1. Database Management

CREATE DATABASE db_name;

-> Creates a new database.

SHOW DATABASES;

-> Lists all databases.

USE db_name;

-> Selects a database.

DROP DATABASE db_name;

-> Deletes a database and its data.

2. Table Management

CREATE TABLE table_name (...);

-> Creates a new table.

SHOW TABLES;

-> Lists all tables.

DESCRIBE table_name;

-> Shows structure of the table.

RENAME TABLE old_name TO new_name;

-> Renames a table.

DROP TABLE table_name;

-> Deletes a table.

3. CRUD Operations

INSERT INTO table_name (col1, col2) VALUES (val1, val2);

-> Inserts a new record.

SELECT * FROM table_name;

-> Reads all records.

UPDATE table_name SET col = val WHERE condition;

-> Updates records.

DELETE FROM table_name WHERE condition;

-> Deletes records.

4. Filtering, Sorting, Limiting

SELECT * FROM table WHERE col = 'value';

-> Filters records by value.

SELECT * FROM table WHERE col LIKE '%val%';

-> Pattern matching.

SELECT * FROM table WHERE col IN (1, 2, 3);

-> Matches any listed value.

SELECT * FROM table ORDER BY col ASC/DESC;

-> Sorts records.

SELECT * FROM table LIMIT 10:

-> Limits the number of results.

5. Joins

SELECT a.*, b.name FROM a JOIN b ON a.b_id = b.id;

-> Inner join for related tables.

LEFT JOIN, RIGHT JOIN

-> Use for left or right table-focused joins.

6. Aggregate Functions

SELECT COUNT(*) FROM table;

-> Counts rows.

SELECT AVG(col) FROM table;

-> Calculates average.

SELECT SUM(col) FROM table;

-> Calculates total.

SELECT MIN(col), MAX(col) FROM table;

-> Gets min and max values.

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-> Groups results by column.

7. Indexes

CREATE INDEX idx_name ON table (column);

-> Creates an index.

DROP INDEX idx_name ON table;

-> Deletes an index.

8. User Management

CREATE USER 'user'@'localhost' IDENTIFIED BY 'pass';

-> Creates a new user.

GRANT ALL PRIVILEGES ON db.* TO 'user'@'localhost';

-> Grants access.

REVOKE ALL PRIVILEGES ON db.* FROM 'user'@'localhost';

-> Revokes access.

DROP USER 'user'@'localhost';

-> Deletes a user.

9. Transactions

START TRANSACTION;

-> Begins a transaction.

COMMIT;

-> Saves changes.

ROLLBACK;

-> Cancels changes.

10. Miscellaneous

SHOW COLUMNS FROM table;

-> Shows column structure.

ALTER TABLE table ADD col datatype;

-> Adds a column.

ALTER TABLE table DROP COLUMN col;

-> Removes a column.

ALTER TABLE table MODIFY col new_datatype;

-> Changes column type.