**📘 Full MySQL Notes (Post-CASE)**

👨‍💻 With Output (Tabular Format)

**✅ STEP 1: Create Table students & Insert Data**

CREATE TABLE students (

id INT PRIMARY KEY,

name VARCHAR(50),

age INT,

grade VARCHAR(5),

city VARCHAR(50)

);

INSERT INTO students (id, name, age, grade, city) VALUES

(1, 'Rahul', 18, 'A', 'Delhi'),

(2, 'Priya', 19, 'B', 'Mumbai'),

(3, 'Aman', 17, 'A', 'Pune'),

(4, 'Neha', 18, 'C', 'Delhi'),

(5, 'Ravi', 20, 'B', 'Chennai');

**✅ ORDER BY**

SELECT \* FROM students ORDER BY age ASC;

📤 **Output:**

| **id** | **name** | **age** | **grade** | **city** |
| --- | --- | --- | --- | --- |
| 3 | Aman | 17 | A | Pune |
| 1 | Rahul | 18 | A | Delhi |
| 4 | Neha | 18 | C | Delhi |
| 2 | Priya | 19 | B | Mumbai |
| 5 | Ravi | 20 | B | Chennai |

**✅ ORDER BY + LIMIT**

SELECT \* FROM students ORDER BY age DESC LIMIT 3;

📤 **Output:**

| **id** | **name** | **age** | **grade** | **city** |
| --- | --- | --- | --- | --- |
| 5 | Ravi | 20 | B | Chennai |
| 2 | Priya | 19 | B | Mumbai |
| 1 | Rahul | 18 | A | Delhi |

**✅ GROUP BY + COUNT()**

SELECT city, COUNT(\*) AS total\_students

FROM students

GROUP BY city;

📤 **Output:**

| **city** | **total\_students** |
| --- | --- |
| Delhi | 2 |
| Mumbai | 1 |
| Pune | 1 |
| Chennai | 1 |

SELECT grade, COUNT(\*) AS grade\_count

FROM students

GROUP BY grade;

📤 **Output:**

| **grade** | **grade\_count** |
| --- | --- |
| A | 2 |
| B | 2 |
| C | 1 |

**✅ UPDATE Queries**

🔹 **Update Priya's city:**

UPDATE students

SET city = 'Bangalore'

WHERE name = 'Priya';

SELECT name, city FROM students;

📤 **Output:**

| **name** | **city** |
| --- | --- |
| Rahul | Delhi |
| Priya | Bangalore |
| Aman | Pune |
| Neha | Delhi |
| Ravi | Chennai |

🔹 **Increase everyone’s age by 1:**

UPDATE students

SET age = age + 1;

SELECT name, age FROM students;

📤 **Output:**

| **name** | **age** |
| --- | --- |
| Rahul | 19 |
| Priya | 20 |
| Aman | 18 |
| Neha | 19 |
| Ravi | 21 |

**✅ DELETE Queries**

🔹 **Delete Neha:**

DELETE FROM students

WHERE name = 'Neha';

SELECT \* FROM students;

📤 **Output:**

| **id** | **name** | **age** | **grade** | **city** |
| --- | --- | --- | --- | --- |
| 1 | Rahul | 19 | A | Delhi |
| 2 | Priya | 20 | B | Bangalore |
| 3 | Aman | 18 | A | Pune |
| 5 | Ravi | 21 | B | Chennai |

🔹 **Delete students from Delhi:**

DELETE FROM students

WHERE city = 'Delhi';

SELECT \* FROM students;

📤 **Output:**

| **id** | **name** | **age** | **grade** | **city** |
| --- | --- | --- | --- | --- |
| 2 | Priya | 20 | B | Bangalore |
| 3 | Aman | 18 | A | Pune |
| 5 | Ravi | 21 | B | Chennai |

**✅ AGGREGATE FUNCTIONS**

🔹 **Total Age of All Students**

SELECT SUM(age) AS total\_age FROM students;

📤 **Output:**

| **total\_age** |
| --- |
| 59 |

🔹 **Average Age**

SELECT AVG(age) AS average\_age FROM students;

📤 **Output:**

| **average\_age** |
| --- |
| 19.66 |

🔹 **Max & Min Age**

SELECT MAX(age) AS oldest, MIN(age) AS youngest FROM students;

📤 **Output:**

| **oldest** | **youngest** |
| --- | --- |
| 21 | 18 |