Top 50 Interview Questions on SQL

Sunday, November 16, 2025 12:12 PM

Table and its data:

```
Select * from emp;

 EMPNO ENAME      JOB              MGR HIREDATE         SAL       COMM     DEPTNO
------ ---------- --------- ---------- --------- ---------- ---------- ----------
  7369 SMITH      CLERK          7902 17-DEC-80        800                    20
  7499 ALLEN      SALESMAN       7698 20-FEB-81       1600        300         30
  7521 WARD       SALESMAN       7698 22-FEB-81       1250        500         30
  7566 JONES      MANAGER        7839 02-APR-81       2975                    20
  7654 MARTIN     SALESMAN       7698 28-SEP-81       1250       1400         30
  7698 BLAKE      MANAGER        7839 01-MAY-81       2850                    30
  7782 CLARK      MANAGER        7839 09-JUN-81       2450                    10
  7788 SCOTT      ANALYST        7566 19-APR-87       3000                    20
  7839 KING       PRESIDENT           17-NOV-81       5000                    10
  7844 TURNER     SALESMAN       7698 08-SEP-81       1500          0         30
  7876 ADAMS      CLERK          7788 23-MAY-87       1100                    20
  7900 JAMES      CLERK          7698 03-DEC-81        950                    30
  7902 FORD       ANALYST        7566 03-DEC-81       3000                    20
  7934 MILLER     CLERK          7782 23-JAN-82       1300                    10


 select * from dept;

DEPTNO DNAME          LOC
------ -------------- -------------
    10 ACCOUNTING     NEW YORK
    20 RESEARCH       DALLAS
    30 SALES          CHICAGO
    40 OPERATIONS     BOSTON
```

1.How to retrieve the second highest salary of employee ?

Method 1 (by using Sub-query):

```
select max(sal) from emp where sal< (select max(sal) from emp);
```

Method 2 (by using Sub-query):

```
select max(sal) from emp where sal NOT IN(select max(sal) from emp);
```

Method 3 (by using correlated sub query):

```
 select distinct(sal) from emp e1
 where (select count(distinct sal) from emp e2 where e1.sal<=e2.sal) =2;
```

Method 4 (by using Window function):

```
select  distinct(ranking), sal from
(
select sal,
dense_rank() over(order by sal desc) as ranking
from emp
)
where ranking=2;
```

2.How to get the nth highest salary ?

Method 1 (by using correlated sub query):

```
select distinct(sal) from emp e1
where (select count(distinct sal) from emp e2 where e1.sal<=e2.sal) =n;
```

Method 2 (by using Window function):

```
select sal from
(
select sal,
dense_rank() over(order by sal desc) as ranking
from emp
)
where ranking=n;
```

Note: In place of n we need to write nth position

3.How to get the one or more nth highest salary ?
Eg: 4th and 5th highest salary

Method 1 (by using correlated sub query):

```
select distinct(sal) from emp e1
 where (select count(distinct sal) from emp e2 where e1.sal<=e2.sal)
in (4,5);
```

Method 2 (by using Window function):

```
select sal from
(
select sal,
dense_rank() over(order by sal desc) as ranking
from emp
)
where ranking in (4,5);
```

4 . How do you fetch all employees whose salary is greater than the average salary?

Method 1 (by using Sub-query):

```
select * from emp
where sal >(select avg(sal) from emp);
```

Method 2 (by using Window function):

```
select * from
(
select emp.*,
avg(sal) over() as avg_sal
from emp
)
where sal>=avg_sal;
```

5. How to find the duplicate record in a table ?

Method 1 (by using group and having clause):

```
 select ename,count(*) from emp
 group by ename
having count(*)>=2;
```

Method 2 (by using Window function):

```
select * from
(
select emp.*,
count(*) over(partition by ename) as counting
from emp
)
where counting>=2;
```

6.How do you delete the duplicate records ?

```
DELETE FROM emp
WHERE ROWID IN (
   SELECT rid
   FROM (
      SELECT ROWID AS rid,
           ROW_NUMBER() OVER (PARTITION BY ename ORDER BY ename) AS ranking
      FROM emp
   )
   WHERE ranking >= 2
```

```
);
```

7.How do get common records from two tables ?

```
Select * from emp1
Intersect
Select * from emp2;
```

8.How do you fetch the top 5 records from the table ?

```
select * from
 (
 select emp.*,
 row_number() over(order by empno) as ranking
 from emp
 )
 where ranking<=5;
```

9.How do you fetch the top 5 highest salary records from the table ?

```
select * from
(
select emp.*,
row_number() over(order by sal desc) ranking
from emp
)
where ranking<=5;
```

10.How do you fetch the bottom 5 records from the table ?

```
select * from
(
select emp.*,
row_number() over(order by empno) as ranking
from emp
)
where ranking>(select count(*)-5 from emp);
```

11.How do you fetch the top 5 lowest salary records from the table ?

```
select * from
```

```
(
select emp.*,
row_number() over(order by sal asc) ranking
from emp
)
where ranking<=5;
```

12.How do you fetch the first and last records from the table ?

```
select * from
 (
 select emp.*,
 row_number() over(order by empno) as ranking
 from emp
 )
 where ranking in (1,(select count(*) from emp) );
```

13.How do you fetch the even number of records from the table ?

```
 select * from
  (
  select emp.*,
  row_number() over(order by empno) as ranking
  from emp
  )
  where mod(ranking,2)=0;
```

14.How do you fetch the odd number of records from the table ?

```
 select * from
  (
  select emp.*,
  row_number() over(order by empno) as ranking
  from emp
  )
  where mod(ranking,2)=1;
```

15.How to calculate the max, min, total and average salary of all employees ?

```
Select max(sal) , min(sal), sum(sal) ,avg(sal) from emp;
```

16.How to calculate the max,min, total, avg salary of all employees From each department ?

```
Select deptno,max(sal) , min(sal), sum(sal) ,avg(sal) from emp
 group by deptno;
```

17.How to display details of employees whose salary is greater than avg salary ?

```
select * from
(
select emp.*,
avg(sal) over() as avg_sal
from emp
)
where sal>avg_sal;
```

18.How to display details of employees whose salary is greater than avg salary from each department ?

Method (by using Window function):

```
select * from
(
select emp.*,
avg(sal) over(partition by deptno) as avg_sal
from emp
)
where sal>avg_sal;
```

19.How to display details of employees whose salary is maximum from each department ?

Method 1 (by using Window function):

```
 select * from
 (
 select emp.*,
 row_number() over(partition by deptno order by sal desc) ranking
 from emp
 )
where ranking=1;
```

Method 2 (by using correlated subquery):

```
select * from emp e1
where sal=(select max(sal) from emp e2 where e1.deptno=e2.deptno);
```

20.How to display details of employees whose salary is 2nd highest salary from each department ?

Method (by using Window function):

```
select * from
(
select emp.*,
dense_rank() over(partition by deptno order by sal desc) ranking
from emp
)
where ranking=2;
```

21.write a query to display details of emp with percentage according to salary ?

Method 1 (by using aggregate function):

```
select * from
(
select emp.*,
round(sal/(select sum(sal) from emp)*100 , 2)||'%'  as percentage
from emp)
;
```

Method 2 (by using Window function):

```
select * from
 (
 select emp.*,
  round(sal/(sum(sal) over() )*100 , 2)||'%'  as percentage
 from emp)
 ;
```

22.write a query to display details of emp with percentage according to salary from each department?

Method (by using Window function):

```
select * from
 (
```

```
select emp.*,
 round(sal/(sum(sal) over(partition by deptno) )*100 , 2)||'%'  as percentage
from emp)
;
```

23.write a query to display details of emp with percentage according to salary from each department Where percentage is > 20%;

Method (by using Window function):

```
select * from
 (
 select emp.*,
  round(sal/(sum(sal) over(partition by deptno) )*100 , 2)  as percentage
 from emp
 )
 where percentage>20;
```

24.write a query to display the sum of salary from each Month

```
select to_char(hiredate,'mon') as month , sum(sal)
from emp
group by to_char(hiredate,'mon');
```

25.write a query to display the sum of salary from each year

```
select to_char(hiredate,'yyyy') as year , sum(sal)
from emp
group by to_char(hiredate,'yyyy');
```

26.write a query to display the sum of salary from each day

```
select to_char(hiredate,'dy') as day , sum(sal)
from emp
group by to_char(hiredate,'dy');
```

27.write a query to display the sum of salary from weekend

```
select to_char(hiredate,'dy') as day , sum(sal)
from emp
group by to_char(hiredate,'dy')
Having to_char(hiredate,'dy') in ('sun','sat');
```

28.write a query to display the sum of salary from weekday

```
select to_char(hiredate,'dy') as day , sum(sal)
from emp
group by to_char(hiredate,'dy')
Having to_char(hiredate,'dy') not in ('sun','sat');
```

29.write a query to calculate running total

1.Running total with hiredate:

```
select emp.*,
sum(sal) over(order by hiredate) as running_total
from emp;
```

2.Running total with month:

```
select t.*,
sum(saL) over(order by month) as running_total
from
(
select to_char(hiredate,'mon') as month ,sum(sal) as sal
from emp
 group by to_char(hiredate,'mon'))t;
```

3.Running total with year:

```
select t.*,
sum(saL) over(order by month) as running_total
from
(
select to_char(hiredate,'yyyy') as month ,sum(sal) as sal
from emp
 group by to_char(hiredate,'yyyy'))t;
```

30. Write a query to display the employees which have same first name ?

```
select * from emp
where ename in (
select ename from emp
group by ename
having count(*)>=2
);
```

31.Write a query to display employee's Name and dept's name

Method 1 (by using join):

```
select e.ename , d.dname from emp e join dept d
on e.deptno=d.deptno;
```

Method 2 (by using correlated sub query):

```
select e.ename,( select d.dname from dept d where e.deptno=d.deptno)
 from emp e;
```

32.write a query to display the employee's name and their manager's name

```
 select e.ename , m.ename from emp e join emp m
on e.mgr=m.empno;
```

33.write a query to display the employee's name and their manager manager's name

```
select e.ename ,mm.ename from emp e join  emp m
on e.mgr=m.empno join emp mm
on m.mgr=mm.empno;
```

34.write a query to display the employees details who were hired before their manager.

```
select e.* from emp e join emp m
on e.mgr=m.empno
where e.hiredate<m.hiredate;
```

35.write a query to display the employees details who have no their manager

```
select emp.* from emp
where mgr is null;
```

36.write a query to display the hierarchy of manager of any employee.

```
select emp.*,level
from emp
start with empno=7369
connect by prior mgr=empno;
```

37. Write a query to display the employee details where employee's name is start with 's'

```
select ename from emp
where ename like 'S%';
```

38.Write a query to display the employee details where employee's name is end with 's'

```
SELECT * FROM EMP
WHERE ENAME LIKE '%S';
```

39.Write a query to display the employee details where employee's name at last second position there will be 'e' letter.

```
select * from emp
where ename like '%E_';
```

40.Write a query to display the employee details where employee's name is

i. Start with 'a'
ii. End with 's'

```
select * from emp
```

where ename like 'A%S';

41.write a query to find the length of each employee's name

```
select ename , length(ename) from emp;
```

42.write a query to concatenate employee's name and job

```
select ename||' ' || job from emp;
```

43.write a query to reverse the ename

```
select ename,reverse(ename) from emp;
```

43.write a query to find the first and last letter of ename

```
select ename,substr(ename,1,1) as first_letter , substr(ename,-1,1) as last_letter from emp;
```

44.write a query to find the palindrome ename

```
select ename from emp
where ename=reverse(ename);
```

45.write a query to find

i.the ename starts with vowel letter.

```
select ename from emp
where substr(ename ,1,1) in('A','E','I','O','U');
```

ii.the middle ename's letter start with vowel letter

```
select ename from emp
Where  substr(ename,(length(ename)/2)+1,1) in('A','E','I','O','U');
```

46.write a query as given scenario:

i.first letter of ename should be Capital letter

Ii.last letter of ename should be Capital letter

Iii.all middle letter should be small letter

Iv.finally revere all ename col.

Output table:

```
ENAME      OUPUT
---------- ----------
SMITH      HtimS
ALLEN      NellA
WARD       DraW
JONES      SenoJ
MARTIN     NitraM
BLAKE      EkalB
CLARK      KralC
SCOTT      TtocS
KING       GniK
TURNER     RenruT
ADAMS      SmadA
JAMES      SemaJ
FORD       DroF
MILLER     RelliM
```

QUERY:

```
select ename,reverse(upper((substr(ename,1,1)))||lower(substr(ename,2,length(ename)-2))||upper
(substr(ename,length(ename),1))) as ouput from emp;
```

47.write a query according to input and output

Input data:

table name:emp1

```
        ID NAME       GENDER
---------- ---------- ------
         1 Alice      Female
         2 Bob        male
         3 Carol      Female
         4 David      male
         5 Eve        Female
```

Output Table:

```
GENDER PERCENTAGE
------ -------------------------
male   40%
Female 60%
```

QUERY:

```
select gender as Gender , count(*)/(select count(*) from emp1)*100 ||'%' as Percentage
   from emp1
   group by gender;
```

48.write a query to divide the emp table into 3 segment

```
 select emp.*,
 ntile(3) over(order by empno) as segement
from emp;
```

49.write a query according to the scenario :
If sal>=2500 then 'excellent'
Elif 2500<sal >1500 then 'very good'
Else 'good'

```
select empno,ename,sal,case
                when sal>=2500 then 'excellent'
                when sal>=1500 and sal<2500 then 'very good'
                else 'good'
                end as Grading
from emp;
```

50.write a query according to the scenario :
Split the table into 3 segment and assign the group name as first , second and third

Output Table:

EMPNO	ENAME	SAL	GROUPING	GRADING
7369	SMITH	800	1	First
7499	ALLEN	1600	1	First
7521	WARD	1250	1	First
7566	JONES	2975	1	First
7654	MARTIN	1250	1	First
7698	BLAKE	2850	2	Second
7782	CLARK	2450	2	Second
7788	SCOTT	3000	2	Second
7839	KING	5000	2	Second
7844	TURNER	1500	2	Second
7876	ADAMS	1100	3	Third
7900	JAMES	950	3	Third
7902	FORD	3000	3	Third
7934	MILLER	1300	3	Third

Query:

```
select t.*,case
        when grouping=1 then 'First'
        when grouping=2 then 'Second'
        else 'Third'
        end Grading
from
(
 select empno,ename,sal,
 ntile(3) over(order by empno) as grouping
 from emp
)t
;
```