

# LET'S START WITH SQL :)

## Top SQL Questions asked in interviews

Q. Write the SQL Query to 1.create a database Company, 2.create a table employee in it delete/drop the database

### 1.Create a Database Company

```
CREATE DATABASE company;
```

### 2. Create a table Employee

USE company; -> to tell the server to create table in this DB

```
CREATE TABLE employee(  
employee_id INT PRIMARY KEY,  
first_name VARCHAR(50),  
last_name VARCHAR(50));
```

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## Top SQL Questions asked in interviews

Q. Write the SQL Query to 1. create a database Company, 2. create a table employee in it, delete/drop the database

### 3. Delete the Database company

DROP DATABASE company;

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## Top SQL Questions asked in interviews

Q. Write the SQL Query to 1.create a table employee, 2.Insert data into the table employee  
3. Update Salary for all people in HR department to 20000 4. Delete data for employee  
having empId =1 5. Delete the entire table

### 1. Create a table employee

```
CREATE TABLE employee(  
empId INT PRIMARY KEY,  
name VARCHAR(50),  
department VARCHAR(50),  
salary INT);
```

### 2. Insert data into the table employee

```
INSERT INTO employee(empId,name,department,salary)  
VALUES(1, 'Riti', 'IT', 30000),  
(2, 'Rahul', 'HR' , 15000);
```

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3. Update Salary for all people in HR department to 20000 4. Delete data for employee  
having empId =1 5. Delete the entire table

### 3. Update Salary for all people in HR department to 20000

```
UPDATE employees
```

```
SET salary = 20000
```

```
WHERE department='HR'
```

### 4. Delete data for employee having empId =1

```
DELETE FROM employee
```

```
WHERE empId = 1;
```

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having empId =1 5. Delete the entire table

### 5. Delete the entire table

```
DROP TABLE employee;
```

To delete all the data

```
DELETE FROM employee;
```

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## Top SQL Questions asked in interviews

Q. Write a query to find the total number of employees working in the 'IT' department'.

**Query :**

```
SELECT COUNT(*) FROM employee  
WHERE department = 'IT';
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

COUNT(\*) is a SQL aggregate function that returns the total number of rows in a specified table or query. It counts all the rows, regardless of whether they contain NULL values or not.

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## Top SQL Questions asked in interviews

Q. Write a query to find all the employees that have their name starting from 'R'

**Query :**

```
SELECT * FROM employee WHERE  
name LIKE 'R%';
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

LIKE– It is used to search for a specified pattern in a column

We use '%' and '\_' for searching patterns

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## Top SQL Questions asked in interviews

Condition	Query
Name start with A	LIKE 'A%'
Name contain ra	LIKE '%ra%'
Name start with 'A' and have exactly five characters	LIKE 'A____'
Name has a as second character	LIKE '_a%'



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## Top SQL Questions asked in interviews

Q. Write a query to find unique salaries in employee table

**Query :**

```
SELECT DISTINCT salary  
FROM employee;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

DISTINCT– It is used to retrieve unique records from a table

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## Top SQL Questions asked in interviews

Q. Write a query to find the second highest salary in a table

**Query :**

```
SELECT MAX(salary)
FROM employee
WHERE salary <> (SELECT
MAX(salary) FROM employee);
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

MAX– gives the aggregated max value from a column

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## Top SQL Questions asked in interviews

Q. Write a query to find the nth highest salary in a table

**Query :**

```
SELECT DISTINCT Salary  
FROM employee  
ORDER BY Salary DESC  
LIMIT n-1, 1;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

**ORDER BY** – Order the salary in descending/ascending order

**LIMIT m, n**– It helps to retrieve a specific range of rows

m– number of rows to skip from the beginning

n– number of rows to fetch after skipping

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## Top SQL Questions asked in interviews

Q. Write a query to find the top 2 salaries from a table

**Query :**

```
SELECT salary  
FROM employee  
ORDER BY salary DESC  
LIMIT 2;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400

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## Top SQL Questions asked in interviews

Q. Write a query to calculate the total salary and average salary in a department

**Query :**

```
SELECT department, SUM(salary) AS  
total_salary, AVG(salary) AS avg_salary  
FROM employee  
GROUP BY department;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

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## Top SQL Questions asked in interviews

Q. Write a query to find the rows where a department has NULL values

**Query :**

```
SELECT *FROM employee  
WHERE department IS NULL;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
5	Raj	24	'Finance'	'Indore'	1500

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## Top SQL Questions asked in interviews

Q. Write a query to find the duplicate rows in employee for column department.

**Query :**

```
SELECT department, COUNT(*)  
FROM employee  
GROUP BY department  
HAVING COUNT(*) > 1;
```

id	name	age	departmen	city	salary
1	Rahul	25	'IT'	'Mumbai'	1500
2	Afsara	26	'HR'	'Pune'	2000
3	Abhimanyu	27	'IT'	'Mumbai'	2500
4	Aditya	25	'Marketing'	'Surat'	2400
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## Top SQL Questions asked in interviews

### Q. What is SQL?

→ SQL stands for Structured Query Language

It is a standard language used for managing and manipulating databases.

### Q. What is the difference between DELETE and TRUNCATE

→ DELETE removes rows from a table based on a condition and can be rolled back.

while, TRUNCATE removes all rows from a table without logging individual row deletions and cannot be rolled back.



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## Top SQL Questions asked in interviews

**Q. What is UNION and UNION ALL.**

→ UNION combines the results of two queries and removes duplicate rows.

while, UNION ALL combines the results of two queries and includes all duplicates.

**Q. What is a stored procedure?**

→ A stored procedure is a prepared SQL code that you can save and reuse in other queries.

**Q. What is difference between CHAR() and VARCHAR()**

→ CHAR is used when we have data with a fixed length

while, VARCHAR is used when we have data with variable length

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## Top SQL Questions asked in interviews

### Q. Explain the types of JOINS in SQL?

- INNER JOIN: It returns all records that have matching values in both tables.
- LEFT OUTER JOIN: It returns all records from the left table, and the matched records from the right table.
- RIGHT OUTER JOIN : It returns all records from the right table, and the matched records from the left table.
- FULL OUTER JOIN: It returns all records when there is a match in either left or right table.
- CROSS JOIN: It returns the Cartesian product of the two tables.
- SELF JOIN : A join where a table is joined with itself.

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## Top SQL Questions asked in interviews

### Q. What is NULL in SQL?

→ It is used to handle NULL values. It is used to indicate that a data value does not exist in the database.

### Q. What is a foreign key?

→ A foreign key is a key that helps in establishing a relationship between the two tables.

It uniquely identifies a row of another table. A foreign key is a key in one table, that refers to the primary key in another table.

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## Top SQL Questions asked in interviews

### Q. What is a primary key?

→ A primary key is a unique identifier/key which uniquely identifies all record in a table/relation.

It must contain unique values and cannot contain NULL values.(UNIQUE+NOT NULL)

### Q. What is the difference between WHERE and HAVING

→ WHERE is used to filter records before any groupings are made.

while, HAVING is used to filter records after groupings are made.

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## Top SQL Questions asked in interviews

### Q. What is the view in SQL?

→ Views are a kind of virtual table in SQL

### Q. What is DEFAULT constraint

→ Whenever we need to fill a column with default and fixed values we use DEFAULT, like set the default salary as 0 where salary is null.

### Q. What is an ALIAS command in SQL

→ These are temporary names given to a table or column which is just a temporary change i.e the table name does not change in the original database.