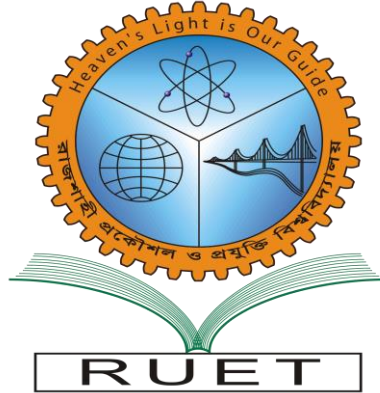


*Heaven's Light is Our Guide*

# **Rajshahi University of Engineering & Technology**



## **Department of Electrical & Computer Engineering**

**Course Code : ECE 2216**

**Course Title : Data Base Systems Sessional  
Sessional**

## **Lab Report-**

**Name of the Experiment : Creation of a Database system.**

Date of the Experiment : 10-09-2024

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## Experiment Number: 01

**Name of the Experiment:** Create a database containing the following info for 10 students. (i) Roll, (ii) Name, (iii)Semester,(iv)Major,(v)Obtained Mark

- 1) Create a database and Table
- 2) Change a specific column name and data type
- 3) Add a new column named Log. Set the value applicable and not applicable for the condition (<30).
- 4) Delete the student information whose marks are below 30.

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### 1.1 Objectives:

1. To know about database creation and manipulation, using basic SQL commands.
2. To know how to manage student information, make changes to column names and data types, and perform specific updates and deletions based on conditions.

### 1.2 DBMS devices :

- ❖ **XAMPP:** XAMPP is a free and open-source web server solution stack that allows developers to set up a local server environment on their computers. It stands for Cross-Platform, Apache, MariaDB, PHP, and Perl, reflecting its components and cross-platform nature, as it works on Windows, Linux, and macOS. Designed for ease of use, XAMPP provides everything needed to run a web server with just a single installation, making it a popular choice for web developers and students learning web development. It includes the Apache HTTP Server, MariaDB (a relational database system), and interpreters for PHP and Perl scripts. XAMPP also features a control panel that simplifies managing server components like starting and stopping services. While it's perfect for development and testing environments, XAMPP is not recommended for production use due to its default open and flexible configuration, which poses security risks.



***Fig. 1.1: XAMPP***

- ❖ **Google Chrome:** Google Chrome is commonly used in local hosting environments to test and develop web applications before they are deployed to a live server. In local hosting, Chrome serves as the client-side interface for accessing web applications hosted on a local server running on your computer. This setup is essential for developers who need to see how their websites or web applications behave in a real browser environment during development.



*Fig. 1.2: Google Chrome*

**1.3 Theory:** In a local hosting environment using XAMPP, the database system is centered around MariaDB, an open-source relational database management system included with XAMPP. MariaDB serves as a powerful and reliable database solution that allows developers to create, manage, and interact with databases directly on their local machines. XAMPP also includes phpMyAdmin, a web-based tool that provides an intuitive graphical user interface for managing MariaDB databases. This makes it easy to perform tasks such as creating and deleting databases, running SQL queries, managing tables and records, and handling user permissions without needing extensive knowledge of SQL commands.

#### **1.4 Required Apparatus:**

1. Computer
2. XAMPP software
3. Google chrome browser

#### **1.5 Procedures :**

1. Create a database and Table: We have to go to the insert option in that page. Then sequentially entered the value of roll, name, semester, major and obtained mark.

Roll	Name	Semester	Major	Obtained Mark
2110041	A	4th	EEE	40
2110042	B	4th	CSE	46
2110043	C	4th	CSE	60
2110044	D	4th	EEE	79
2110045	E		CSE	89
2110046	Avi	4th	CSE	54
2110047	F	4th	EEE	53
2110048	CSE	4th	CSE	20
2110049	G	4th	CSE	60
2110050	K	4th	EEE	76

*Fig. 1.3: Data base table*

## 2. Change a specific column name and data type:

Command:

```
1 ALTER TABLE information
2 CHANGE COLUMN Semester Current_Years varchar(10);
```

*Fig. 1.4: Column change command*

New column:

Roll	Name	Current_Years	Major	Obtained Mark
2110041	A	4th	EEE	40
2110042	B	4th	CSE	46
2110043	C	4th	CSE	60
2110044	D	4th	EEE	79
2110045	E		CSE	89
2110046	Avi	4th	CSE	54
2110047	F	4th	EEE	53
2110048	CSE	4th	CSE	20
2110049	G	4th	CSE	60
2110050	K	4th	EEE	76

*Fig. 1.5: Changed column*

## 3. Add a new column named Log. Set the value applicable and not applicable for the condition (<30).

Command:

```
1 ALTER TABLE information
2 ADD COLUMN Log VARCHAR(20);
3
1 UPDATE information
2 SET Log = CASE
3     WHEN `Obtained Mark` > 30 THEN 'Applicable'
4     ELSE 'Not Applicable'
5 END;
6
```

*Fig. 1.6: Adding column and condition*

**New column:**

Roll	Name	Current_Years	Major	Obtained Mark	Log
2110041	A	4th	EEE	40	Applicable
2110042	B	4th	CSE	46	Applicable
2110043	C	4th	CSE	60	Applicable
2110044	D	4th	EEE	79	Applicable
2110045	E		CSE	89	Applicable
2110046	Avi	4th	CSE	54	Applicable
2110047	F	4th	EEE	53	Applicable
2110048	CSE	4th	CSE	20	Not Applicable
2110049	G	4th	CSE	60	Applicable
2110050	K	4th	EEE	76	Applicable

*Fig. 1.7: Updated column and condition*

4. Delete the student information whose marks are below 30.

**Command:**

```

1 DELETE FROM information
2 WHERE `Obtained Mark` < 30;
3 |

```

*Fig. 1.8: Condition for under mark 30*

**New column:**

Roll	Name	Current_Years	Major	Obtained Mark	Log
2110041	A	4th	EEE	40	Applicable
2110042	B	4th	CSE	46	Applicable
2110043	C	4th	CSE	60	Applicable
2110044	D	4th	EEE	79	Applicable
2110045	E		CSE	89	Applicable
2110046	Avi	4th	CSE	54	Applicable
2110047	F	4th	EEE	53	Applicable
2110049	G	4th	CSE	60	Applicable
2110050	K	4th	EEE	76	Applicable

*Fig. 1.6: Deleted row*

## 1.6 Discussions:

This experiment introduced us to essential SQL operations, focusing on creating and managing a database for student information. It covered defining a schema, modifying column names and data types, adding a conditional "Log" column, and deleting records based on specific conditions, such as students with marks below 30. Through these tasks, students learned how to structure a database, adapt its design, implement conditional updates, and manage data integrity by selectively removing irrelevant records. Overall, the experiment provided practical experience in database manipulation and prepared students for more complex database management tasks.

## Reference:

[1]

SitePoint Pty Ltd, "View your localhost on any machine," *SitePoint Forums | Web Development & Design Community*, Apr. 29, 2019. <https://www.sitepoint.com/community/t/view-your-localhost-on-any-machine/326679> (accessed Sep. 18, 2024).

[2]

Wikipedia Contributors, "localhost," *Wikipedia*, Sep. 17, 2024. <https://en.wikipedia.org/wiki/Localhost> (accessed Sep. 18, 2024).