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Let's prepare sample data for SQL practice.

Sample Table – Worker

WORKER_ID	FIRST_NAME	LAST_NAME	SALARY	JOINING_DATE	DEPARTMENT
001	Monika	Arora	100000	2014-02-20 09:00:00	HR
002	Niharika	Verma	80000	2014-06-11 09:00:00	Admin
003	Vishal	Singhal	300000	2014-02-20 09:00:00	HR
004	Amitabh	Singh	500000	2014-02-20 09:00:00	Admin
005	Vivek	Bhati	500000	2014-06-11 09:00:00	Admin
006	Vipul	Diwan	200000	2014-06-11 09:00:00	Account
007	Satish	Kumar	75000	2014-01-20 09:00:00	Account
008	Geetika	Chauhan	90000	2014-04-11 09:00:00	Admin

Sample Table – Bonus

WORKER_REF_ID	BONUS_DATE	BONUS_AMOUNT
1	2016-02-20 00:00:00	5000
2	2016-06-11 00:00:00	3000
3	2016-02-20 00:00:00	4000
1	2016-02-20 00:00:00	4500
2	2016-06-11 00:00:00	3500

Sample Table – Title

WORKER_REF_ID	WORKER_TITLE	AFFECTED_FROM
1	Manager	2016-02-20 00:00:00
2	Executive	2016-06-11 00:00:00
8	Executive	2016-06-11 00:00:00
5	Manager	2016-06-11 00:00:00
4	Asst. Manager	2016-06-11 00:00:00
7	Executive	2016-06-11 00:00:00
6	Lead	2016-06-11 00:00:00
3	Lead	2016-06-11 00:00:00

To prepare the sample data, you can run the following queries in your database query executor or on the SQL command line. We've tested them with MySQL Server 5.7 and MySQL Workbench 6.3.8 query browser. You can also download these tools and install them to execute the SQL queries.

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[15 Interview questions on leadership with answers](#)

SQL Script to Seed Sample Data.

```
CREATE DATABASE ORG;
SHOW DATABASES;
USE ORG;

CREATE TABLE Worker (
    WORKER_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,
    FIRST_NAME CHAR(25),
    LAST_NAME CHAR(25),
    SALARY INT(15),
    JOINING_DATE DATETIME,
    DEPARTMENT CHAR(25)
);

INSERT INTO Worker
(WORKER_ID, FIRST_NAME, LAST_NAME, SALARY, JOINING_DATE,
DEPARTMENT) VALUES
    (001, 'Monika', 'Arora', 100000, '14-02-20 09.00.00', 'HR'),
    (002, 'Niharika', 'Verma', 80000, '14-06-11 09.00.00', 'Admin'),
    (003, 'Vishal', 'Singhal', 300000, '14-02-20 09.00.00', 'HR'),
    (004, 'Amitabh', 'Singh', 500000, '14-02-20 09.00.00', 'Admin'),
    (005, 'Vivek', 'Bhati', 500000, '14-06-11 09.00.00', 'Admin'),
    (006, 'Vipul', 'Diwan', 200000, '14-06-11 09.00.00', 'Account'),
    (007, 'Satish', 'Kumar', 75000, '14-01-20 09.00.00', 'Account'),
    (008, 'Geetika', 'Chauhan', 90000, '14-04-11 09.00.00', 'Admin');

CREATE TABLE Bonus (
    WORKER_REF_ID INT,
    BONUS_AMOUNT INT(10),
    BONUS_DATE DATETIME,
    FOREIGN KEY (WORKER_REF_ID)
        REFERENCES Worker(WORKER_ID)
    ON DELETE CASCADE
);

INSERT INTO Bonus
(WORKER_REF_ID, BONUS_AMOUNT, BONUS_DATE) VALUES
    (001, 5000, '16-02-20'),
    (002, 3000, '16-06-11'),
    (003, 4000, '16-02-20'),
    (001, 4500, '16-02-20'),
    (002, 3500, '16-06-11');
```

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```
CREATE TABLE Title (
    WORKER_REF_ID INT,
```

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```
        WORKER_TITLE CHAR(25),
        AFFECTED_FROM DATETIME,
        FOREIGN KEY (WORKER_REF_ID)
            REFERENCES Worker(WORKER_ID)
        ON DELETE CASCADE
    );

INSERT INTO Title
    (WORKER_REF_ID, WORKER_TITLE, AFFECTED_FROM) VALUES
    (001, 'Manager', '2016-02-20 00:00:00'),
    (002, 'Executive', '2016-06-11 00:00:00'),
    (008, 'Executive', '2016-06-11 00:00:00'),
    (005, 'Manager', '2016-06-11 00:00:00'),
    (004, 'Asst. Manager', '2016-06-11 00:00:00'),
    (007, 'Executive', '2016-06-11 00:00:00'),
    (006, 'Lead', '2016-06-11 00:00:00'),
    (003, 'Lead', '2016-06-11 00:00:00');
```

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Once the above SQL would run, you'll see a result similar to the one attached below.

Creating Sample Data to Practice SQL Skill.

Start practice with 50 SQL query interview questions.

Q-1. Write an SQL query to fetch “FIRST_NAME” from the Worker table using the alias name <WORKER_NAME>.

Ans.

The required query is:

```
Select FIRST_NAME AS WORKER_NAME from Worker;
```

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Q-2. Write an SQL query to fetch “FIRST_NAME” from the Worker table in upper case.

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Ans.

The required query is:

```
Select upper(FIRST_NAME) from Worker;
```

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Q-3. Write an SQL query to fetch unique values of DEPARTMENT from the Worker table.

Ans.

The required query is:

```
Select distinct DEPARTMENT from Worker;
```

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Q-4. Write an SQL query to print the first three characters of FIRST_NAME from the Worker table.

Ans.

The required query is:

```
Select substring(FIRST_NAME,1,3) from Worker;
```

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Q-5. Write an SQL query to find the position of the alphabet ('a') in the first name column 'Amitabh' from the Worker table.

Ans.

The required query is:

```
Select INSTR(FIRST_NAME, BINARY'a') from Worker where FIRST_NAME = 'Amitabh';
```

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Notes.

- The INSTR does a case-insensitive search.
- Using the BINARY operator will make INSTR work as the case-sensitive function.

Q-6. Write an SQL query to print the FIRST_NAME from the Worker table after removing white spaces from the right side.

Ans.

The required query is:

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```
Select RTRIM(FIRST_NAME) from Worker;
```

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Q-7. Write an SQL query to print the DEPARTMENT from the Worker table after removing white spaces from the left side.

Ans.

The required query is:

```
Select LTRIM(DEPARTMENT) from Worker;
```

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Q-8. Write an SQL query that fetches the unique values of DEPARTMENT from the Worker table and prints its length.

Ans.

The required query is:

```
Select distinct length(DEPARTMENT) from Worker;
```

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Q-9. Write an SQL query to print the FIRST_NAME from the Worker table after replacing 'a' with 'A'.

Ans.

The required query is:

```
Select REPLACE(FIRST_NAME, 'a', 'A') from Worker;
```

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Q-10. Write an SQL query to print the FIRST_NAME and LAST_NAME from the Worker table into a single column COMPLETE_NAME. A space char should separate them.

Ans.

The required query is:

```
Select CONCAT(FIRST_NAME, ' ', LAST_NAME) AS 'COMPLETE_NAME' from Worker;
```

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Q-11. Write an SQL query to print all Worker details from the Worker table order by FIRST_NAME Ascending.

Ans.

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The required query is:

```
Select * from Worker order by FIRST_NAME asc;
```

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Q-12. Write an SQL query to print all Worker details from the Worker table order by FIRST_NAME Ascending and DEPARTMENT Descending.

Ans.

The required query is:

```
Select * from Worker order by FIRST_NAME asc,DEPARTMENT desc;
```

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Q-13. Write an SQL query to print details for Workers with the first names “Vipul” and “Satish” from the Worker table.

Ans.

The required query is:

```
Select * from Worker where FIRST_NAME in ('Vipul','Satish');
```

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Q-14. Write an SQL query to print details of workers excluding first names, “Vipul” and “Satish” from the Worker table.

Ans.

The required query is:

```
Select * from Worker where FIRST_NAME not in ('Vipul','Satish');
```

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Q-15. Write an SQL query to print details of Workers with DEPARTMENT name as “Admin”.

Ans.

The required query is:

```
Select * from Worker where DEPARTMENT like 'Admin%';
```

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Q-16. Write an SQL query to print details of the Workers whose FIRST_NAME contains ‘a’.

Ans.

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The required query is:

```
Select * from Worker where FIRST_NAME like 'a%';
```

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Q-17. Write an SQL query to print details of the Workers whose FIRST_NAME ends with 'a'.

Ans.

The required query is:

```
Select * from Worker where FIRST_NAME like '%a';
```

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Q-18. Write an SQL query to print details of the Workers whose FIRST_NAME ends with 'h' and contains six alphabets.

Ans.

The required query is:

```
Select * from Worker where FIRST_NAME like '_____h';
```

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Q-19. Write an SQL query to print details of the Workers whose SALARY lies between 100000 and 500000.

Ans.

The required query is:

```
Select * from Worker where SALARY between 100000 and 500000;
```

Copy

Q-20. Write an SQL query to print details of the Workers who joined in Feb'2014.

Ans.

The required query is:

```
Select * from Worker where year(JOINING_DATE) = 2014 and month(JOINING_DATE) = 2;
```

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Q-21. Write an SQL query to fetch the count of employees working in the department 'Admin'.

Ans.

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The required query is:

```
SELECT COUNT(*) FROM worker WHERE DEPARTMENT = 'Admin';
```

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At this point, you have acquired a good understanding of the basics of SQL, let's move on to some more intermediate-level SQL query interview questions. These questions will require us to use more advanced SQL syntax and concepts, such as GROUP BY, HAVING, and ORDER BY.

Q-22. Write an SQL query to fetch worker names with salaries ≥ 50000 and ≤ 100000 .

Ans.

The required query is:

```
SELECT CONCAT(FIRST_NAME, ' ', LAST_NAME) As Worker_Name, Salary
FROM worker
WHERE WORKER_ID IN
(SELECT WORKER_ID FROM worker
WHERE Salary BETWEEN 50000 AND 100000);
```

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Q-23. Write an SQL query to fetch the no. of workers for each department in descending order.

Ans.

The required query is:

```
SELECT DEPARTMENT, count(WORKER_ID) No_Of_Workers
FROM worker
GROUP BY DEPARTMENT
ORDER BY No_Of_Workers DESC;
```

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Q-24. Write an SQL query to print details of the Workers who are also Managers.

Ans.

The required query is:

```
SELECT DISTINCT W.FIRST_NAME, T.WORKER_TITLE
FROM Worker W
INNER JOIN Title T
ON W.WORKER_ID = T.WORKER_REF_ID
AND T.WORKER_TITLE in ('Manager');
```

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Q-25. Write an SQL query to fetch duplicate records having matching data in some fields of a table.

Ans.

The required query is:

```
SELECT WORKER_TITLE, AFFECTED_FROM, COUNT(*)  
FROM Title  
GROUP BY WORKER_TITLE, AFFECTED_FROM  
HAVING COUNT(*) > 1;
```

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Q-26. Write an SQL query to show only odd rows from a table.

Ans.

The required query is:

```
SELECT * FROM Worker WHERE MOD (WORKER_ID, 2) <> 0;
```

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Q-27. Write an SQL query to show only even rows from a table.

Ans.

The required query is:

```
SELECT * FROM Worker WHERE MOD (WORKER_ID, 2) = 0;
```

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Q-28. Write an SQL query to clone a new table from another table.

Ans.

The general query to clone a table with data is:

```
SELECT * INTO WorkerClone FROM Worker;
```

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The general way to clone a table without information is:

```
SELECT * INTO WorkerClone FROM Worker WHERE 1 = 0;
```

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An alternate way to clone a table (for MySQL) without data is:

```
CREATE TABLE WorkerClone LIKE Worker;
```

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Q-29. Write an SQL query to fetch intersecting records of two tables.

Ans.

The required query is:

```
(SELECT * FROM Worker)  
INTERSECT  
(SELECT * FROM WorkerClone);
```

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Q-30. Write an SQL query to show records from one table that another table does not have.

Ans.

The required query is:

```
SELECT * FROM Worker  
MINUS  
SELECT * FROM Title;
```

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Q-31. Write an SQL query to show the current date and time.

Ans.

The following MySQL query returns the current date:

```
SELECT CURDATE();
```

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And the following MySQL query returns the current date and time:

```
SELECT NOW();
```

Copy

Here is a SQL Server query that returns the current date and time:

```
SELECT getdate();
```

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Find this Oracle query that also returns the current date and time:

```
SELECT SYSDATE FROM DUAL;
```

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Q-32. Write an SQL query to show the top n (say 10) records of a table.

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Ans.

MySQL query to return the top n records using the LIMIT method:

```
SELECT * FROM Worker ORDER BY Salary DESC LIMIT 10;
```

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SQL Server query to return the top n records using the TOP command:

```
SELECT TOP 10 * FROM Worker ORDER BY Salary DESC;
```

Copy

Oracle query to return the top n records with the help of ROWNUM:

```
SELECT * FROM (SELECT * FROM Worker ORDER BY Salary DESC)
WHERE ROWNUM <= 10;
```

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Now, you should have a solid foundation in intermediate SQL, let's take a look at some more advanced SQL query questions. These questions will require us to use more complex SQL syntax and concepts, such as nested queries, joins, unions, and intersects.

Q-33. Write an SQL query to determine the nth (say n=5) highest salary from a table.

Ans.

MySQL query to find the nth highest salary:

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

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SQL Server query to find the nth highest salary:

```
SELECT TOP 1 Salary
FROM (
    SELECT DISTINCT TOP n Salary
    FROM Worker
    ORDER BY Salary DESC
)
ORDER BY Salary ASC;
```

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Q-34. Write an SQL query to determine the 5th highest salary without using the TOP or limit method.

Ans.

The following query is using the correlated subquery to return the 5th highest salary:

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```
SELECT Salary
FROM Worker W1
WHERE 4 = (
  SELECT COUNT( DISTINCT ( W2.Salary ) )
  FROM Worker W2
  WHERE W2.Salary >= W1.Salary
);
```

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Use the following generic method to find the nth highest salary without using TOP or limit.

```
SELECT Salary
FROM Worker W1
WHERE n-1 = (
  SELECT COUNT( DISTINCT ( W2.Salary ) )
  FROM Worker W2
  WHERE W2.Salary >= W1.Salary
);
```

Copy

Q-35. Write an SQL query to fetch the list of employees with the same salary.

Ans.

The required query is:

```
Select distinct W.WORKER_ID, W.FIRST_NAME, W.Salary
from Worker W, Worker W1
where W.Salary = W1.Salary
and W.WORKER_ID != W1.WORKER_ID;
```

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Q-36. Write an SQL query to show the second-highest salary from a table.

Ans.

The required query is:

```
Select max(Salary) from Worker
where Salary not in (Select max(Salary) from Worker);
```

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Q-37. Write an SQL query to show one row twice in the results from a table.

Ans.

The required query is:

```
select FIRST_NAME, DEPARTMENT from worker W where W.DEPARTMENT='HR'
union all
```

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```
select FIRST_NAME, DEPARTMENT from Worker W1 where W1.DEPARTMENT='HR';
```

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Q-38. Write an SQL query to fetch intersecting records of two tables.

Ans.

The required query is:

```
(SELECT * FROM Worker)  
INTERSECT  
(SELECT * FROM WorkerClone);
```

Copy

Q-39. Write an SQL query to fetch the first 50% of records from a table.

Ans.

The required query is:

```
SELECT *  
FROM WORKER  
WHERE WORKER_ID <= (SELECT count(WORKER_ID)/2 from Worker);
```

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Practicing SQL query interview questions is a great way to improve your understanding of the language and become more proficient in using it. However, in addition to improving your technical skills, practicing SQL query questions can also help you to advance your career. Many employers are looking for candidates who have strong SQL skills, so being able to demonstrate your proficiency in the language can give you a competitive edge.

Q-40. Write an SQL query to fetch the departments that have less than five people in them.

Ans.

The required query is:

```
SELECT DEPARTMENT, COUNT(WORKER_ID) as 'Number of Workers' FROM Worker GROUP  
BY DEPARTMENT HAVING COUNT(WORKER_ID) < 5;
```

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Q-41. Write an SQL query to show all departments along with the number of people in there.

Ans.

The following query returns the expected result:

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```
SELECT DEPARTMENT, COUNT(DEPARTMENT) as 'Number of Workers' FROM Worker  
GROUP BY DEPARTMENT;
```

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Q-42. Write an SQL query to show the last record from a table.

Ans.

The following query will return the last record from the Worker table:

```
Select * from Worker where WORKER_ID = (SELECT max(WORKER_ID) from Worker);
```

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Q-43. Write an SQL query to fetch the first row of a table.

Ans.

The required query is:

```
Select * from Worker where WORKER_ID = (SELECT min(WORKER_ID) from Worker);
```

Copy

Q-44. Write an SQL query to fetch the last five records from a table.

Ans.

The required query is:

```
SELECT * FROM Worker WHERE WORKER_ID <=5  
UNION  
SELECT * FROM (SELECT * FROM Worker W order by W.WORKER_ID DESC) AS W1  
WHERE W1.WORKER_ID <=5;
```

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Q-45. Write an SQL query to print the name of employees having the highest salary in each department.

Ans.

The required query is:

```
SELECT t.DEPARTMENT,t.FIRST_NAME,t.Salary from (SELECT max(Salary) as  
TotalSalary,DEPARTMENT from Worker group by DEPARTMENT) as TempNew  
Inner Join Worker t on TempNew.DEPARTMENT=t.DEPARTMENT  
and TempNew.TotalSalary=t.Salary;
```

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Q-46. Write an SQL query to fetch three max salaries from a table.

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Ans.

The required query is:

```
SELECT distinct Salary from worker a WHERE 3 >= (SELECT count(distinct Salary) from worker b WHERE a.Salary <= b.Salary) order by a.Salary desc;
```

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Q-47. Write an SQL query to fetch three min salaries from a table.

Ans.

The required query is:

```
SELECT distinct Salary from worker a WHERE 3 >= (SELECT count(distinct Salary) from worker b WHERE a.Salary >= b.Salary) order by a.Salary desc;
```

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Q-48. Write an SQL query to fetch nth max salaries from a table.

Ans.

The required query is:

```
SELECT distinct Salary from worker a WHERE n >= (SELECT count(distinct Salary) from worker b WHERE a.Salary <= b.Salary) order by a.Salary desc;
```

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Q-49. Write an SQL query to fetch departments along with the total salaries paid for each of them.

Ans.

The required query is:

```
SELECT DEPARTMENT, sum(Salary) from worker group by DEPARTMENT;
```

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Q-50. Write an SQL query to fetch the names of workers who earn the highest salary.

Ans.

The required query is:

```
SELECT FIRST_NAME, SALARY from Worker WHERE SALARY=(SELECT max(SALARY) from Worker);
```

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