

# 1 Task

Write a SPARQL query to retrieve "States of Austria with their capital cities and the geo-coordinates of those cities". Run the query against <http://dbpedia.org/sparql>. Submit the complete query and query results.

## 2 SPARQL Query

Note that the first subquery somehow doesn't include Vienna so we do a union where we specifically just include a row for it. It gets a little ugly but for the sake of completeness we do it like that.

```
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX dbo: <http://dbpedia.org/ontology/>

SELECT DISTINCT ?state ?state_label ?capital ?capital_label ?lon_label ?lat_label
WHERE {
  {
    ?state dct:subject dbc:States_of_Austria.
    ?state dbp:seat ?capital.
    ?capital geo:long ?lon_label.
    ?capital geo:lat ?lat_label.
    ?state rdfs:label ?state_label.
    ?capital rdfs:label ?capital_label.
    FILTER (lang(?capital_label)='en' and lang(?state_label)='en')
  }
  UNION
  {
    ?capital dct:subject dbc:Vienna.
    ?capital geo:long ?lon_label.
    ?capital geo:lat ?lat_label.
    ?capital rdfs:label ?capital_label.
    ?state dct:subject dbc:Vienna.
    ?state rdfs:label ?state_label.
    FILTER ( ?capital_label = "Vienna"@en and ?state_label = "Vienna"@en)
  }
}
```

## 3 Result

state	state_label	capital	capital_label	lon_label	lat_label
<a href="#">Styria</a>	"Styria"@en	<a href="#">Graz</a>	"Graz"@en	15.4333	47.0667
<a href="#">Tyrol</a>	"Tyrol (state)"@en	<a href="#">Innsbruck</a>	"Innsbruck"@en	11.3833	47.2667
<a href="#">Carinthia</a>	"Carinthia"@en	<a href="#">Klagenfurt</a>	"Klagenfurt"@en	14.3	46.6167
<a href="#">Upper Austria</a>	"Upper Austria"@en	<a href="#">Linz</a>	"Linz"@en	14.2833	48.3
<a href="#">Salzburg (state)</a>	"Salzburg (state)"@en	<a href="#">Salzburg</a>	"Salzburg"@en	13.0333	47.8
<a href="#">Vorarlberg</a>	"Vorarlberg"@en	<a href="#">Bregenz</a>	"Bregenz"@en	9.74917	47.505

state	state_label	capital	capital_label	lon_label	lat_label
<a href="#">Burgenland</a>	"Burgenland"@en	<a href="#">Eisenstadt</a>	"Eisenstadt"@en	16.5167	47.85
<a href="#">Lower Austria</a>	"Lower Austria"@en	<a href="#">Sankt Pölten</a>	"Sankt Pölten"@en	15.6167	48.2
<a href="#">Vienna</a>	"Vienna"@en	<a href="#">Vienna</a>	"Vienna"@en	16.3667	48.2