SQL(Structural Query Language)

- **Creating table**

```
CREATE TABLE employees (
    emp_id INT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    department VARCHAR(50),
    salary DOUBLE,
    join_date DATE
);
```

	emp_id	name	department	salary	join_date

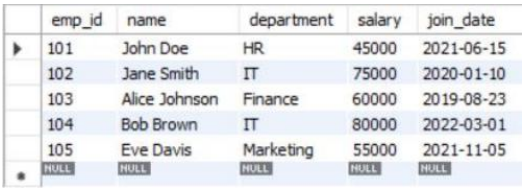
- **Insert query**

```
INSERT INTO employees (emp_id, name, department, salary, join_date) VALUES
(101, 'John Doe', 'HR', 45000, '2021-06-15'),
(102, 'Jane Smith', 'IT', 75000, '2020-01-10'),
(103, 'Alice Johnson', 'Finance', 60000, '2019-08-23'),
(104, 'Bob Brown', 'IT', 80000, '2022-03-01'),
(105, 'Eve Davis', 'Marketing', 55000, '2021-11-05');
```

	emp_id	name	department	salary	join_date
▶	101	John Doe	HR	45000	2021-06-15
	102	Jane Smith	IT	75000	2020-01-10
	103	Alice Johnson	Finance	60000	2019-08-23
	104	Bob Brown	IT	80000	2022-03-01
	105	Eve Davis	Marketing	55000	2021-11-05
*	NULL	NULL	NULL	NULL	NULL

- **Select query**

1) SELECT * FROM employees;



	emp_id	name	department	salary	join_date
▶	101	John Doe	HR	45000	2021-06-15
	102	Jane Smith	IT	75000	2020-01-10
	103	Alice Johnson	Finance	60000	2019-08-23
	104	Bob Brown	IT	80000	2022-03-01
	105	Eve Davis	Marketing	55000	2021-11-05
*	NULL	NULL	NULL	NULL	NULL

2) SELECT name, department FROM employees;

name	department
John Doe	HR
Jane Smith	IT
Alice Johnson	Finance
Bob Brown	IT
Eve Davis	Marketing

3) SELECT * FROM employeesWHERE department = 'IT';

emp_id	name	department	salary	join_date
102	Jane Smith	IT	75000	2020-01-10
104	Bob Brown	IT	80000	2022-03-01
NULL	NULL	NULL	NULL	NULL

- **AND, IN BETWEEN & LIKE**

SELECT * FROM employees
WHERE department = 'IT' AND salary > 75000;

emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees
WHERE department IN ('IT', 'Finance');

emp_id	name	department	salary	join_date
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	80000	2022-03-01
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees
WHERE salary BETWEEN 50000 AND 70000;

emp_id	name	department	salary	join_date
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05
NULL	NULL	NULL	NULL	NULL

SELECT * FROM employees WHERE name LIKE 'J%'; -- Names starting with J

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
NULL	NULL	NULL	NULL	NULL

- **CLAUSE -ORDER BY, WHERE, HAVING**

SELECT * FROM employees
ORDER BY salary DESC;

emp_id	name	department	salary	join_date
104	Bob Brown	IT	80000	2022-03-01
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
105	Eve Davis	Marketing	55000	2021-11-05
101	John Doe	HR	45000	2021-06-15
NULL	NULL	NULL	NULL	NULL

- **UPDATE QUERY**

UPDATE employees
SET salary = 82000
WHERE emp_id = 104;

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	82000	2022-03-01
105	Eve Davis	Marketing	55000	2021-11-05
NULL	NULL	NULL	NULL	NULL

DELETE FROM employees
WHERE emp_id = 105;

emp_id	name	department	salary	join_date
101	John Doe	HR	45000	2021-06-15
102	Jane Smith	IT	75000	2020-01-10
103	Alice Johnson	Finance	60000	2019-08-23
104	Bob Brown	IT	82000	2022-03-01
NULL	NULL	NULL	NULL	NULL

```
SELECT department, AVG(salary) AS avg_salary
FROM employees
GROUP BY department;
```

department	avg_salary
HR	45000
IT	78500
Finance	60000

```
SELECT department, COUNT(*) AS emp_count
FROM employees
GROUP BY department
HAVING COUNT(*) > 1;
```

department	emp_count
IT	2