

Quinn Roemer
Dr. Ying Jin
CSC 134 MWF 11-11:50am
April 24, 2020

1. Retrieve information (SSN, first name, and last name) about students who took the course 'Computer Architecture' ("Computer Architecture" is a course name).

Query:

```
SELECT S.SSN, S.FIRST_NAME, S.LAST_NAME
FROM STUDENT AS S JOIN ENROLLS AS E ON S.SSN = E.SSN JOIN SECTION AS
SEC ON E.CourseNo = SEC.CourseNo AND E.SectionNo = SEC.SectionNo JOIN
COURSE AS C ON SEC.CourseNo = C.CourseNo
WHERE C.Course_Name='Computer Architecture';
```

Output:

SSN	FIRST_NAME	LAST_NAME
123456789	John	Smith

2. Get the information (SSN, first name, and last name) about students who have taken the course 'VLSI'. Also, get the course number and the section number in which they have enrolled in the course.

Query:

```
SELECT S.SSN, S.FIRST_NAME, S.LAST_NAME, C.CourseNo, SEC.SectionNo
FROM STUDENT AS S JOIN ENROLLS AS E ON S.SSN = E.SSN JOIN SECTION AS
SEC ON E.CourseNo = SEC.CourseNo AND E.SectionNo = SEC.SectionNo JOIN
COURSE AS C ON SEC.CourseNo = C.CourseNo
WHERE C.Course_Name='VLSI';
```

Output:

SSN	FIRST_NAME	LAST_NAME	CourseNo	SectionNo
374078526	Michael	Jordan	2	3

3. Get the course names and course numbers that have 2 or more students.

Query:

```
SELECT C.Course_Name, C.CourseNo
FROM COURSE AS C
WHERE (SELECT COUNT(*) FROM ENROLLS AS E WHERE C.CourseNo =
E.CourseNo) >= 2;
```

Output:

Course_Name	CourseNo
World History	3
Computer Science 12	CSC12

4. Retrieve the information (SSN, first name, and last name) of students who got grade 'A' in at least two exams.

Query:

```
SELECT S.SSN, S.First_Name, S.Last_Name
FROM STUDENT AS S
WHERE (SELECT COUNT(*) FROM TAKES AS T WHERE T.SSN = S.SSN AND
T.RESULT >= 90) >= 2;
```

Output:

SSN	First_Name	Last_Name
123456789	John	Smith

5. Obtain information (exam number, course number, and section number) about the exams taking place in building 'Riverside Hall'. Along with that get the room's capacity, room number, and building name.

Query:

```
SELECT E.ExamNo, E.CourseNo, E.SectionNo, CR.Capacity, CI.RoomNo,
CI.Building
FROM CONDUCTED_IN AS CI JOIN EXAM AS E ON CI.ExamNo = E.ExamNo AND
CI.SectionNo = E.SectionNo AND CI.CourseNo = E.CourseNo JOIN
CLASS_ROOM AS CR ON CI.RoomNo = CR.RoomNo AND CI.Building =
CR.Building
WHERE CR.Building='Riverside Hall';
```

Output:

ExamNo	CourseNo	SectionNo	Capacity	RoomNo	Building
1	3	1	45	107	Riverside Hall
2	3	1	45	107	Riverside Hall
3	3	1	30	110	Riverside Hall

6. Retrieve information (SSN, first name, and last name) about students who are enrolled in the course of 'CSC11' or 'CSC12' ('CSC11' and 'CSC12' are course numbers). Note: MySQL does not support "INTERSECT".

Query:

```
SELECT S.SSN, S.First_Name, S.Last_Name
FROM STUDENT AS S JOIN ENROLLS AS E ON S.SSN = E.SSN
WHERE E.CourseNo='CSC11' OR E.CourseNo='CSC12';
```

Output:

SSN	First_Name	Last_Name
123456789	John	Smith
374078526	Michael	Jordan
426498309	Jenny	Mopper

7. Retrieve the courses that have more than 2 sections. (List course name and number of sections)

Query:

```
SELECT C.Course_Name, COUNT(S.SectionNo) AS 'Number of Sections' FROM
SECTION AS S JOIN COURSE AS C ON S.CourseNo = C.CourseNo
GROUP BY C.CourseNo
HAVING COUNT(S.SectionNo) > 2;
```

Output:

Course_Name	Number of Sections
Computer Science 11	3
Computer Science 12	5

8. Retrieve all the exams that are conducted in RVR 1002. "RVR" is build name and "1002" is roomNo. Retrieve the following information: Building, RoomNo, Capacity, CourseNo, SectionNo, ExamNo. If a classroom has no exam at all, display CourseNo, SectionNo, ExamNo with a NULL value.

Query:

```
SELECT CR.RoomNo, CR.Building, CI.CourseNo, CI.SectionNo, CI.ExamNo
FROM CLASS_ROOM AS CR LEFT OUTER JOIN CONDUCTED_IN AS CI ON CR.RoomNo
= CI.RoomNo AND CR.Building = CR.Building
WHERE CR.RoomNo=1002 AND CR.Building='RVR';
```

Output:

RoomNo	Building	CourseNo	SectionNo	ExamNo
1002	RVR	NULL	NULL	NULL