

Havens Light is Our Guide
Rajshahi University of Engineering & Technology



Department of Electrical and Computer Engineering

Course code:ECE 2216

Course Title:Database Systems Sessional

Report no: 02

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Submitted to	Submitted by
Oishi Jyoti Assistant Professor Department of ECE,RUET	Farhat Jahan Chowdhury Sina Roll no:2110021 Department of ECE,RUET

Experiment no:02

Experiment name:

Students Table

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
1	Eleven	21	3.8	Engineering	2021	10000	120	active
2	Dustin	22	3.9	Science	2020	9000	110	active
3	Will	19	3.4	Business	2022	8500	95	active
4	Mike	23	3.7	Science	2021	9500	115	inactive
5	Max	20	3.5	Engineering	2020	12000	130	active
6	Eddie	22	4.0	Arts	2019	8000	140	active
7	Billy	24	2.9	Engineering	2022	5000	60	active
8	Alexei	25	3.2	Business	2018	7500	100	inactive
9	Steve	21	3.8	Science	2021	10500	120	active
10	Robin	20	3.6	Engineering	2022	11000	125	active
11	Lucas	18	2.7	Engineering	2023	4000	50	active
12	Nancy	23	3.9	Business	2019	9500	135	active

Task:

1. Find students who are older than 20 and have a GPA above the average GPA of all students
2. Find the top 5 students with the highest fees paid, ordered by GPA (in descending order) as a tiebreaker
3. List students who belong to the "Engineering" department, have a GPA greater than 3.5, and are enrolled after 2020
4. Find students who are not active (i.e., enrollment_status = 'inactive') and have not paid any fees (fees_paid = 0)
5. Calculate the total fees paid and average GPA for each department, but only for departments with more than 10 students

Objective:To learn different operations using database.

Query 01 : Finding students who are older than 20 and have a GPA above the average GPA of all students.

Output:

Server: 127.0.0.1 » Database: students_table » Table: student_table

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 5 (6 total, Query took 0.0006 seconds)

```
SELECT * FROM student_table WHERE age > 20 AND GPA > (SELECT AVG(GPA) FROM student_table);
```

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

Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
1	Eleven	21	3.8	Engineering	2021	10000	120	active
2	Dustin	22	3.9	Science	2020	9000	110	active
4	Mike	23	3.7	Science	2021	9500	115	inactive
6	Eddie	22	4.0	Arts	2019	8000	140	active
9	Steve	21	3.8	Science	2021	10500	120	active
12	Nancy	23	3.9	Business	2019	9500	135	active

Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Print Copy to clipboard Export Display chart Create view

Console mark this SQL query

Query 02 : Finding top t students with the highest fees paid,ordered by GPA(in descending order) as a tiebreaker.

Output:

Server: 127.0.0.1 » Database: students_table » Table: student_table

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 4 (5 total, Query took 0.0003 seconds) [fees_paid: 12000... - 9500...] [GPA: 3.5... - 3.9...]

```
SELECT * FROM student_table ORDER BY fees_paid DESC, GPA DESC LIMIT 5;
```

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

Extra options

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
5	Max	20	3.5	Engineering	2020	12000	130	active
10	Robin	20	3.6	Engineering	2022	11000	125	active
9	Steve	21	3.8	Science	2021	10500	120	active
1	Eleven	21	3.8	Engineering	2021	10000	120	active
12	Nancy	23	3.9	Business	2019	9500	135	active

Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

Console

Query 03 : Listing students who belong to the “Engineering” department ,have a GPA greater than 3.5 and are enrolled after 2020.

Output:

Server: 127.0.0.1 » Database: students_table » Table: student_table

Show query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

✓ Showing rows 0 - 1 (2 total, Query took 0.0003 seconds.)

```
SELECT * FROM student_table WHERE department = 'Engineering' AND GPA > 3.5 AND year_of_admission > 2020;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Extra options

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
1	Eleven	21	3.8	Engineering	2021	10000	120	active
10	Robin	20	3.6	Engineering	2022	11000	125	active

☐ Show all | Number of rows: 25 | Filter rows: Search this table

Query results operations

Label: ☐ Let every user access this bookmark

Console x this SQL query

Query 04 : Finding students who are not active (i.e.,enrolment_status=”inactive”) and have not paid any fees(fees_paid=0)

Output:

Server: 127.0.0.1 » Database: students_table » Table: student_table

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

```
SELECT * FROM student_table WHERE enrollment_status = 'inactive' AND fees_paid = 0;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
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Query results operations

Label: ☐ Let every user access this bookmark

Console

Query 05 : Calculating the total fees paid and average GPA for each department ,but only for departments with more than 10 students.

Output:

The screenshot shows a MySQL query execution interface. At the top, there's a navigation bar with tabs: Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, and Triggers. Below this is a "Show query box" button. The main area displays a green message: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)". Below this is the SQL query: `SELECT department, SUM(fees_paid) AS total_fees_paid, AVG(GPA) AS average_GPA, COUNT(*) AS student_count FROM student_table GROUP BY department HAVING COUNT(*) > 10;`. There are links for Profiling, Edit inline, Edit, Explain SQL, Create PHP code, and Refresh. Below the query is a table header: `department total_fees_paid average_GPA student_count`. There are buttons for "Query results operations" and "Create view". Below these is a "Bookmark this SQL query" section with a label input field and a checkbox "Let every user access this bookmark". At the bottom, there's a "Bookmark this SQL query" button and a "Console" tab.

Server: 127.0.0.1 » Database: students_table » Table: student_table

Buttons: Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Tracking, Triggers

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_paid, AVG(GPA) AS average_GPA, COUNT(*) AS student_count FROM student_table GROUP BY department HAVING COUNT(*) > 10;`

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

`department total_fees_paid average_GPA student_count`

Query results operations

Create view

Bookmark this SQL query

Label: ☐ Let every user access this bookmark

Bookmark this SQL query

Console