

Birla Institute of Technology & Science Pilani, K.K Birla Goa Campus

CS-F212 Database Systems

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Lab 4 Practice Problems - SQL

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Scenario 1

Consider the following Relational Schema

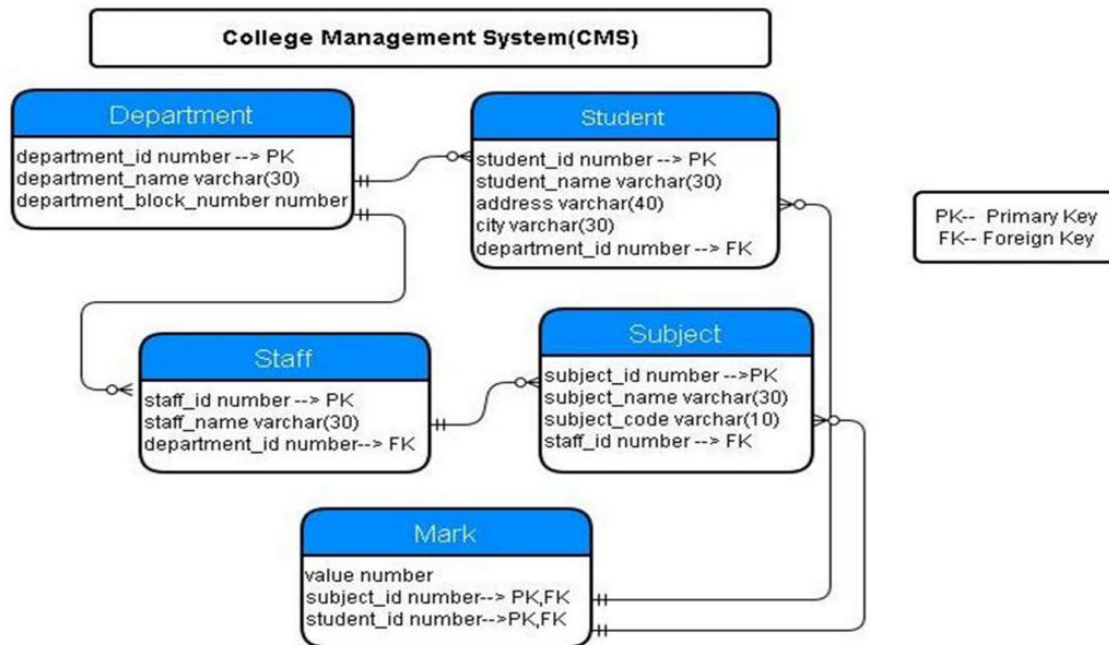
Student(sid, gender, marks, branch)

Give a MySQL Query for each of the following queries:

1. Retrieve sid's scored 2nd highest marks.
2. Retrieve branches which have at least three students.
3. Retrieve branches for which average marks of the branch is more than average marks of the female students.
4. Retrieve branches for which average marks of the male students of branch is more than average marks of the female students.
5. Retrieve branches where average marks of the male students of the branch is more than average marks of the female students of the same branch
6. Retrieve the difference between highest marks that a male student received and the highest marks a female student received.
7. Retrieve the count of student that scored more than 70 marks and less than 90 marks and were in "CS" branch.
8. Change all gender variables from lowercase to uppercase. (All entries should have either "male" or "female" and not "MALE" or "FEMALE")

Scenario 2

Queries to be executed on the following schema:



1. Write a query to display list student id and the minimum mark scored by that students in any subject. Give an alias as minimum_mark. Sort the result based on minimum_mark
2. Write a query to display list of student ids and average mark in 2 decimal places if their average mark is greater than 50. Give an alias to the average mark as avg_mark. Sort the result based on average mark.
3. Alter column "dept_name" in table Departments to take VARCHAR data of length 45 and check using the desc table command.
4. Write a query to display the highest average obtained from the students. Give an alias as avg_mark. Round the result to 2 decimal places.
5. Write a query to display the names of all staff from CS Department ordered in ascending order.
6. Alter "value" column of Marks table such that the default value is 0.
7. Write a query to display the details of the departments in block number 3 in ascending order.
8. Add a new column to Students table named "FULL_ADDRESS" with data being the concatenated strings address and city with a single white space between them. You can use 2 queries, one to add the column and second to update values.
Eg. If address is "Kabir Nagar" and city is "Varanasi", then FULL_ADDRESS column should contain data "Kabir Nagar Varanasi".
9. Write a query to display details the highest scoring student names from each subject