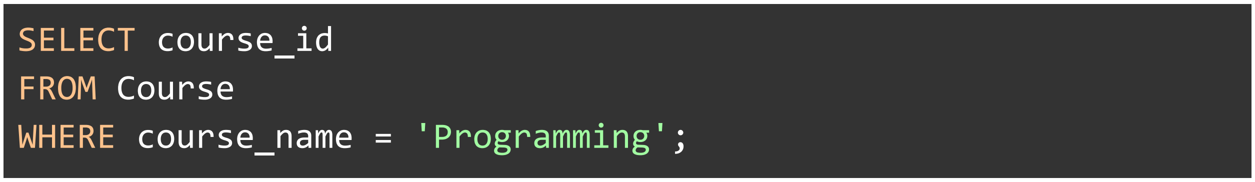
Last Name: **First Name:** **Student ID:**

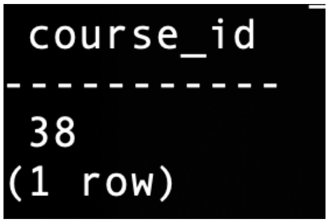
1. [10 pts] Find the course id of the course with the name ‘Programming’.

a) [7 pts] SQL Query:



```
SELECT course_id
FROM Course
WHERE course_name = 'Programming';
```

b) [3 pts] Result: (1 Row)



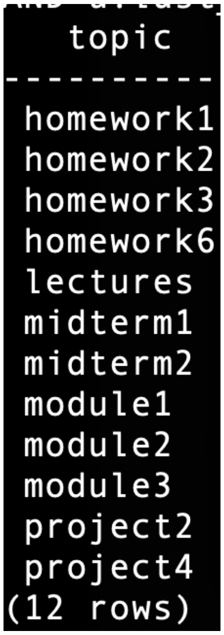
```
 course_id
-----------
 38
(1 row)
```

2. [10 pts] List the **DISTINCT** topics of the posts made by users whose last name is ‘Cross’.

a) [7 pts] SQL Query:

```
SELECT DISTINCT pt.topic
FROM PostTopics pt, Post p, Users u
WHERE pt.post_id = p.post_id
AND p.user_id = u.user_id
AND u.last_name = 'Cross';
```

b) [3 pts] Result: (12 Rows)



```
   topic
----------
 homework1
 homework2
 homework3
 homework6
 lectures
 midterm1
 midterm2
 module1
 module2
 module3
 project2
 project4
(12 rows)
```

3. [10 pts] List the recording ids for recordings of meetings about the course ‘Advanced Math’. Order your results by id in ascending order and limit them to the first 10.

a) [7 pts] SQL Query:

```
SELECT r.recording_id
FROM Recording r, Meeting m, Course c
WHERE r.meeting_id = m.meeting_id
AND m.course_id = c.course_id
AND c.course_name = 'Advanced Math'
ORDER BY r.recording_id ASC LIMIT 10;
```

b) [3 pts] Result: (10 Rows)

```
 recording_id
--------------
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
(10 rows)
```

4. [15 pts] For recurring meetings that recur on Fridays, find the total number of **DISTINCT** students who attended these meetings.

a) [12 pts] SQL Query:

```
SELECT COUNT(DISTINCT a.user_id)
FROM Recurrence r, Meeting m, Attended a
WHERE r.recurr_id = m.recurr_id
AND m.meeting_id = a.meeting_id
AND r.repeat_on='Fri';
```

b) [3 pts] Result (1 row):

```
 count
-------
   152
(1 row)
```

5. [15 pts] List the user_id of students enrolled in courses that are taught by ***all*** instructors with title='Professor' or 'Assistant Professor'.) Order your results by user_id in ascending order, and limit them to the top 10.

a) [12 pts] SQL Query:

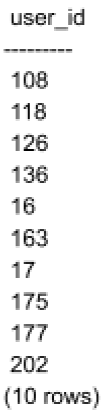
```
SELECT e.user_id
FROM EnrolledIn e, Course c
WHERE e.course_id = c.course_id
AND
(SELECT COUNT(DISTINCT(t.user_id))
FROM Teaches t, Instructor i2
WHERE t.course_id = c.course_id
AND t.user_id = i2.user_id
AND (i2.title = 'Professor' OR i2.title = 'Assistant Professor')) =
(SELECT COUNT(*) FROM Instructor i WHERE i.title = 'Professor' OR i.title = 'Assistant
Professor') ORDER BY e.user_id::numeric ASC LIMIT 10;
```

b) [3 pts] Result: (10 Rows)

if casting is used:

```
user_id
---------
 5
 6
 16
 17
 27
 50
 67
 87
 97
 108
(10 rows)
```

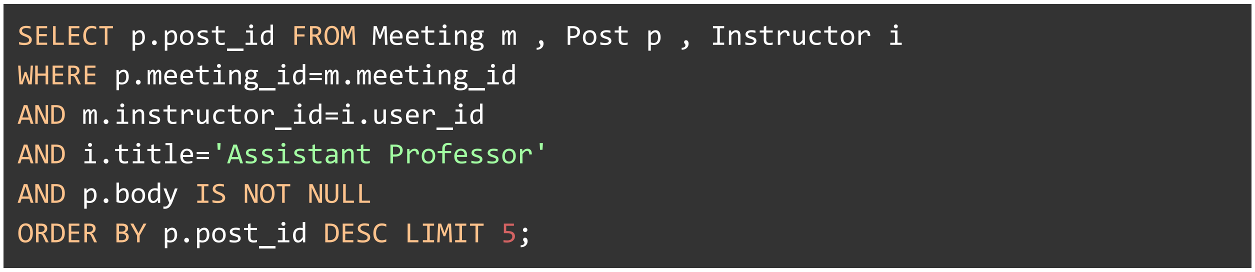
if casting TO NUMERIC is not used:



```
 user_id
---------
 108
 118
 126
 136
 16
 163
 17
 175
 177
 202
(10 rows)
```

6. [10 pts] List the post_id of all the **non-empty** (i.e. the body of the post was not empty) posts about meetings hosted by an 'Assistant Professor'. Again, order your results on post_id in descending order and limit them to the first 5 rows.

a) [7 pts] SQL Query:



```
SELECT p.post_id FROM Meeting m , Post p , Instructor i
WHERE p.meeting_id=m.meeting_id
AND m.instructor_id=i.user_id
AND i.title='Assistant Professor'
AND p.body IS NOT NULL
ORDER BY p.post_id DESC LIMIT 5;
```

b) [3 pts] Result: (5 Rows)

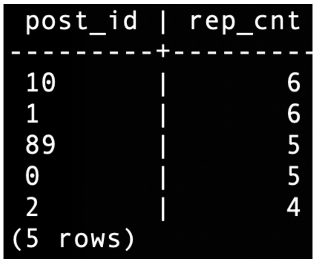
```
 post_id
---------
 999
 994
 992
 991
 975
(5 rows)
```

7. [15 pts] Find the post ids and the number of replies for each post that has one or more replies. List only the top five posts that have the highest number of replies.

a) [12 pts] SQL Query:

```
SELECT p1.post_id, COUNT(*) AS rep_cnt
FROM Post p1, Post p2
WHERE p1.post_id = p2.replied_to_post_id
GROUP BY p1.post_id
ORDER BY rep_cnt DESC LIMIT 5;
```

b) [3 pts] Result: (5 Rows)



```
 post_id | rep_cnt
---------+--------
 10      |       6
 1       |       6
 89      |       5
 0       |       5
 2       |       4
(5 rows)
```

8. [15 pts] For posts that have **more than two** Thumbsup's, print their post_id, the post author's first and last name, and the number of posts that the post author has posted.

a) [12 pts] SQL Query:

```
SELECT t.post_id, u.first_name, u.last_name, (SELECT COUNT(*) FROM Post p2
where u.user_id = p2.user_id )
FROM Thumbsup t, Users u, Post p
WHERE t.post_id = p.post_id
AND u.user_id = p.user_id
GROUP BY t.post_id, u.first_name, u.last_name, u.user_id
HAVING COUNT(*) > 2;
```

b) [3 pts] Result (6 rows):

```
 post_id | first_name | last_name | total_posts
---------+------------+-----------+-------------
 33      | Jennifer   | Evans     |         12
 53      | Jason      | Parrish   |          7
 66      | Dominique  | Harper    |         13
 101     | Randy      | Bernard   |         10
 25      | Kyle       | Robinson  |          4
 0       | Amy        | Lamb      |         18
(6 rows)
```