



**Lab 7**

**Sparql**

**First Download apache Jena fuseki -<https://jena.apache.org/download/index.cgi>**

**Fuseki Run Command**

```
fuseki-server --mem --update /NAME
```

**Queries Header:**

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

PREFIX owl: <<http://www.w3.org/2002/07/owl#>>

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

PREFIX xsd: <<http://www.w3.org/2001/XMLSchema#>>

PREFIX music: <<http://stardog.com/tutorial/>>

- 1- 

```
SELECT (min(?date) as ?minDate) (max(?date) as ?maxDate)
{
    ?album a music:Album ;
    music:date ?date
}
```
- 2- 

```
SELECT (count(?album) as ?count)
{
    ?album a music:Album
}
```
- 3-
- 4- 

```
SELECT ?year (count(distinct ?album) AS ?count)
{
    ?album a music:Album ;
    music:date ?date ;
    BIND (year(?date) AS ?year)
}
```

**Cairo University**  
**Faculty of Computers & Artificial Intelligence**  
**Computer Science Department**  
**Year 2021 – 2022**  
**First Term**



```
GROUP BY ?year
ORDER BY desc(?count)
```

```
5- SELECT ?album (group_concat(?date) AS ?dates)
{
    ?album a music:Album ;
    music:date ?date
}
GROUP BY ?album
HAVING (count(?date) > 2)
```

```
6- SELECT ?name
{
    { ?artist a music:SoloArtist }
    UNION
    { ?artist a music:Band }
    ?artist music:name ?name
}
```

```
7- SELECT * {
    ?song a music:Song .
    ?song music:length ?length .
}
SELECT * {
    ?song a music:Song .
    OPTIONAL {
        ?song music:length ?length .
    }
}
```

```
8- SELECT ?song {
    ?song a music:Song .
    FILTER NOT EXISTS {
        ?song music:length ?length .
    }
}
```

## Property Paths

**Cairo University**  
**Faculty of Computers & Artificial Intelligence**  
**Computer Science Department**  
**Year 2021 – 2022**  
**First Term**



```
9- select distinct ?artist ?cowriter
{
    ?song music:writer ?artist .
    ?song music:writer ?cowriter
    FILTER (?artist != ?cowriter)
}
```

### ***Inverse Path***

```
10- select distinct ?artist ?cowriter
{
    ?artist ^music:writer ?song .
    ?song music:writer ?cowriter
    FILTER (?artist != ?cowriter)
}
```

### ***Sequence Path***

Same as above query

```
11- select distinct ?artist ?cowriter
{
    ?artist ^music:writer/music:writer ?cowriter
    FILTER (?artist != ?cowriter)
}
```

### ***Recursive Paths***

```
12- select distinct ?cowriter
{
    music:Paul_McCartney (^music:writer/music:writer)+ ?cowriter
    FILTER (?cowriter != music:Paul_McCartney)
}
```