CSE311L: Database Management Systems Lab
Assignment 02

Schema:

TA (ID, Name, Semester, GPA)

English: There is a TA (Teaching Assistant) with ID, Name, Semester (represents in which semester he/she currently in), GPA (Current GPA)

TA_INFO (ID, Position)

English: TA_INFO represents the position of TA (UGA = Undergraduate Teaching Assistant, GA =GRADUATE Teaching Assistant). Each TA is identified by ID.

Friend (ID1, ID2)

English: The TA with ID1 is friends with the TA with ID2. Friendship is mutual, so if (123, 456) is in the Friend table, so is (456, 123).

REVIEW_TA (ID1, ID2)

English: The TA with ID1 reviews a TA with ID2. Reviewing someone is not necessarily mutual, so if (123,456) is in the REVIEW_TA table, there is no guarantee that (456, 123) is also present.

Answer the following Questions

1. Find the names of all Graduate TAs' who are friends with Konica.

Name
Ananotara

2. Find the name, GPA of all TAs' who are reviewed by more than one other TA and the TAs' who are the reviewer are Undergraduate Teaching Assistant.

Name	GPA
Kashfia	3.56
Chandra	3.98

3. For each situation where TA X reviews TA Y, and TA Y reviews different TA Z, return the result in the following format “X reviews Y, and Y reviews Z”, and rename the column as Message.

MESSAGE
Ananna REVIEWS Chandra, AND Chandra REVIEWS Gazi
Gonesh REVIEWS Alamin, AND Alamin REVIEWS Kashfia

4. Minimum Requirement for UGA is having GPA 3.3, and for GA is 3.5. However, the Department may consider special cases by relaxing the minimum requirement a bit. Find out the name and position of TA(s) who are considered as special cases for both UGA and GA.

Name	Position
Konica	GA

5. Return the average number of friends per TA? (Your result should be just one number.) Hint: Read the description of the FRIEND table again to find out the mutual status.

AVG(A)
2.5000

6. Consider the following Query:

```
ALTER TABLE review_ta
ADD CONSTRAINT fk_review_ta_to_ta
FOREIGN key(ID1)
REFERENCES TA(ID)
ON UPDATE SET null
ON DELETE SET null
```

This query returns an error in SQL Syntax. However, this error still can be solved by changing the structure of the referenced table. Your task is to make the necessary changes in the referenced table so that the above Query can be executed without any error.

Write the Query to make necessary changes in the referenced table.

7. Its end of Spring-21, time to update the TA list.
    a. Promote everyone to next semester.
    b. Department wants to remove anyone who doesn't fulfil the Minimum Requirement of UGA and GA. If a TA is removed from ta table, corresponding entries related to him should also have to be removed from other tables. (You can implement deletion from multiple tables using multiple queries).

8. Create a table "RECORD" having following properties:

Name	Type	Null	Default	Extra
ID	INT(11)	No		AUTO_INCREMENT PRIMARY KEY
TA_ID	INT(11)	Yes		
Name	VARCAHR(255)	Yes		
GPA	DOUBLE(3,2)	Yes		
date_of_exec	DATE	Yes		
Comments	VARCHAR(255)	Yes	Not Applicable	

9. A. Create a Procedure as 'difference_with_highest_gpa' that takes the ID of a TA and returns the positive difference between his/her GPA and the Highest GPA in the TA table. You can't use more than one Stored Procedure Parameters.

   B. Find the difference of GPA for ID=316 using the designed stored procedure in Question: A. Mention all the queries including setting session variables and calling the stored procedure. Round the result to three decimal places.

Difference
0.490

10. Create a trigger "UPDATE_ON_TA" on TA. After updating a row on TA, your designed trigger will insert a row based on the following criteria into the Record table.
    - TA_ID = New Value of ID from TA Table.
    - Name = Old Value of Name from TA Table.

- GPA = Old Value of GPA from TA Table.
- Date_of_exec = Current Server Time.
- Comments:
  - If only ID is updated, then Comments = ‘ID Updated Only’.
  - If only Name is Updated, then Comments = ‘Name Updated Only’
  - If both Name and ID are updated, then Comments = ‘Both Name and ID Updated’
  - For other cases, Comments = ’Updated’