"Heaven's Light is Our Guide"

Rajshahi University of Engineering & Technology, Rajshahi

Department of Electrical & Computer Engineering

Course Code : ECE-2216
Course Title : Database Management System Sessonal

Experiment No : 2

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Submitted To-
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Experiment No: 2

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
1	Eleven	21	3.80	Engineering	2021	10000.00	120	active
2	Dustin	22	3.90	Science	2020	9000.00	110	active
3	Will	19	3.40	Business	2022	8500.00	95	active
4	Mike	23	3.70	Science	2021	9500.00	115	inactive
5	Max	20	3.50	Engineering	2020	12000.00	130	active
6	Eddie	22	4.00	Arts	2019	8000.00	140	active
7	Billy	24	2.90	Engineering	2022	5000.00	60	active
8	Alexei	25	3.20	Business	2018	7500.00	100	inactive
9	Steve	21	3.80	Science	2021	10500.00	120	active
10	Robin	20	3.60	Engineering	2022	11000.00	125	active
11	Lucas	18	2.70	Engineering	2023	4000.00	50	active
12	Nancy	23	3.90	Business	2019	9500.00	135	active

Task 1 : Find students who are older than 20 and have a GPA above the average GPA of all students

Code:

```
SELECT student_id, student_name, age, GPA
FROM students
WHERE age > 20
AND GPA > (SELECT AVG(GPA) FROM students);
```

Output:

	student_id	student_name	age	GPA
Edit Copy Delete	1	Eleven	21	3.80
Edit Copy Delete	2	Dustin	22	3.90
Edit Copy Delete	4	Mike	23	3.70
Edit Copy Delete	6	Eddie	22	4.00
Edit Copy Delete	9	Steve	21	3.80
Edit Copy Delete	12	Nancy	23	3.90

Task 2: Find the top 5 students with the highest fees paid, ordered by GPA (in descending order) as a tiebreaker

Code:

Run SQL query/queries on database dbms2:

```
1 SELECT student_id, student_name, fees_paid, GPA
2 FROM students
3 ORDER BY fees_paid DESC, GPA DESC
4 LIMIT 5;
5
```

Output :

	student_id	student_name	fees_paid 1	GPA 2
Edit Copy Delete	5	Max	12000.00	3.50
Edit Copy Delete	10	Robin	11000.00	3.60
Edit Copy Delete	9	Steve	10500.00	3.80
Edit Copy Delete	1	Eleven	10000.00	3.80
Edit Copy Delete	12	Nancy	9500.00	3.90

Task 3: List students who belong to the "Engineering" department, have a GPA greater than 3.5, and are enrolled after 2020.

Code:

Run SQL query/queries on database dbms2:

```
1 SELECT student_id, student_name, department, GPA, year_of_admission
2 FROM students
3 WHERE department = 'Engineering'
4 AND GPA > 3.5
5 AND year_of_admission > 2020;
6
```

Output:

	student_id	student_name	department	GPA	year_of_admission
Edit Copy Delete	1	Eleven	Engineering	3.80	2021
Edit Copy Delete	10	Robin	Engineering	3.60	2022

Task 4 : Find students who are not active (i.e., enrollment_status = 'inactive') and have not paid any fees (fees_paid = 0)

Code:

Run SQL query/queries on database dbms2:

```
1 SELECT student_id, student_name, fees_paid, enrollment_status
2 FROM students
3 WHERE enrollment_status = 'inactive'
4 AND fees_paid = 0;
5
```

Output:

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

```
SELECT student_id, student_name, fees_paid, enrollment_status FROM students WHERE enrollment_status =
'inactive' AND fees_paid = 0;
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [R

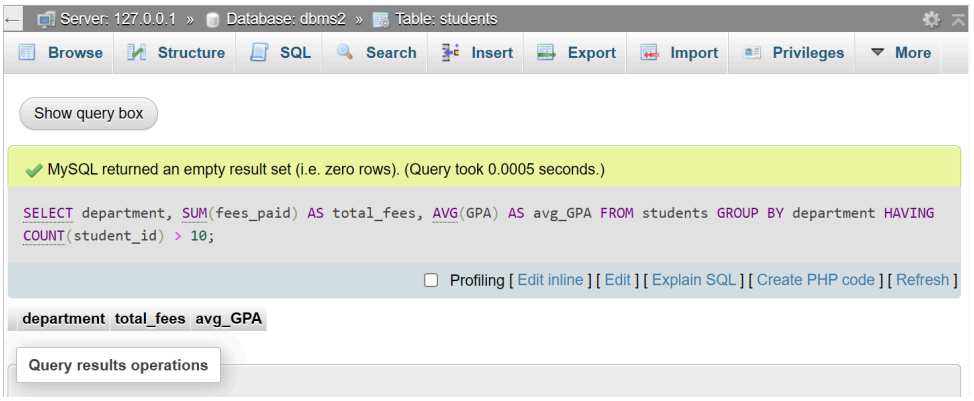
student_id	student_name	fees_paid	enrollment_status

Task 5 : Calculate the total fees paid and average GPA for each department, but only for departments with more than 10 students.

Code:

```
1 SELECT department, SUM(fees_paid) AS total_fees, AVG(GPA) AS avg_GPA
2 FROM students
3 GROUP BY department
4 HAVING COUNT(student_id) > 10;
5
```

Output:


Server: 127.0.0.1 » Database: dbms2 » Table: students
Browse
Structure
SQL
Search
Insert
Export
Import
Privileges
More
Show query box
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)
SELECT department, SUM(fees_paid) AS total_fees, AVG(GPA) AS avg_GPA FROM students GROUP BY department HAVING COUNT(student_id) > 10;
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
department
total_fees
avg_GPA
Query results operations