?y)

where

{

?x rdf:type<http://dbpedia.org/ontology/Politician> .

?x ?p ?z .

filter (?p != rdf:type)

}

group by ?p
```

Results:

p	y
http://dbpedia.org/ontology/birthDate	1665-03-06; 1688-02-07; 1728-10-07; 1745-01-09; 1758-11-11; 1759-12-22; 1760-03-02; 1767-04-16; 1767-04-29; 1769-04-04; 1772-01-04; 1776-09-09; 1776-09-15; 1783-02-15; 1786-06-10; 1788-07-14; 1792-
http://www.w3.org/2002/07/owl#sameAs	http://af.dbpedia.org/resource/Calle_Schlettwein; http://af.dbpedia.org/resource/Calvin_Coolidge; http://af.dbpedia.org/resource/Cameron_Dugmore; http://af.dbpedia.org/resource/Cameron_Mackenzie; h
http://dbpedia.org/property/after	Andrew M. Perlman; Incumbent; James H. Lader; N/A; Patrick Boies; Philos B. Tyler; Richard Cameron Gull; Thomas Robins; http://dbpedia.org/resource/Alfred_C._Harmer; http://dbpedia.org/resource/Amb
http://dbpedia.org/property/battles	*American Revolutionary War **1780 Black Camp Rebellion; American Civil War * Battle of Cotton Plant * Vicksburg Campaign ** Siege of Vicksburg ** Jackson Expedition * Second Battle of Memphis * Banks' Texas Coast Operations ** Battle of Brownsville ** Battle of Mustang Island ** Battle of Fort Esperanza; Siege of Omsk; http://dbpedia.org/resource/American_Civil_War; http://dbpedia.org/resource/Gulf_War; http://dbpedia.org/resource/Iraq_War; http://dbpedia.org/resource/K
http://dbpedia.org/property/before	Aviam Soifer; Bernard Keenan; Board of Selectmen; Guo Jinlong; John Phelps; N/A; New office; None; http://dbpedia.org/resource/Alanson_Skinner; http://dbpedia.org/resource/Albert_F._Polk; http://db
http://dbpedia.org/property/education	; Albany State University; American University; Boston College; Concordia College; Dixie State University; Drew University; Fort Valley State University; George Washington University; Georgetown Un
http://dbpedia.org/property/honorificSuffix	; MP; http://dbpedia.org/resource/Legislative_Assembly_of_Queensland; http://dbpedia.org/resource/Member_of_Provincial_Parliament_(Western_Cape); http://dbpedia.org/resource/Member_of_the_Order_of_
http://dbpedia.org/property/s	Author:Calvin Coolidge; 苹人; 蔡达峰; 蔡锷
http://dbpedia.org/property/succeeded	Andrew Donnally; Arius Nye; David Jones; Gene Wenstrom; Incumbent; Jim Boerboom; JoAnne Zoff; John Gilmore; http://dbpedia.org/resource/Alden_Jackson; http://dbpedia.org/resource/Bill_Bowen; http:/
http://dbpedia.org/property/title	; --05-01; 1; 21; 3; 41; Acting; Acting President of; Alderman on the Edmonton City Council; Articles related to Calvin Coolidge; Associate Justice of the Kansas Supreme Court; Associate Justice of
http://dbpedia.org/property/years	--01-01; --01-04; --01-05; --01-06; --01-07; --03-01; --03-04; --05-30; --12-13; --12-27; 1760; 1763; 1769; 1774; 1778; 1805; 1810; 1812181318141815; 1814; 1817; 1818; 1820; 1821; 1822; 18
http://dbpedia.org/property/1blankname	; Chairman; Director; General Secretary; Head; Party Secretary; http://dbpedia.org/resource/Lieutenant_Governor_of_Massachusetts; http://dbpedia.org/resource/List_of_Ministers_of_Religious_Affairs_
http://dbpedia.org/property/alongside	Wang Chen, Cao Jianming, Zhang Chunxian, Shen Yueyue, Ji Bingxuan, Arken Imirbaki, Wan Exiang, Chen Zhu, Wang Dongming, Padma Choling, Ding Zhongli, Hao Mingjin and Wu Weihua; http://dbpedia.org/re
http://purl.org/linguistics/gold/hypernym	http://dbpedia.org/resource/Academic; http://dbpedia.org/resource/Activist; http://dbpedia.org/resource/Attorney; http://dbpedia.org/resource/Banker; http://dbpedia.org/resource/Barrister; http://d

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

Query text:

```
select ?p count(distinct ?z)

where

{

?x rdf:type<http://dbpedia.org/ontology/Politician> .

?x ?p ?z .

filter (?p != rdf:type)

}

group by ?p
```

Result:

p	callret-1
http://dbpedia.org/ontology/birthDate	57689
http://www.w3.org/2002/07/owl#sameAs	1462218
http://dbpedia.org/property/after	53079
http://dbpedia.org/property/battles	5410
http://dbpedia.org/property/before	52566
http://dbpedia.org/property/education	11002
http://dbpedia.org/property/honorificSuffix	2194
http://dbpedia.org/property/s	1974
http://dbpedia.org/property/succeeded	14741
http://dbpedia.org/property/title	52141
http://dbpedia.org/property/years	6721
http://dbpedia.org/property/1blankname	970
http://dbpedia.org/property/alongside	11564
http://purl.org/linguistics/gold/hypernym	2243
http://dbpedia.org/ontology/wikiPageLength	29446
http://dbpedia.org/ontology/region	943
http://dbpedia.org/property/gr	23
http://dbpedia.org/property/rows	9

It is worth mentioning that these results do not match the different values for each property from exercise 4. In exercise 4, a timeout was reached (partial result: anytime timeout), so not all results are displayed.