View Creation for Use Cases

1. How many total courses are available for Information Systems Program in Northeastern University?

   CREATE VIEW InformationSystems_Total_Courses AS

   SELECT a.program_name,

   COUNT(a.course_name), b.program_url

   FROM neu_course_catalog a

   LEFT OUTER JOIN

   NEU_Program b

   ON a.program_name = b.program_name

   WHERE b.program_name = 'Information Systems'

   GROUP BY a.program_name;

2. Which courses do we need to take to do specialization in User   Experience Concentration?

   CREATE VIEW User_Experience_Specialization_Courses AS
   SELECT a.specialization_name,b.course_id,c.course_name
   FROM
   neu_specialization a
   LEFT JOIN neu_course_specialization b
   ON a.specialization_id = b.specialization_id
   RIGHT JOIN neu_course_catalog c
   ON b.course_id = c.course_id
   WHERE a.specialization_name = 'User Experience Concentration';

3. List top rated professors at NEU whose rating is above 4. Also mention the courses and its description taught by the professor.

```
CREATE VIEW NEU_Top_Rated_Professors AS
SELECT a.faculty_name,a.faculty_rating,b.course_id,c.course_description
FROM neu_facultys a
JOIN neu_course_faculty b
ON a.faculty_name = b.faculty_name
JOIN neu_course_catalog c
ON b.course_id = c.course_id
WHERE a.faculty_rating >= 4;
```

4. What are the core course requirements for Information Systems, Software Engineering Systems and Data Analytics?

```
CREATE VIEW Programs_Core_Course_requirement AS

SELECT a.program_name, GROUP_CONCAT(a.course_id SEPARATOR  '|'),

COUNT(a.course_id), b.program_url

FROM Course_Core_requirement a

LEFT JOIN NEU_Program b

ON a.program_name = b.program_name

GROUP BY a.program_name;
```

5. List courses available for Data Analytics Engineering along with its course_outcome.

```
CREATE VIEW Data_Analytics_course_outcome AS
SELECT
program_name, course_id,course_name, course_description
FROM
NEU_Course_Catalog
WHERE program_name = 'Data Analytics Engineering';
```

6. What is the average overall rating given by students to a professor for a given course?

```
Create VIEW Professor_Avg_rating AS
```

```
SELECT faculty_name, round (AVG(faculty_rating),1) as Average_rating
FROM neu_Facultys
GROUP BY faculty_name;
```

7. Which courses students need to take to do specialization in Big Data Systems concentration and which resources are available for them?

```
CREATE VIEW Big_data_Course_Resource AS
SELECT a.specialization_name,
b.course_id,c.course_name,d.software_name,e.online_platform
FROM neu_specialization a
LEFT JOIN neu_course_specialization b
ON a.specialization_id = b.specialization_id
LEFT JOIN neu_course_catalog c
ON b.course_id = c.course_id
LEFT JOIN neu_course_resource d
ON c.course_id = d.course_id
LEFT JOIN neu_resource_materials e
ON d.software_name = e.software_name
WHERE a.specialization_name like '%Big Data%';
```

8. Which job positions are available for students in Data Analytics Engineering and list the details related to those positions?

```
CREATE VIEW Data_Analytics_Job_Positions AS
SELECT b.program_name, a.job_id,a.title,a.company_name,a.description,a.location
FROM program_jobs b
LEFT JOIN job_info a
ON a.job_id = b.job_id
WHERE b.program_name LIKE '%Data%';
```

9. Which professors teach courses related to User Experience and list the ratings given by students for the course?

```
CREATE VIEW User_Experience_Professors AS
SELECT a.specialization_name, b.course_id,c.program_name,
d.faculty_name,e.faculty_rating
FROM neu_specialization a
LEFT JOIN neu_course_specialization b
ON a.specialization_id = b.specialization_id
```

```
LEFT JOIN neu_course_catalog c
ON b.course_id = c.course_id
LEFT JOIN neu_course_faculty d
ON d.course_id = c.course_id
LEFT JOIN neu_facultys e
ON e.faculty_name = d.faculty_name
WHERE a.specialization_name like '%User%';
```

10. Find the average course rating for Information Systems Program

```
CREATE VIEW Information_System_Avg_Course_rating AS
SELECT a.program_name, AVG(b.course_rating)
FROM neu_course_catalog a
RIGHT JOIN neu_course_resource b
ON a.course_id = b.course_id
WHERE a.program_name  ='Information Systems';
```

11. List courses with lowest rating.

```
CREATE VIEW Lowest_Rating_Courses As
SELECT a.course_id, a.course_name,a.course_description,b.course_rating
FROM neu_course_catalog a
LEFT JOIN neu_course_resource b
ON a.course_id = b.course_id
WHERE b.course_rating = (select min(course_rating) from neu_course_resource);
```

12. . Find the professors who taught DAMG 7350, INFO 5100, DAMG 6105, DAMG 7275 courses.

```
CREATE VIEW Professor_DAMG7350_INFO5100_DAMG6105_DAMG7275 AS
select a.faculty_name, b.course_id
from neu_facultys a
JOIN NEU_Course_faculty b
ON a.faculty_name = b.faculty_name
where b.course_id IN ('DAMG 7350', 'INFO 5100','DAMG 6105' ,'DAMG 7275');
```

13. Which resources are available for students who have chosen Information Systems program?

    CREATE VIEW Information_Systems_Resource_Details AS
    SELECT a.program_name,a.course_id,b.software_name,
    c.software_download_url,c.online_platform
    FROM neu_course_catalog a
    JOIN neu_course_resource b
    ON a.course_id = b.course_id
    JOIN neu_resource_materials c
    ON b.software_name = c.software_name
    WHERE a.program_name = 'Information Systems';