Select

```
select * from Employees;        # to select all the columns from the table
select FirstName, LastName from Employees;          # to select specific columns
select * from Products where Price >100;      # we use WHERE clause to filter the rows
Select * from Employees order by LastName;          # we use ORDER BY to sort the results
Select * from Orders Limit 10;                      # use LIMIT to restrict the rows
```

Insert

```
# Inserting a single row
INSERT INTO Employees (first_name, last_name, salary) VALUES ('John', 'Doe', 50000);

# Inserting multiple rows
INSERT INTO Employees (first_name,last_name,salary) VALUES
(‘jassica’,’shinchan’,9000000), (‘Rudhra’,’power’,700000);

# inserting the data from another table
INSERT INTO New_Employees Select * from Employees;

# Insert with default Values
Insert into Customers (customer_name) VALUES ('NEW_CUSTOMERS');

# Inserting with sub querry
INSERT INTO high_salary_employees SELECT * FROM employees WHERE salary > 70000;
```

Update

```
# Updating a single column
update EMPLOYEE set salary=550000 where empId=404;

# updating a column based on the condition
update EMPLOYEE set salary=salary+550000 where empId=404;

#updating based on condition
UPDATE orders SET status = 'Shipped' WHERE order_date < '2023-01-01';

# updating by using subquerry
UPDATE employees SET department_id = 2 WHERE employee_id IN (SELECT employee_id
FROM temporary_employees);
```

```
# Updating with limit
UPDATE EMPLOYEE SET status = 'VIP' WHERE salary > 700 LIMIT 1;
```

Delete

```
# Deleting a specific row
DELETE FROM employees WHERE employee_id = 105;

 # Delete all rows from the table
DELETE FROM temporary_employees;

# Deleting based on a condition
DELETE FROM EMPLOYEE WHERE empId <= 202;

# Delete using subquery
DELETE FROM employees WHERE department_id = (SELECT department_id FROM
obsolete_departments);

# Delete with LIMIT
DELETE FROM EMPLOYEE WHERE empId <= 303 limit 1;
```

Create

```
# creating a new table
create table department(
        dep_id int primary Key,
        dep_name varchar(25)
);


# Create a View
CREATE VIEW high_salary_employees AS SELECT * FROM EMPLOYEE WHERE salary >
700;

#  creating a temporary table
CREATE TEMPORARY TABLE temp_employees AS SELECT * FROM EMPLOYEE WHERE
empId = 303;
```

Alter

```
#Add a new column
ALTER TABLE employees ADD COLUMN birth_date DATE;
```

Modify column data type
ALTER TABLE products ALTER COLUMN price SET DATA TYPE NUMERIC(10,2);

Rename a column
Alter table EMPLOYEE RENAME COLUMN salary to Daily_income;

To Drop a column
Alter table employee drop status;

Drop

To Drop the Table
DROP TABLE departments;

To Drop a View
DROP VIEW high_salary_employees;

#To Drop an Index
DROP INDEX idx_product_name;

To drop the database
DROP DATABASE old_database;

To Drop a Constraints
ALTER TABLE orders DROP CONSTRAINT fk_customer;

Group By

#Group by a single column
SELECT department_id, COUNT(*) FROM employees GROUP BY department_id;

Grouping of multiple columns
SELECT department_id, gender, AVG(salary) FROM employees GROUP BY department_id, gender;

#Group by with having clause
SELECT department_id, COUNT(*) FROM employees GROUP BY department_id HAVING COUNT(*) > 5;

#Group by with aggregate functions
SELECT country, MAX(population), MIN(population) FROM cities GROUP BY country;

Joins

```
# Inner join
SELECT customers.customer_id, orders.order_id FROM customers INNER JOIN orders ON
customers.customer_id = orders.customer_id;

# Left join
SELECT customers.customer_id, orders.order_id FROM customers LEFT JOIN orders ON
customers.customer_id = orders.customer_id;

# Right join
SELECT customers.customer_id, orders.order_id FROM customers RIGHT JOIN orders ON
customers.customer_id = orders.customer_id;

# Full outer join
SELECT customers.customer_id, orders.order_id FROM customers FULL OUTER JOIN orders
ON customers.customer_id = orders.customer_id;

# Self join
SELECT e1.employee_id, e1.manager_id, e2.employee_id AS manager_employee_id
FROM employees e1 INNER JOIN employees e2 ON e1.manager_id = e2.employee_id;
```