SEMANTIC QUERIES: COURSE ASSIGNMENT
GROUP-A

Name: Mustabshirah Bint e Nayer

1)Statement:

Finding a teacher for an NLP course who has done Masters as well as Bachelors in the field of Computer Science and has more than 20 national publications.

Query:

```
SELECT DISTINCT ?CourseName ?TeacherName ?Masters ?Bachelors
WHERE{
?row merged:name ?CourseName.
FILTER(?CourseName!='Nil' &&?CourseName='NLP')
{
SELECT DISTINCT ?TeacherName ?Masters ?Bachelors
WHERE{?row merged:name_0 ?TeacherName.
?row merged:educationMasters ?Masters.
?row merged:educationBachelors ?Bachelors.
?row merged:publicationsInternational ?InternationalPublications.
?row merged:publicationsNational ?NationalPublications.
FILTER((xsd:string(?Masters)='Computer Science')&&(xsd:string(?Bachelors)='Computer Science'))
FILTER(?NationalPublications>'20')
FILTER(?TeacherName!='Nil')
}
}
}
```

Screenshot:

2)Statement:

Finding out a teacher for the course named as "Design Defect".The teacher must have completed his degree in a software-related field as well as he must have a good teaching record i.e the maximum weightage obtained by his students(in past) in his course must be greater than 3.

Query:

```
SELECT DISTINCT ?CourseName ?InstructorName ?educationMasters ?educationBachelors ?Weightage
WHERE {
?row FinalData:name ?CourseName.
FILTER(CONTAINS(?CourseName,'Design Defect') )
FILTER((CONTAINS(?educationMasters,'Software')||CONTAINS(?educationMasters,'software'))&&
(CONTAINS(?educationBachelors,'Software')||CONTAINS(?educationBachelors,'software')))
{
SELECT ?InstructorName ?educationMasters ?educationBachelors ?Weightage
WHERE {
?row FinalData:instructorName ?InstructorName.
?row FinalData:average ?Weightage.
FILTER(?Weightage>'3').
FILTER(?InstructorName!='Nil')
FILTER(SAMETERM(?InstructorName,?CandidateName))
{
SELECT ?CandidateName ?educationMasters ?educationBachelors
WHERE {
?row FinalData:candidateName ?CandidateName.
?row FinalData:educationMasters ?educationMasters.
?row FinalData:educationBachelors ?educationBachelors.
}
}
}
}
}
ORDER BY DESC(?Weightage)
LIMIT 1
```

Screenshot:

Query Editor | Query Library

```
SELECT DISTINCT ?CourseName ?InstructorName ?educationMasters ?educationBachelors ?Weighta
WHERE {
?row FinalData:name ?CourseName.
FILTER(CONTAINS(?CourseName,'Design Defect') )
FILTER((CONTAINS(?educationMasters,'Software')||CONTAINS(?educationMasters,'software'))&&
(CONTAINS(?educationBachelors,'Software')||CONTAINS(?educationBachelors,'software')))
{
SELECT ?InstructorName ?educationMasters ?educationBachelors ?Weightage
WHERE {
?row FinalData:instructorName ?InstructorName.
?row FinalData:average ?Weightage.
FILTER(?Weightage>'3').
FILTER(?InstructorName!='Nil')
FILTER(SAMETERM(?InstructorName,?CandidateName))
{
SELECT ?CandidateName ?educationMasters ?educationBachelors
WHERE {
?row FinalData:candidateName ?CandidateName.
?row FinalData:educationMasters ?educationMasters.
?row FinalData:educationBachelors ?educationBachelors.
}
}
}
}
ORDER BY DESC(?Weightage)
LIMIT 1
```

CourseName	InstructorName	educationMasters	educationBachelors	Weighta...
Design Defect	Syed Ali Shan	software project management	Software Engineering	3.88

Name:

Manahil Fatima Anwar

Statement:

Finding the suitable candidate for teaching by looking at resumes and focusing on major things like education(Bachelors and Masters) and experience(Teaching and Administrative) as filtering them will help filter out resumes that are suitable.

Query:

```
SELECT (?candidateName AS ?WellRoundedCandidates)
WHERE {
        ?row Merge:email ?email .
        ?row Merge:contact ?contact .
        ?row Merge:candidateName ?candidateName .
        ?row Merge:outline ?outline .
        ?row Merge:course ?course .
        ?row Merge:code ?code .
        ?row Merge:type ?type .
        ?row Merge:creditHours ?creditHours .
        ?row Merge:publicationsInternational ?publicationsInternational .
        ?row Merge:publicationsNational ?publicationsNational .
```
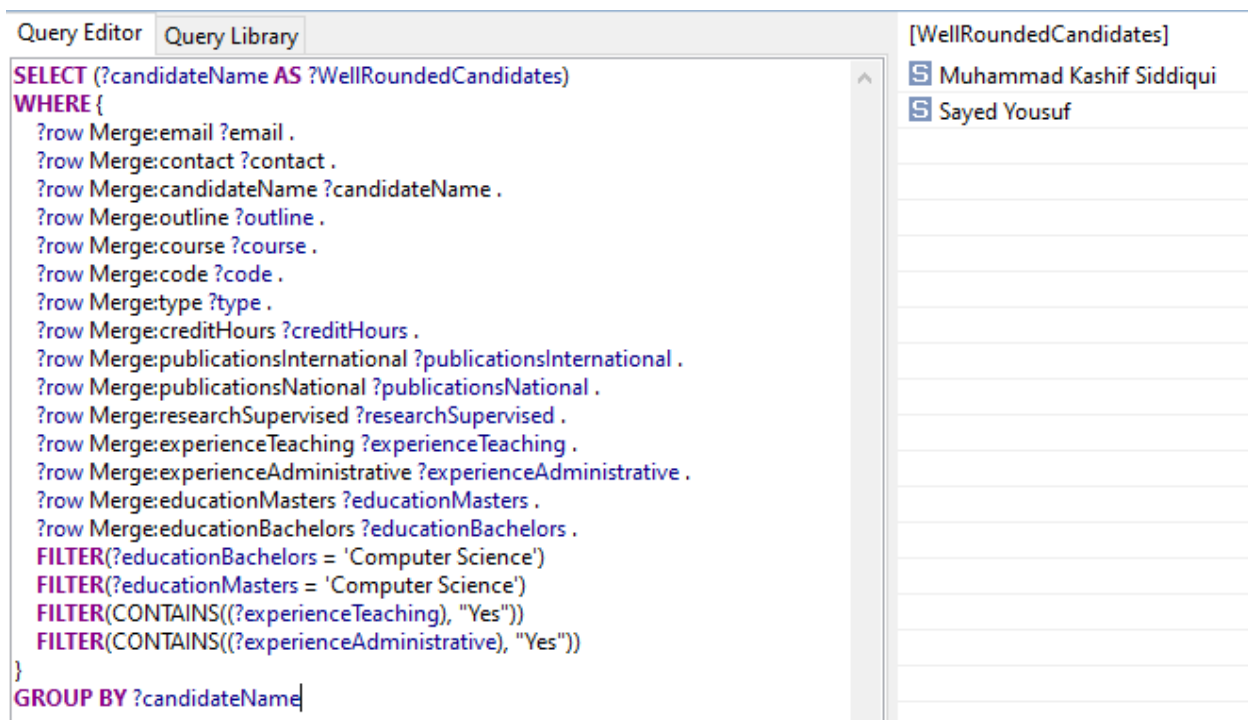
```
        ?row Merge:researchSupervised ?researchSupervised .
        ?row Merge:experienceTeaching ?experienceTeaching .
        ?row Merge:experienceAdministrative ?experienceAdministrative .
        ?row Merge:educationMasters ?educationMasters .
        ?row Merge:educationBachelors ?educationBachelors .
        FILTER(?educationBachelors = 'Computer Science')
        FILTER(?educationMasters = 'Computer Science')
        FILTER(CONTAINS((?experienceTeaching), "Yes"))
        FILTER(CONTAINS((?experienceAdministrative), "Yes"))
}
GROUP BY ?candidateName
```

Screenshot:

Name:

Hamzah Tariq and Ahmed Umer Siddiqui

Statement:

Here I found the suitable course according to the teacher and the experience he has.

Query:

```
SELECT DISTINCT ?name ?code ?candidate ?experience
WHERE
{
        ?row finaldata:name ?name.
        ?row finaldata:code ?code
        FILTER(xsd:string(?name)='IS Audit and Control ' && (?code)='CS494')
        {
         SELECT DISTINCT ?candidate ?experience ?avg
         WHERE
         {
                ?row finaldata:candidate ?candidate.
                ?row finaldata:companyworked ?experience.
                FILTER(?experience>'5' && ?avg>'3.0')
                {
                        SELECT ?avg
                        WHERE
                        {
                                ?row finaldata:average ?avg.

                        }
                }
         }
        }
}
LIMIT 1
```

Name:
Muhammad Shaheer

Statement:
Assigning Associate Professor to the NLP According to and Eligibility Criteria.

c

Query:
```
SELECT DISTINCT ?Course_Name ?Associate_Professor
WHERE
{
   ?row finaldata:name ?Course_Name.
   FILTER(xsd:string(?Course_Name)='NLP').
   {
        SELECT DISTINCT ?Associate_Professor ?code ?exp ?pos ?phd
        WHERE
        {
                ?row finaldata:candidate ?Associate_Professor.
                ?row finaldata:experienceadministrative ?exp.
                ?row finaldata:positiondesired ?pos.
                ?row finaldata:educationphd ?phd.
                FILTER(xsd:string(?Associate_Professor)!='Nil').
                FILTER(CONTAINS(?pos,'Associate')).
                FILTER(CONTAINS(?exp,'Yes')).
                FILTER(xsd:string(?phd)!='Nil').
        }
   }
}
```

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Name:

Muhammad Shaheer

Statement:

Assigning Associate Professor to the Design and defect According to and Eligibility
Criteria.

Query:

```
SELECT DISTINCT ?Course_Name ?Associate_Professor
WHERE
{
    ?row finaldata:name ?Course_Name.
    FILTER(xsd:string(?Course_Name)='Design Defect ').
    {
        SELECT DISTINCT ?Associate_Professor ?code ?experience_teaching ?national_publications
?phd
        WHERE
        {
            ?row finaldata:candidate ?Associate_Professor.
            ?row finaldata:experienceteaching ?experience_teaching.
            ?row finaldata:publicationsnational ?national_publications.
            ?row finaldata:educationphd ?phd.
            FILTER(xsd:string(?Associate_Professor)!='Nil').
            FILTER(CONTAINS(?experience_teaching,'Yes (10 years)')).
            FILTER(xsd:integer(?national_publications)>=4 || (?national_publications)<20)
        }
    }
}
```

Name:

Hamzah Tariq and Ahmed Umer Siddiqui

Statement:

A portrayal of courses, credit hours, teaching faculty, feedbacks and avg rating, teacher data like bachelors and masters.

Query:

SELECT DISTINCT ?Course ?CredtHours ?TeacherName ?avg ?Remarks ?Bachelors ?Masters
WHERE{

?row final:instructor ?TeacherName.
?row final:course ?Course.
?row final:question ?Remarks.
?row final:average ?avg.

FILTER(?avg!='Nil')

{
SELECT DISTINCT ?CredtHours ?Bachelors ?Masters
WHERE{
?row final:creditHours ?CredtHours.
FILTER(?CredtHours!='Nil')
{
SELECT DISTINCT ?Bachelors ?Masters
WHERE{
?row final:educationMasters ?Masters.
?row final:educationBachelors ?Bachelors.
FILTER(?Masters!='Nil')

KRR-A2

FILTER(?Bachelors!='Nil')
}
}}}

Screenshot:

The screenshot shows a Query Editor with the following query:

```
SELECT DISTINCT  ?Course ?CredtHours ?TeacherName  ?avg ?Remarks ?Bachelors ?Masters
WHERE{

?row final:instructor ?TeacherName.
?row final:course ?Course.
?row final:question ?Remarks.
?row final:average ?avg.

FILTER(?avg!='Nil')

{
SELECT DISTINCT ?CredtHours ?Bachelors ?Masters
WHERE{
?row final:creditHours ?CredtHours.
FILTER(?CredtHours!='Nil')
{
SELECT DISTINCT ?Bachelors ?Masters
WHERE{
?row final:educationMasters ?Masters.
?row final:educationBachelors ?Bachelors.
FILTER(?Masters!='Nil')
FILTER(?Bachelors!='Nil')
}
}
}
}
}
```

[Course]	CredtHours	TeacherNa...	avg	Remarks	Bachelors	Masters
CS402	3	Sayed ...	3.15	The in...	Comp...	Comp...
CS402	3	Sayed ...	3.15	The in...	Softwa...	softwa...
CS402	3	Sayed ...	3.15	The in...	Physics	Physic...
CS402	3	Sayed ...	3.15	The in...	Comp...	IT
CS402	3	Sayed ...	3.08	The in...	Comp...	Comp...
CS402	3	Sayed ...	3.08	The in...	Softwa...	softwa...
CS402	3	Sayed ...	3.08	The in...	Physics	Physic...
CS402	3	Sayed ...	3.08	The in...	Comp...	IT
CS402	3	Sayed ...	3.08	The in...	Comp...	Comp...
CS402	3	Sayed ...	3.08	The in...	Softwa...	softwa...
CS402	3	Sayed ...	3.08	The in...	Physics	Physic...
CS402	3	Sayed ...	3.08	The in...	Comp...	IT
CS402	3	Sayed ...	3.03	I unde...	Comp...	Comp...
CS402	3	Sayed ...	3.03	I unde...	Softwa...	softwa...
CS402	3	Sayed ...	3.03	I unde...	Physics	Physic...
CS402	3	Sayed ...	3.03	I unde...	Comp...	IT
CS402	3	Sayed ...	3.13	Was th...	Comp...	Comp...
CS402	3	Sayed ...	3.13	Was th...	Softwa...	softwa...
CS402	3	Sayed ...	3.13	Was th...	Physics	Physic...
CS402	3	Sayed ...	3.13	Was th...	Comp...	IT
CS402	3	Sayed ...	2.95	The co...	Comp...	Comp...
CS402	3	Sayed ...	2.95	The co...	Softwa...	softwa...
CS402	3	Sayed ...	2.95	The co...	Physics	Physic...
CS402	3	Sayed ...	2.95	The co...	Comp...	IT
CS402	3	Sayed ...	3.13	The co...	Comp...	Comp...
CS402	3	Sayed ...	3.13	The co...	Softwa...	softwa...
CS402	3	Sayed ...	3.13	The co...	Physics	Physic...
CS402	3	Sayed ...	3.13	The co...	Comp...	IT
CS402	3	Sayed ...	2.97	Provisi...	Comp...	Comp...
CS402	3	Sayed ...	2.97	Provisi...	Softwa...	softwa...
CS402	3	Sayed ...	2.97	Provisi...	Physics	Physic...
CS402	3	Sayed ...	2.97	Provisi...	Comp...	IT
CS402	3	Sayed ...	3.31	Had th...	Comp...	Comp...
CS402	3	Sayed ...	3.31	Had th...	Softwa...	softwa...
CS402	3	Sayed ...	3.31	Had th...	Physics	Physic...
CS402	3	Sayed ...	3.31	Had th...	Comp...	IT
CS402	3	Sayed ...	3.1	Did yo...	Comp...	Comp...
CS402	3	Sayed ...	3.1	Did yo...	Softwa...	softwa...
CS402	3	Sayed ...	3.1	Did yo...	Physics	Physic...
CS402	3	Sayed ...	3.1	Did yo...	Comp...	IT
CS402	3	Sayed ...	3.23	The in...	Comp...	Comp...
CS402	3	Sayed ...	3.23	The in...	Softwa...	softwa...
CS402	3	Sayed ...	3.23	The in...	Physics	Physic...