

SQL (Relational Databases)

Basic Commands

1. Creating a Table:

```
CREATE TABLE table_name ( column1 datatype constraints, column2 datatype constraints, ... );
```

2. Inserting Data:

```
INSERT INTO table_name (column1, column2, ...) VALUES (value1, value2, ...);
```

3. Retrieving Data (SELECT):

```
SELECT column1, column2, ... FROM table_name WHERE condition;
```

4. Updating Data:

```
UPDATE table_name SET column1 = new_value1, column2 = new_value2, ... WHERE condition;
```

5. Deleting Data:

```
DELETE FROM table_name WHERE condition;
```

Intermediate Commands

6. Joining Tables (INNER JOIN):

```
SELECT columns FROM table1 INNER JOIN table2 ON table1.column = table2.column;
```

7. Grouping and Aggregating Data:

```
SELECT column, COUNT(*) FROM table GROUP BY column;
```

8. Filtering Aggregated Data (HAVING):

```
SELECT column, COUNT(*) FROM table GROUP BY column HAVING COUNT(*) > 1;
```

Advanced Commands

9. Subqueries:

```
SELECT column1 FROM table1 WHERE column2 IN (SELECT column3 FROM table2 WHERE condition);
```

10. Creating Indexes:

```
CREATE INDEX index_name ON table_name (column);
```

11. Transactions (BEGIN, COMMIT, ROLLBACK):

```
BEGIN TRANSACTION; -- SQL statements COMMIT; -- or ROLLBACK;
```