

*“Heaven’s Light is Our Guide”*

Rajshahi University of Engineering & Technology, Rajshahi



Department of Electrical & Computer Engineering

# Lab Report

Course Code : ECE 2216

Course Title : Data base systems sessional

Experiment No. : 02

Submission Date : 1-10-24

**Submitted To-**

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## Exp No. : 02

**Exp Name:** Using SQL language to do Select operation in phpmyadmin

### objectives:

The objective of this experiment is to practice SQL skills by creating a students table, inserting data, and writing queries to retrieve specific information. It helps in understanding how to filter data, calculate averages, and analyze records based on conditions like GPA, fees, and enrollment status. This experiment builds confidence in using SQL for database management and data analysis..

### Queries And Outputs:

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

##### Query:

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

##### output:

	student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
<input type="checkbox"/>	1	Eleven	21	3.80	Engineering	2021	10000	120	active
<input type="checkbox"/>	2	Dustin	22	3.90	Science	2020	9000	110	active
<input type="checkbox"/>	4	Mike	23	3.70	Science	2021	9500	115	inactive
<input type="checkbox"/>	6	Eddie	22	4.00	Arts	2019	8000	140	active
<input type="checkbox"/>	9	Steve	21	3.80	Science	2021	10500	120	active
<input type="checkbox"/>	12	Nancy	23	3.90	Business	2019	9500	135	active

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

##### Query:

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

##### output:

	student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
<input type="checkbox"/>	5	Max	20	3.50	Engineering	2020	12000	130	active
<input type="checkbox"/>	10	Robin	20	3.60	Engineering	2022	11000	125	active
<input type="checkbox"/>	9	Steve	21	3.80	Science	2021	10500	120	active
<input type="checkbox"/>	1	Eleven	21	3.80	Engineering	2021	10000	120	active
<input type="checkbox"/>	12	Nancy	23	3.90	Business	2019	9500	135	active

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

**Query:**

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

**output:**

	student_id	student_name	age	GPA	department	year_of_admission	fees_paid	credits_earned	enrollment_status
<input type="checkbox"/>	1	Eleven	21	3.80	Engineering	2021	10000	120	active
<input type="checkbox"/>	10	Robin	20	3.60	Engineering	2022	11000	125	active

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**4. Find students who are not active (i.e., enrollment\_status = 'inactive') and have not paid any fees (fees\_paid = 0)**

**Query:**


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

**output:**

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

 [Create view](#)

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

**Query:**

```
SELECT department, SUM(fees_paid) AS total_fees_paid, AVG(GPA) AS average_GPA
FROM students
GROUP BY department
HAVING COUNT(*) > 10;
```

**output:**

<input type="checkbox"/> Profiling	<a href="#">[ Edit inline ]</a>	<a href="#">[ Edit ]</a>	<a href="#">[ Explain SQL ]</a>	<a href="#">[ Create PHP code ]</a>	<a href="#">[ Refresh ]</a>
department	total_fees_paid	average_GPA			
<div>Query results operations</div>					