### DAY ☀️: \*\*Mini Project – 1: Student Information Management using SQL\*\*

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**### 🎯 \*\*Project Title:\*\***

**\*\*Student Information Management System\*\***

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### 🧠 \*\*Objective:\*\*

To build a mini SQL-based system to \*\*store\*\*, \*\*manage\*\*, and \*\*update\*\* student information using basic SQL operations and XAMPP (MySQL).

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### 🛠️ Step 1: SQL Overview

- SQL stands for \*\*Structured Query Language\*\*.

- It is used to \*\*create\*\*, \*\*read\*\*, \*\*update\*\*, and \*\*delete\*\* data in databases.

- Common commands: `CREATE`, `INSERT`, `SELECT`, `UPDATE`, `DELETE`.

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### 🛠️ Step 2: Installing XAMPP

- Download from: [https://www.apachefriends.org](https://www.apachefriends.org)

- Install and open \*\*XAMPP Control Panel\*\*.

- Start \*\*Apache\*\* and \*\*MySQL\*\* services.

- Go to: [http://localhost/phpmyadmin](http://localhost/phpmyadmin)

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### 🛠️ Step 3: Creating a Database

```sql

CREATE DATABASE student\_db;

USE student\_db;

```

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### 🛠️ Step 4: Creating Tables

```sql

CREATE TABLE students (

id INT PRIMARY KEY,

name VARCHAR(50),

age INT,

city VARCHAR(50),

marks INT

);

```

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### 🛠️ Step 5: Inserting Data into Table

```sql

INSERT INTO students VALUES

(1, 'Anjali', 18, 'Delhi', 85),

(2, 'Rahul', 20, 'Mumbai', 90),

(3, 'Priya', 19, 'Chennai', 78),

(4, 'Neha', 21, 'Pune', 88);

```

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### 🛠️ Step 6: Using SELECT Query

- Show all students:

```sql

SELECT \* FROM students;

```

- Show name and marks only:

```sql

SELECT name, marks FROM students;

```

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### 📘 Step 7: Understanding Data Types

| Data Type | Description | Example |

|---------------|--------------------------------|-----------------|

| `INT` | Whole numbers | 20, 101, 75 |

| `VARCHAR(n)` | Text with max length `n` | 'Anjali', 'Delhi'|

| `DATE` | Date format | '2025-04-15' |

| `FLOAT` | Decimal values | 89.5 |

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### 🛠️ Step 8: Updating Data in SQL

- Change Priya's marks to 82:

```sql

UPDATE students

SET marks = 82

WHERE name = 'Priya';

```

- Update city of student with ID 2:

```sql

UPDATE students

SET city = 'Bangalore'

WHERE id = 2;

```

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### ✅ Final Query Output Example

```sql

SELECT \* FROM students;

```

| id | name | age | city | marks |

|----|--------|-----|------------|-------|

| 1 | Anjali | 18 | Delhi | 85 |

| 2 | Rahul | 20 | Bangalore | 90 |

| 3 | Priya | 19 | Chennai | 82 |

| 4 | Neha | 21 | Pune | 88 |

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### 🧾 Summary

This mini project demonstrated how to:

- Set up a MySQL environment using XAMPP

- Create and manage a database

- Define and use data types

- Perform CRUD operations (Create, Read, Update)

- Write clean and structured SQL queries

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