COMP9322 Week 8 Tutorial

Part 1

Underline the correct answer(s) to following questions.
https://www.w3.org/TR/rdf-sparql-query/

1. What are the available SPARQL statements (choose multiple)?
   a. service
   b. except
   c. **union**
   d. exists
   e. switch
   f. **graph**
   g. **optional**
   h. minus

2. Do these queries return the same results?

   ```
   prefix foaf: <http://xmlns.com/foaf/0.1/>
   select * where {
     ?x foaf:name ?n
   }
   ```

   ```
   select * where {
     ?x <http://xmlns.com/foaf/0.1/name> ?n
   }
   ```

   a. **Yes**
   b. No

3. Look at the graph below. Do the following queries return same result?

   ```
   ex:John foaf:name "John" ;
     rdfs:label "Jack" .
   ex:Jim foaf:name "Jim" .
   ```

   ```
   select * where {
     { ?x foaf:name  ?n }
     union { ?x rdfs:label ?l }
   }
   ```

   ```
   select * where {
     ?x foaf:name  ?n
     optional { ?x rdfs:label ?l }
   }
   ```

   a. Yes
   b. **No**

4. Do these queries return the same results?

```
prefix foaf: <http://xmlns.com/foaf/0.1/>
prefix ex:  <http://example.org/>
select * where {
  ?x foaf:name ?n
  values ?x { ex:Jim ex:James }
}
```

```
prefix foaf: <http://xmlns.com/foaf/0.1/>
prefix ex:  <http://example.org/>
select * where {
  ?x foaf:name ?n
  filter (?x = ex:James || ?x = ex:Jim)
}
```

    a. <u>Yes</u>
    b. No

5. Look at the graph below. What would be returned by the following query?

```
ex:John foaf:knows ex:Jack, ex:James .
ex:Jim  foaf:knows ex:James, ex:Jack .
```

```
prefix foaf: <http://xmlns.com/foaf/0.1/>
select distinct ?x ?z where {
  ?x foaf:knows ?y .
  ?z foaf:knows ?y
  filter (?x != ?z)
}
```

    a. ?x = ex:John, ?z = ex:Jim
    b. ?x = ex:Jim, ?z = ex:John
    c. <u>?x = ex:John, ?z = ex:Jim ; ?x = ex:Jim, ?z = ex:John</u>

6. What does the following query return?

```
prefix foaf: <http://xmlns.com/foaf/0.1/>
select ?y ?n
where {
  ?x foaf:knows ?y
  optional { ?y foaf:name ?n }
}
```

    a. The people known by ?x when they have a name
    b. The people known by ?x
    c. <u>The people known by ?x and their names when they have a name</u>

7. What statement should be in the blank space for results to be sorted in in alphabetical order of last name and first name?

```
prefix ex: <http://example.org/>
select * where {
  ?x ex:firstName ?f ;
     ex:lastName  ?l
}
```

    a. **order by ?l ?f**
    b. order by ?l
    c. order by ?f

8. What does this query compute?

```
prefix ex: <http://example.org/>
select ?lec (count(?stu) as ?c) where {
  ?lec ex:teaches ?stu
}
group by ?lec
order by desc(count(?stu))
```

    a. **Count students for each lecturer and order by reverse order of number of students**
    b. Count lecturers for each student.
    c. Count students for each lecturer
    d. Count lecturers with the largest number of students.

9. What does this query compute?

```
prefix foaf: <http://xmlns.com/foaf/0.1/>
ask {
  ?x foaf:knows ?y ;
     foaf:knows ?z .
  filter (?y != ?z)
}
```

    a. First resource found which knows two different resources that do not know each other.
    b. **True if there exists a resource that knows two different resources and false otherwise.**
    c. True if there exists two resources that do not know each other and false otherwise.
    d. First two different resources found.
    e. First resource found which knows two different resources.

10. What does this query compute?

```
select (concat(?f, ?l) as ?name)
where {
  ?x ex:firstName ?f ;
    ex:lastName  ?l
}
```

   a. **The concatenation of first name and last name.**
   b. The first name or the last name.
   c. The first name and the last name.