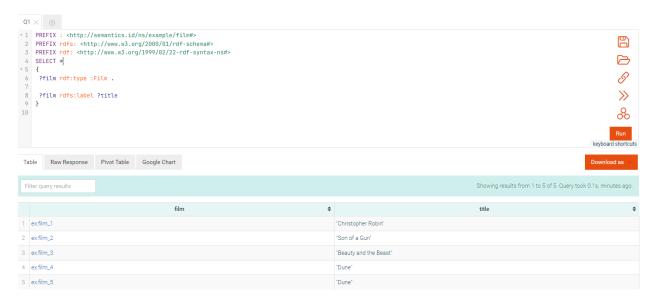
# Assignment 2 - Querying Knowledge Graphs with SPARQL

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# Q2:

#### Get the film titles



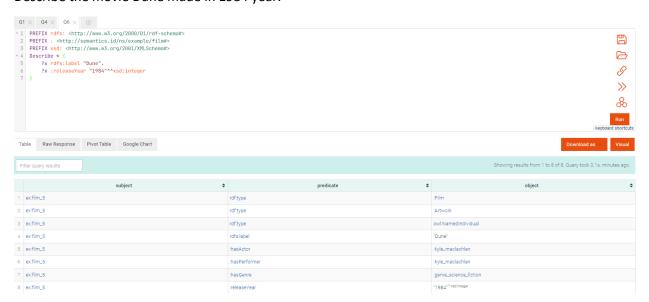
```
PREFIX : <a href="http://semantics.id/ns/example/film#">
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">
PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">
SELECT *
{
    ?film rdf:type : Film .
    ?film rdfs:label ?title
}
```

Are there movies before 1984 called Dunes?



## Q6

Describe the movie Dune made in 1984 year.

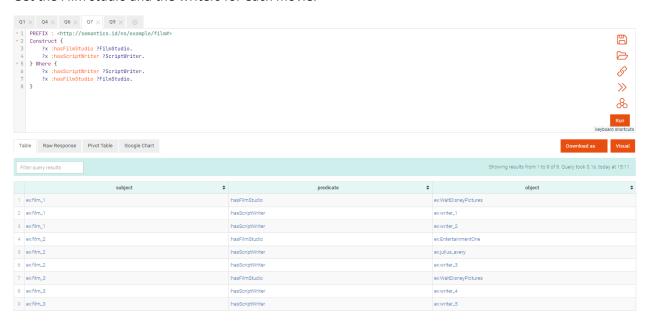


PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#>

PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

PREFIX xsd: <a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#>

Get the Film studio and the writers for each movie.



PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

### Construct {

?x:hasFilmStudio?FilmStudio.

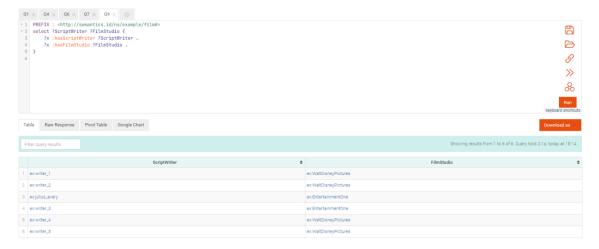
?x :hasScriptWriter ?ScriptWriter.

### } Where {

?x :hasScriptWriter ?ScriptWriter.

?x:hasFilmStudio?FilmStudio.

Get the script Writer and the film studio he/she work in.



PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

select ?ScriptWriter ?FilmStudio {

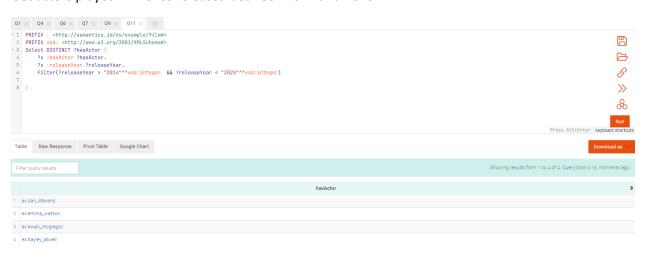
?x :hasScriptWriter ?ScriptWriter .

?x:hasFilmStudio?FilmStudio.

}

## Q11

Get actors played in moves released between 2014 and 2020



PREFIX: http://semantics.id/ns/example/film#

PREFIX xsd: <a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#>

Select DISTINCT ?hasActor {

?x :hasActor ?hasActor.

?x:releaseYear?releaseYear.

Filter(?releaseYear > "2014"^^xsd:integer && ?releaseYear < "2020"^^xsd:integer) }

# Q13

Get the names of the movies released between 2014 and 2020.



PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

PREFIX xsd: <a href="http://www.w3.org/2001/XMLSchema#">http://www.w3.org/2001/XMLSchema#</a>

PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema#>

Select DISTINCT ?label {

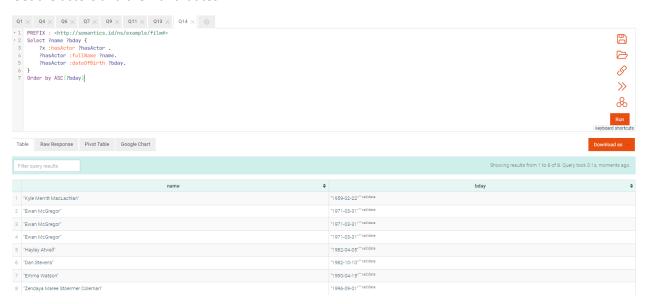
?x :releaseYear ?releaseYear.

?x:hasGenre?hasGenre.

?x rdfs:label ?label.

Filter(?releaseYear > "2014"^^xsd:integer && ?releaseYear < "2020"^^xsd:integer)

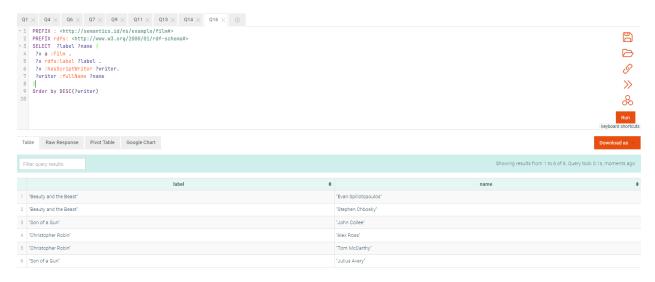
Get the actors and their birthdates.



PREFIX : <http://semantics.id/ns/example/film#>
Select ?name ?bday {
 ?x :hasActor ?hasActor .
 ?hasActor :fullName ?name.
 ?hasActor :dateOfBirth ?bday.
}

Order by ASC(?bday)

Get the name of the movie and the writer, orderd by the writers name.



PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema</a>

SELECT ?label ?name {

?x a :Film .

?x rdfs:label ?label .

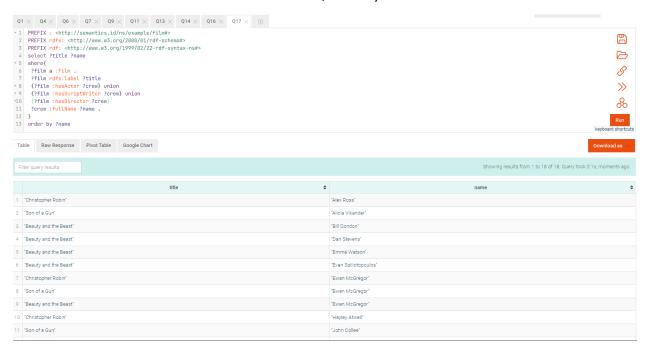
?x :hasScriptWriter ?writer.

?writer:fullName?name

}

Order by DESC(?writer)

Get the title of the movie and the name of the actor, order by name.



PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema</a>

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

select ?title ?name

where{

?film a :Film .

?film rdfs:label ?title

{?film:hasActor?crew} union

{?film:hasScriptWriter?crew} union

{?film:hasDirector?crew}

?crew:fullName?name.

}

order by ?name

Counting the number of movies based in South Korea

```
https://dbpedia.org/sparql
   1 PREFIX dbp: <http://dbpedia.org/property/>
   2 PREFIX db: <http://dbpedia.org/>
      PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
   4 PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
   5 PREFIX movie: <http://dbpedia.org/ontology/>
   6 SELECT (count(?title) as ?movieNumber)
   7 ▼ {
   8
        ?title rdf:type movie:Film.
        ?title dbp:country ?a .
   9
        ?a rdfs:label ?country .
  10
       FILTER CONTAINS(?country, "South Korea")
  11
  12
 Table

    ■ Response

                             Gallery
                                           Chart
                                                     Markup
                                                                                                              " Network
                                                                                                                             ■ Piv
    movieNumber
 1 "132"^^<http://www.w3.org/2001/XMLSchema#integer>
Showing 1 to 1 of 1 entries
PREFIX dbp: <a href="http://dbpedia.org/property/">http://dbpedia.org/property/>
PREFIX db: <a href="http://dbpedia.org/">http://dbpedia.org/</a>
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
PREFIX movie: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>
SELECT (count(?title) as ?movieNumber)
{
?title rdf:type movie:Film.
?title dbp:country ?a .
?a rdfs:label ?country .
FILTER CONTAINS(?country,"South Korea")
}
```

Show movies created after 2000 but only unique titles



PREFIX: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>

PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema</a>

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

PREFIX movies: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>

SELECT DISTINCT ?title ?date

WHERE {

?title rdf:type movies:Film.

?title :releaseDate ?date.

FILTER(year(?date)>2000)

Gives all movies which is being created by Steven Spielsberg and Tom Hanks is not an actor.

```
https://dbpedia.org/sparql
  4 PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema#>
  5 PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">
   6 PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
   7 SELECT DISTINCT ?title
   8 ▼ WHERE {
  9
       ?title rdf:type :Film.
       ?title :director ?director.
      ?director rdfs:label ?directorName
 11
       FILTER CONTAINS(?directorName, "Steven Spielberg")
 13 ▼ FILTER NOT EXISTS {
 14 ?title dbp:starring ?a.
       FILTER(REGEX(?a, ".Tom Hanks."))
 15
  16
 17 }
                                             La Chart ♀ Geo ← Geo-3D ← Geo events
                                                                                                                        " Network
 Response
                               Gallery

→ Markup

                                                                                                                                        title
    db:resource/Always_(1989_film)
2 db:resource/Amblin'
3 db:resource/Amistad_(film)
4 db:resource/War_Horse_(film)
5 db:resource/War_of_the_Worlds_(2005_film)
6
   db:resource/West_Side_Story_(2021_film)
7 db:resource/Empire_of_the_Sun_(film)
    db:resource/The_Adventures_of_Tintin_(film)
    dhirocouroo/Tho DEC (2016 film)
PREFIX dbp: <a href="http://dbpedia.org/property/">http://dbpedia.org/property/>
PREFIX db: <a href="http://dbpedia.org/">http://dbpedia.org/</a>
PREFIX: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
SELECT DISTINCT ?title
WHERE {
?title rdf:type :Film.
```

```
?title :director ?director.
?director rdfs:label ?directorName
FILTER CONTAINS(?directorName,"Steven Spielberg")
FILTER NOT EXISTS {
   ?title dbp:starring ?a.
FILTER(REGEX(?a, ".Tom Hanks."))
}
```

#### Gives all movies and the capital from New Zealand

```
PREFIX dbo: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>
PREFIX dbp: <a href="http://dbpedia.org/property/">http://dbpedia.org/property/>
PREFIX db: <http://dbpedia.org/>
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema#">http://www.w3.org/2000/01/rdf-schema#</a>
PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>>
PREFIX movie: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/</a>
SELECT ?title ?capital
  ?title rdf:type movie:Film.
 ?title dbp:country ?a .
  ?a dbo:capital ?capital .
 ?a rdfs:label ?country .
 FILTER CONTAINS(?country, "New Zealand")
    E Response 🗷 Gallery 🕍 Chart 🐶 Geo 🍪 Geo-3D 🎎 Geo events 🖺 Markup 🚏 Network 🔳 Pivot 🚍 Timeline 22 results in 2.17 seconds
                                                                                                                                        Simple view □ Ellipse ✓ Filter query results
                                                                                                                                                                   apital
):resource/Waru_(2017_film)
                                                                                                                                                                      db:resource/Wellington
):resource/Mana_Waka
):resource/As_Dreams_Are_Made_On
):resource/Daffodils_(film)
                                                                                                                                                                      db:resource/Wellington
):resource/Reckless_Behavior:_Caught_on_Tape
                                                                                                                                                                      db:resource/Wellington
                                                                                                                                                                      db:resource/Wellington
):resource/The_Fanimatrix
o:resource/The_Rainbow_Warrior_(film)
):resource/Close_Up_(TV_programme)
                                                                                                                                                                      db:resource/Wellington
o:resource/Saturday_Disney_(New_Zealand_TV_series)
                                                                                                                                                                      db:resource/Wellington
PREFIX dbo: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>
PREFIX dbp: <a href="http://dbpedia.org/property/">http://dbpedia.org/property/>
PREFIX db: <a href="http://dbpedia.org/">http://dbpedia.org/</a>
PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">
PREFIX rdf: <a href="http://www.w3.org/1999/02/22-rdf-syntax-ns#">http://www.w3.org/1999/02/22-rdf-syntax-ns#</a>
PREFIX movie: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>
SELECT ?title ?capital{
```

?title rdf:type movie:Film.

?title dbp:country ?a .

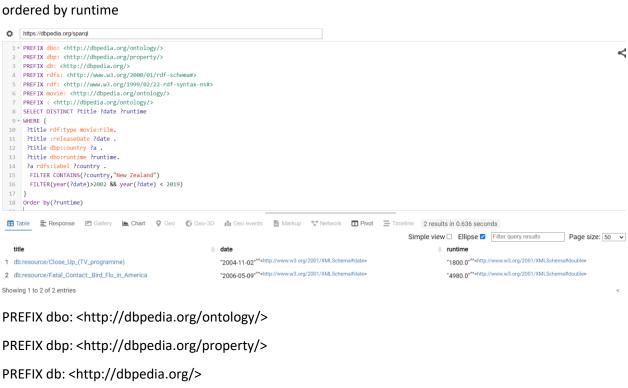
?a dbo:capital ?capital .

?a rdfs:label ?country .

FILTER CONTAINS(?country,"New Zealand")}

### **Q22**

Gives all movies, date and runtime which are created in New Zealand and between 2002 and 2019 and



PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">

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

PREFIX movie: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>

PREFIX: <a href="http://dbpedia.org/ontology/">http://dbpedia.org/ontology/>

SELECT DISTINCT ?title ?date ?runtime

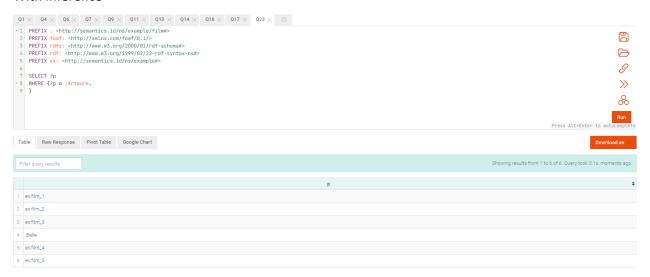
WHERE {

?title rdf:type movie:Film.

?title:releaseDate?date.

```
?title dbp:country ?a .
?title dbo:runtime ?runtime.
?a rdfs:label ?country .
FILTER CONTAINS(?country,"New Zealand")
FILTER(year(?date)>2002 && year(?date) < 2019)
}
Order by(?runtime)</pre>
```

#### With Inference



PREFIX : <a href="http://semantics.id/ns/example/film#">PREFIX : <a href="http://semantics.id/ns/example/film#">NREFIX : <a href="http://seman

PREFIX foaf: <a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/>

PREFIX rdfs: <a href="http://www.w3.org/2000/01/rdf-schema">http://www.w3.org/2000/01/rdf-schema">

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

PREFIX ex: <a href="http://semantics.id/ns/example#">PREFIX ex: <a href="http://semantics.id/ns/example#">http://semantics.id/ns/example#></a>

SELECT?p

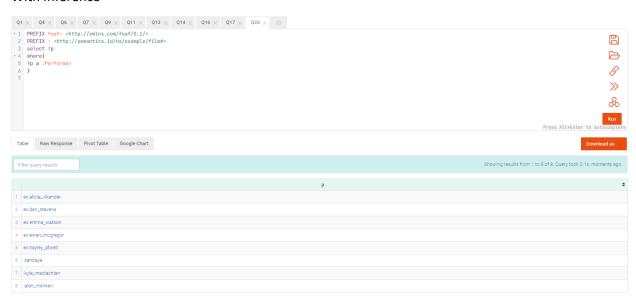
WHERE {?p a :Artwork.

#### Without Inference



# Q24

#### With Inference



PREFIX foaf: <a href="http://xmlns.com/foaf/0.1/">http://xmlns.com/foaf/0.1/>

PREFIX: <a href="http://semantics.id/ns/example/film#">PREFIX: <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

select?p

where{

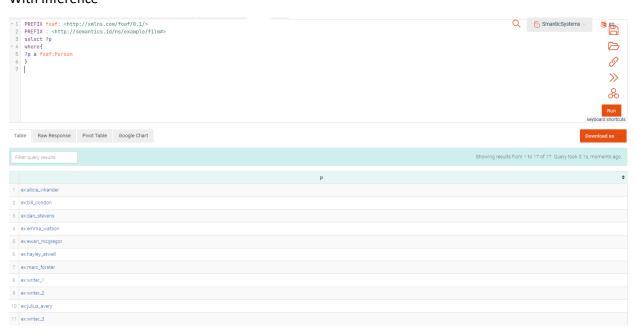
?p a :Performer

#### Without inference



#### Q25

#### With Inference



PREFIX foaf: <a href="http://xmlns.com/foaf/0.1/">PREFIX : <a href="http://semantics.id/ns/example/film#">http://semantics.id/ns/example/film#</a>

select ?p where{

?p a foaf:Person

### Without inference

