

CSCI 548 Homework 3

1. query1.sparql

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX dbpprop: <http://dbpedia.org/property/>

PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>

```
SELECT ?univName ?numberOfStudents WHERE {  
  ?univName rdf:type  
<http://dbpedia.org/class/yago/UniversitiesAndCollegesInLosAngelesCounty,California> .  
  ?univName dbpedia-owl:numberOfStudents ?numberOfStudents .  
  FILTER (regex(?univName, "University_of_Southern_California") || regex(?univName,  
"University_of_California,_Los_Angeles"))  
}  
LIMIT 10
```

Results:

#	univName	numberOfStudents
1	http://dbpedia.org/resource/University_of_California,_Los_Angeles	"42163"^^xsd:integer
2	http://dbpedia.org/resource/University_of_Southern_California	"39958"^^xsd:integer

2. query2.sparql

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX dbpprop: <http://dbpedia.org/property/>

PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>

```
SELECT * WHERE {  
  ?univName rdf:type  
<http://dbpedia.org/class/yago/UniversitiesAndCollegesInLosAngelesCounty,California> .  
  ?univName dbpprop:type <http://dbpedia.org/resource/Private_university> .  
  ?univName dbpedia-owl:numberOfStudents ?numberOfStudents .  
}  
ORDER BY DESC(?numberOfStudents)  
LIMIT 10
```

Results:

#	univName	numberOfStudents
1	http://dbpedia.org/resource/University_of_Southern_California	"39958"^^xsd:integer
2	http://dbpedia.org/resource/Azusa_Pacific_University	"10755"^^xsd:integer
3	http://dbpedia.org/resource/Loyola_Marymount_University	"9369"^^xsd:integer
4	http://dbpedia.org/resource/Mount_St._Mary's_College	"3299"^^xsd:integer
5	http://dbpedia.org/resource/The_Art_Institute_of_California_%E2%80%93_Hollywood	"2300"^^xsd:integer
6	http://dbpedia.org/resource/California_Institute_of_Technology	"2231"^^xsd:integer
7	http://dbpedia.org/resource/Occidental_College	"2123"^^xsd:integer
8	http://dbpedia.org/resource/Art_Center_College_of_Design	"1737"^^xsd:integer
9	http://dbpedia.org/resource/Woodbury_University	"1500"^^xsd:integer
10	http://dbpedia.org/resource/Loyola_Law_School	"1297"^^xsd:integer

3. query3.sparql

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX dbpprop: <http://dbpedia.org/property/>

PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>

```
SELECT ?campusType (count(?campusType) as ?campusTypeCount) WHERE {  
  ?univName rdf:type  
<http://dbpedia.org/class/yago/UniversitiesAndCollegesInLosAngelesCounty,California> .  
  ?univName dbpedia-owl:type <http://dbpedia.org/resource/Public_university> .  
  ?univName dbpedia-owl:campus $campusType .  
}  
group by ?campusType  
LIMIT 10
```

Results:

#	campusType	campusTypeCount
1	http://dbpedia.org/resource/Suburb	"1"^^xsd:integer
2	http://dbpedia.org/resource/Urban_area	"2"^^xsd:integer

4. query4.sparql

```
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>
PREFIX dbres: <http://dbpedia.org/resource/>
PREFIX dbpprop: <http://dbpedia.org/property/>

SELECT ?univName (?yearInteger as ?estYear) WHERE
{
  {
    ?univName rdf:type
    <http://dbpedia.org/class/yago/UniversitiesAndCollegesInLosAngelesCounty,California> .
    ?univName dbpedia-owl:type ?univType .
    FILTER(?univType = dbres:Private_university || ?univType = dbres:Public_university)
    {
      ?univName dbpprop:established ?yearDate .
      FILTER(datatype(?yearDate) = xsd:date)
      FILTER(?yearDate < now() - xsd:duration("P100Y"))
      BIND(year(?yearDate) as ?yearInteger)
    }
  }
  UNION
  {
    ?univName dbpprop:established ?yearInteger .
    FILTER(datatype(?yearInteger) = xsd:integer)
    FILTER(?yearInteger < year(now()) - 100)
  }
}
order by ?estYear ?univName
LIMIT 10
```

Results:

#	univName	estYear
1	dbres:University of Southern California	"1880"^^xsd:integer
2	dbres:University of California, Los Angeles	"1882"^^xsd:integer
3	dbres:American Academy of Dramatic Arts	"1884"^^xsd:integer
4	dbres:Woodbury University	"1884"^^xsd:integer
5	dbres:Occidental College	"1887"^^xsd:integer
6	dbres:Whittier College	"1887"^^xsd:integer
7	dbres:California Institute of Technology	"1891"^^xsd:integer
8	dbres:Loyola Marymount University	"1911"^^xsd:integer
9	dbres:Southern California University of Health Sciences	"1911"^^xsd:integer
10	dbres:Southwestern Law School	"1911"^^xsd:integer

5. query5.sparql

Displaying top 10 list of industries of private companies sorted in descending order of the number of employees each industry contains.

PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>

PREFIX dbpedia-owl: <http://dbpedia.org/ontology/>

PREFIX dbpprop: <http://dbpedia.org/property/>

```
SELECT ?industryName (sum(?numberOfEmployees) as ?totalNumberOfEmployees) WHERE {  
  ?companyName rdf:type <http://dbpedia.org/class/yago/Company108058098> .  
  ?companyName dbpprop:type ?companyType .  
  ?companyType rdf:type <http://dbpedia.org/class/yago/PrivatelyHeldCompanies> .  
  ?companyName dbpedia-owl:numberOfEmployees ?numberOfEmployees .  
  ?companyName dbpprop:industry ?industryName .  
}  
group by ?industryName  
order by desc(?totalNumberOfEmployees)  
LIMIT 10
```

Results:

#	industryName	totalNumberOfEmployees
1	"Cosmetics and personal care products"@en	"3005000"^^xsd:integer
2	http://dbpedia.org/resource/Conglomerate_(company)	"1841799"^^xsd:integer
3	http://dbpedia.org/resource/Retail	"1393943"^^xsd:integer
4	http://dbpedia.org/resource/Telecommunication	"362553"^^xsd:integer
5	http://dbpedia.org/resource/Agribusiness	"338437"^^xsd:integer
6	http://dbpedia.org/resource/Financial_services	"291950"^^xsd:integer
7	http://dbpedia.org/resource/Food_processing	"279765"^^xsd:integer
8	http://dbpedia.org/resource/Automotive_industry	"171212"^^xsd:integer
9	"Oil and gas; heavy civil engineering; air, water, and effluent systems"@en	"170000"^^xsd:integer
10	http://dbpedia.org/resource/Commodity	"158814"^^xsd:integer