1. What is MySQL?

- **MySQL** is a **relational database management system (RDBMS)**.
- It stores data in **tables**, which are like **Excel spreadsheets** with rows and columns.
- It uses **SQL (Structured Query Language)** to interact with the database.

Key terms:

Term	Explanation
Database	A collection of tables
Table	A collection of rows (records)
Row / Record	A single entry in a table
Column / Field	A specific piece of information in a row
Primary Key	Unique identifier for a row

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2. Creating a Database

First, you need to **create a database** to store tables.

```
-- Create a new database

SQL> CREATE DATABASE practice;

-- Use the database

SQL>  USE practice;
```

Explanation:

- `CREATE DATABASE school;` → Makes a new database called `school`.
- `USE school;` → Tells MySQL we want to work inside this database.

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3. Creating a Table

Next, create a table called `records`:

```
SQL> CREATE TABLE records (
    id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(50),
    age INT,
    grade VARCHAR(10)
);
```

Explanation:

- `id INT AUTO_INCREMENT PRIMARY KEY` → Unique number for each student, automatically increases.
- `name VARCHAR(50)` → Stores text up to 50 characters.
- `age INT` → Stores integer numbers.
- `grade VARCHAR(10)` → Stores the student's grade.

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4. Inserting Data into a Table

Add some records:

```
SQL>  INSERT INTO records (name, age, grade) VALUES
('Alice', 15, '9th'),
('Bob', 16, '10th'),
('Charlie', 14, '8th');
```

Explanation:

- `INSERT INTO records (columns) VALUES (values)` → Adds data to the table.
- Each set of parentheses `('Alice', 15, '9th')` is a new row.

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5. Retrieving Data (SELECT)

View the data:

```
-- Get all records
SQL>  SELECT * FROM records;

-- Get only names and grades
SQL>  SELECT name, grade FROM records;


-- Get records older than 15
SQL>  SELECT * FROM records WHERE age > 15;
```

Explanation:

- `SELECT *` → Selects all columns.
- `WHERE` → Filters rows that meet a condition.

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6. Updating Data

Change a student's grade:

```
SQL>  UPDATE records
SET grade = '10th'
WHERE name = 'Alice';
```

Explanation:

- `UPDATE records SET column=value WHERE condition` → Changes data only where the condition is true.

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7. Deleting Data

Remove a student:

```
SQL>  DELETE FROM records
WHERE name = 'Charlie';
```

Explanation:

- `DELETE FROM table WHERE condition` → Deletes rows matching the condition.

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8. Basic MySQL Queries Summary

Operation	SQL Syntax Example
Create DB	`CREATE DATABASE dbname;`
Use DB	`USE dbname;`
Create Table	`CREATE TABLE table_name (column1 datatype, ...);`
Insert	`INSERT INTO table_name (columns) VALUES (values);`
Select	`SELECT * FROM table_name;`
Update	`UPDATE table_name SET column=value WHERE condition;`
Delete	`DELETE FROM table_name WHERE condition;`