DBMS Assignment 1

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Section: A

Answers:

1) **Create a new Database using SQL database queries. You are advised to use this database for all later assignments.**

Ans. The " CREATE DATABASE college_dbms; " command is used to create a new MySQL database called "college_dbms". Once the database is created, we can comment out this statement in order to avoid the execution of this statement again-and-again which may result in errors.

The " use college_dbms; " command then activates that database, and any new tables created will be added to this database.

2) **Create the following table inside the newly created database using SQL queries. You are required to use the `CREATE TABLE` statement to create the table schema. After creating the table, insert data using the `INSERT INTO` statement.**

Ans. Following that, I used a "CREATE TABLE Student…" command to create a new table called "Student" inside the "college_dbms" database, and added the required attributes with the required data types and constraints. The ID attribute is set to a PRIMARY_KEY and AUTO_INCREMENT to ensure data-consistency and integrity, and avoid the creation of records having the same ID. NAME and MAJOR are set to varchar(50) due to their string nature, while the GPA is set to a decimal(4,2) to ensure that at-max 4 digits are present, with 2 decimal places.

Then I created multiple tuples inside the table using the INSERT INTO Student VALUES (NAME, GPA, MAJOR) statement. The ID field is not included as it is set to auto-increment, and gets added automatically.

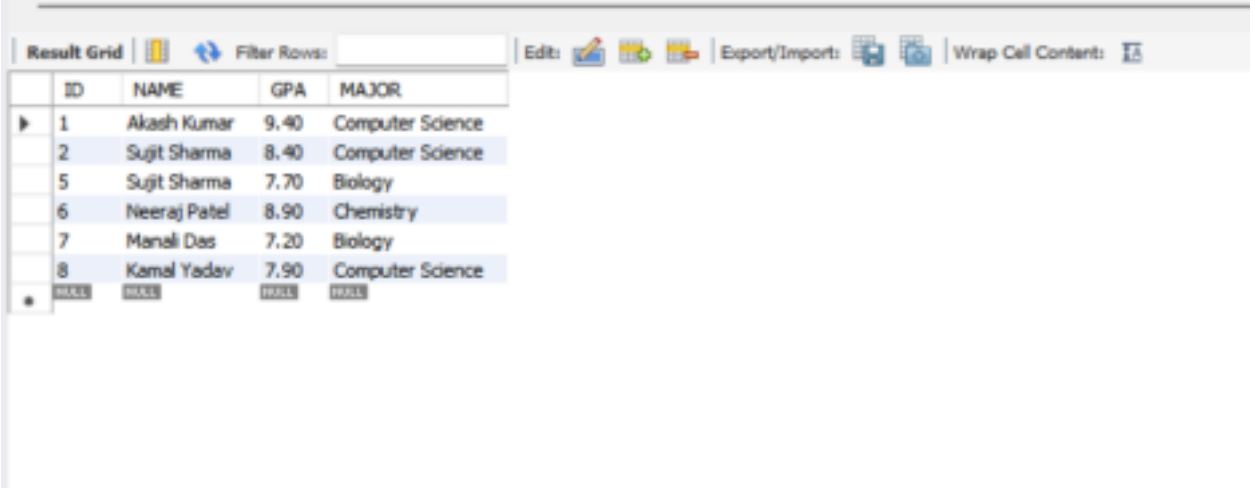
3) **Use a select query to display students whose GPA is > 7.**

Ans. Finally, I'm selecting all the attributes of those students having a GPA > 7 using the SELECT * Statement, in combination with the WHERE clause passing GPA > 7 as a predicate.

Code:

```
1  CREATE DATABASE college_dbms;
2
3  use college_dbms;
4
5  CREATE TABLE Student (
6      ID int NOT NULL PRIMARY KEY AUTO_INCREMENT,
7      NAME varchar(50),
8      GPA decimal(4,2),
9      MAJOR varchar(50)
10 );
11
12 INSERT INTO Student (NAME, GPA, MAJOR) VALUES
13 ("Akash Kumar", 9.4, "Computer Science"),
14 ("Sujit Sharma", 8.4, "Computer Science"),
15 ("Suman Roy", 5.5, "Chemistry"),
16 ("Priya Raj", 6.7, "Biology"),
17 ("Sujit Sharma", 7.7, "Biology"),
18 ("Neeraj Patel", 8.9, "Chemistry"),
19 ("Manali Das", 7.2, "Biology"),
20 ("Kamal Yadav", 7.9, "Computer Science");
21
22 SELECT * FROM Student WHERE GPA>7;
```

Output:



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

ID	NAME	GPA	MAJOR
1	Akash Kumar	9.40	Computer Science
2	Sujit Sharma	8.40	Computer Science
5	Sujit Sharma	7.70	Biology
6	Neeraj Patel	8.90	Chemistry
7	Manali Das	7.20	Biology
8	Kamal Yadav	7.90	Computer Science
NULL	NULL	NULL	NULL