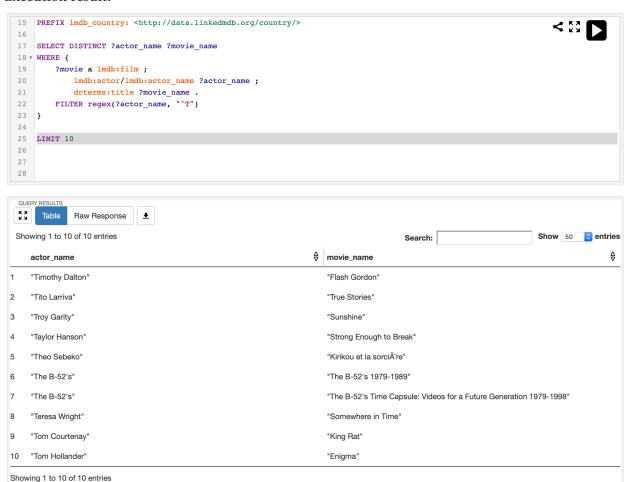
Task 1 Apache Jena

1.1

Get names of actors whose name starts with the letter 'T', and the names of films they starred in (total of 2 columns).

Execution result:



1.2

Get URIs and names of actors who are also writers but are not producers (total of 2columns).

While I'm pretty sure different people can have duplicate names, there's no way I can differentiate between them. So for people with the same name, I can only assume it's the same person.

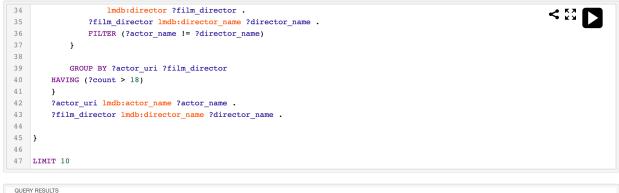
```
15 PREFIX <a href="mailto:linkedmdb.org/country/">lndb_country</a>: <a href="http://data.linkedmdb.org/country/">http://data.linkedmdb.org/country/></a>
 16
 17 SELECT ?actor_uri ?actor_name
  18 ▼ WHERE {
 19
          ?actor_uri a lmdb:actor ;
 20
                lmdb:actor_name ?actor_name .
  21
          ?writer_uri a lmdb:writer ;
 22
               lmdb:writer_name ?actor_name .
 23 v FILTER NOT EXISTS { ?_ a lmdb:producer; lmdb:producer_name ?actor_name. }
 24 }
  25
 26 LIMIT 10
  27
  28
  Table
                Raw Response
 Showing 1 to 10 of 10 entries
                                                                                                                                          Show 50 cntries
                                                                                                       Search:

    actor_name

                                                                                                                                                            ₽
     actor_uri
                                                                                   "Chris Morris"
     lmdb_actor:2
2
    Imdb_actor:5
                                                                                   "P. J. O'Rourke"
3
    lmdb_actor:12
                                                                                   "Willis O'Brien"
    lmdb_actor:25
                                                                                   "Graham Greene"
4
    lmdb_actor:58
                                                                                   "Edward F. Cline"
    Imdb_actor:64
                                                                                   "Dennis O'Keefe"
6
                                                                                   "Carroll O'Connor"
    Imdb_actor:81
    lmdb_actor:88
                                                                                   "Jerry O'Connell"
    lmdb_actor:106
                                                                                   "Robert Taylor"
9
10 lmdb_actor:114
                                                                                   "Paul Gross"
Showing 1 to 10 of 10 entries
```

1.3

Get names of actors who starred in more than 18 films with the same director (who is not the actor). Show the name of the director and the number of films as well (total of 3 columns).



Showing 1 to 5 of 5 entries		Search:	Show 50 centric
actor_name	△ director_name	⇔ count	<u>∆</u> ∇
"Kenneth Williams"	"Gerald Thomas"	"26"^^	\xsd:integer
"Edna Purviance"	"Charlie Chaplin"	"36"^^:	\xsd:integer
"Moe Howard"	"Jules White"	"23"^^	\xsd:integer
"Joan Sims"	"Gerald Thomas"	"19"^^xsd:integer	
"Stan Laurel"	"James Parrott"	"21"^^	\xsd:integer

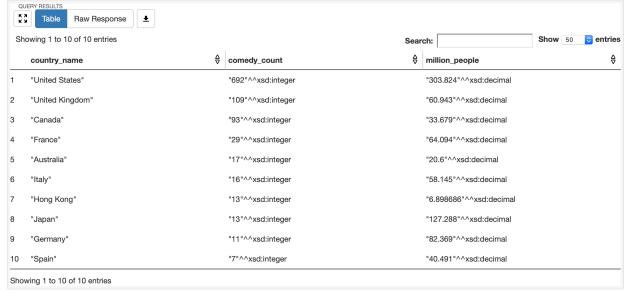
1.4

Get the names of countries, the number of comedy films (films with genre "Comedy") and the population (in millions) for each country. The results should be sorted by the number of comedy films in descending order (total of 3 columns).

I only counted the number of comedy movies, other kind of comedy like romantic comedy, Screwball comedy, etc. are not included.

There are more than 200 countries or regions in <code>lmdb.nt</code>, but only a couple dozen countries have comedy movies. Since we need "number of comedy films", I will not outut country without a comedy movie.





1.5

Get the names of female actors who were born after 1970 but before 1980. Show their date of birth (total of 2 columns).

• Note that you do not have the data about gender and date-of-birth for actors in the provided graph. You will need to retrieve these values from an additional SPARQL endpoint using a federated query extension (the SERVICE keyword, read more about it here: https://www.w3.org/TR/sparql11-federated-query/).



Task 2 Wikidata

2.1

Get URIs and names of actors who are also musicians and were part of (P361) a band sometime between 1960 to 2010. Also, show their date of birth. If an actor doesn't have date of birth, the value can be null, empty string, or missing (total of 3 columns).

My approach is limited by the information that provided by Wikidata, in that I am directly pulling the artist's time joined in a band from the artist page, If Wikidata only provides the start and end dates of the band, but not when the artist joined, then I will ignore the artist.

Complying with the requirements <u>here</u>, if the time is exactly 1960 or exactly 2010, I did not count.

I've noticed that certain artists have more than one date of birth information. For this kind of artist, there will be more than one record that appears in the results.

Execution result:

```
1 SELECT DISTINCT ?actor ?actorLabel ?DOB
0
       2 WHERE {
       3 ?actor wdt:P106/wdt:P279* wd:Q33999 . # P:occupation/subClassOf 0:actor
          ?actor wdt:P106/wdt:P279* wd:Q639669 . # P:occupation/subClassOf O:musicians
          ?actor p:P361 ?statement . # part of
\Leftrightarrow
       7
           ?statement ps:P361 ?band . # part of
           ?statement pq:P580 ?starttime.
       8
       9
           ?statement pq:P582 ?endtime.
      10
 D
           ?band wdt:P31/wdt:P279* wd:Q2088357 ; # P:instance of / subclass of 0:musical ensemble
      11
      12
 圃
           FILTER(YEAR(?starttime)>1960 && YEAR(?endtime)<2010)</pre>
      13
      14
      15
           OPTIONAL {
             ?actor wdt:P569 ?DOB .
      16
      17
      18
      19
           SERVICE wikibase: label { bd:serviceParam wikibase: language "en". }
      20
      21 }
      22
      23 LIMIT 10
      24
      25
                                                                                                             C
① - O
                                                         10 results in 8418 ms
                                                                             </> Code
                                                                                        ♣ Download ▼
                                                                                                       & Link ▼
actor
                                    actorLabel
                                                                        DOB
Q wd:Q3983826
                                    Teo Teocoli
                                                                        25 February 1945
Q wd:Q265179
                                    Rita Lee
                                                                        31 December 1947
Q wd:Q2632
                                    Ringo Starr
                                                                        7 July 1940
Q wd:Q364881
                                    Trevor Rabin
                                                                        13 January 1954
Q wd:Q3752129
                                    Franz Di Cioccio
                                                                        21 January 1946
Q wd:Q3752129
                                    Franz Di Cioccio
                                                                        20 January 1946
Q wd:Q6793241
                                    Yuval Dor
                                                                        10 December 1950
Q wd:Q2599
                                    Paul McCartney
                                                                        18 June 1942
Q wd:Q36153
                                    Beyoncé
                                                                        4 September 1981
Q wd:Q6971687
                                    Ami Mandelman
                                                                        24 August 1950
```

2.2

Get URIs and names of films that include at least 4 cast members (P161) who have been nominated after the year 2000 for the Academy Award for Best Actor (Q103916). Also, show the number of such actors for each film (total of 3 columns).

Not all point of time qualifier are provided under the "nominated for " property. Each Academy Awards instance did not provide nomination information either. Thus the number of my query result my may lower than reality.

```
1 SELECT ?film ?name (?num AS ?film num)
 0
        2
        3 WHERE {
 \propto
        4
                  SELECT ?film (COUNT(?cast member) AS ?num)
        5
I.
                  WHERE {
        6
\Leftrightarrow
        7
                      ?film wdt:P31 wd:Q11424 ; # instance of ; film
                          wdt:P161 ?cast_member . # cast member
        8
9
       10
                       ?cast_member p:P1411 ?statement . # nominated for
 9
       11
                       ?statement ps:P1411 wd:Q103916 . # nominated for ; Academy Award for Best Ac
                       ?statement pq:P585 ?nom_time. # point in time
       12
 圃
       13
                      FILTER (YEAR(?nom_time) > 2000).
       14
 8
       15
                  GROUP BY ?film
       16
                  HAVING (?num >= 4)
       17
              SERVICE wikibase:label { bd:serviceParam wikibase:language "en" .
       18
       19
                                       ?film rdfs:label ?name .}
       20 }
       21
                                                                                                     C
♣ Download ▼
                                                                                                & Link ▼
                                                   8 results in 936 ms
                                                                      </> Code
film
                                name
                                                                                film_num
Q wd:Q25394556
                                Touch of Evil
                                                                                4
Q wd:Q7756638
                                The People Speak
                                                                                5
Q wd:Q681962
                                Tinker Tailor Soldier Spy
                                                                                4
Q wd:Q969828
                                                                                4
                                Welcome to Hollywood
Q wd:Q208108
                                Catch Me If You Can
                                                                                4
Q wd:Q660894
                                What's Eating Gilbert Grape
                                                                                4
Q wd:Q1392744
                                The Wolf of Wall Street
                                                                                5
Q wd:Q9013673
                                American Hustle
                                                                                4
```