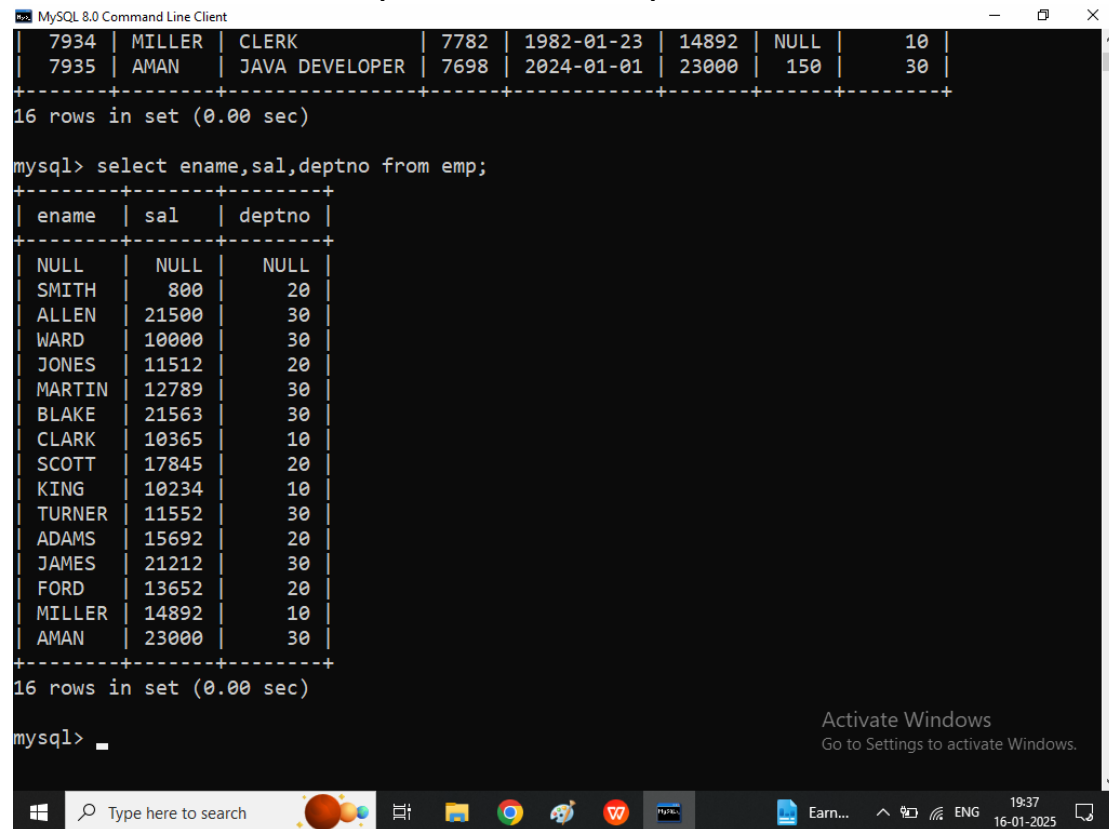


Q1. Write a SQL Query to print name,sal,deptno of all employee?

Ans:

Select name,sal,deptno from emp;



The screenshot shows the MySQL 8.0 Command Line Client interface. At the top, a table of employee data is displayed with columns: empid, ename, job, salary, hiredate, commission_pct, mgr, and deptno. Below this, the command 'mysql> select name,sal,deptno from emp;' is entered. The result shows 16 rows in set (0.00 sec). The output table has columns: ename, sal, and deptno. The data includes employees like SMITH, ALLEN, WARD, JONES, MARTIN, BLAKE, CLARK, SCOTT, KING, TURNER, ADAMS, JAMES, FORD, MILLER, and AMAN, each with their respective salary and department number.

empid	ename	job	salary	hiredate	commission_pct	mgr	deptno
7934	MILLER	CLERK	7782	1982-01-23	14892	NULL	10
7935	AMAN	JAVA DEVELOPER	7698	2024-01-01	23000	150	30

ename	sal	deptno
NULL	NULL	NULL
SMITH	800	20
ALLEN	21500	30
WARD	10000	30
JONES	11512	20
MARTIN	12789	30
BLAKE	21563	30
CLARK	10365	10
SCOTT	17845	20
KING	10234	10
TURNER	11552	30
ADAMS	15692	20
JAMES	21212	30
FORD	13652	20
MILLER	14892	10
AMAN	23000	30

Q2. Write a SQL query to print data of all employee whose deptno is 10?

Select * from emp where deptno=10;

```
MySQL 8.0 Command Line Client

mysql> select * from emp where deptno=10;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job      | mgr  | hiredate | sal   | comm  | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7782  | CLARK  | MANAGER  | 7839 | 1981-06-09 | 10365 | NULL  | 10     |
| 7839  | KING   | PRESIDENT | NULL | 1981-11-17 | 10234 | NULL  | 10     |
| 7934  | MILLER | CLERK     | 7782 | 1982-01-23 | 14892 | NULL  | 10     |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from emp where deptno=20;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job      | mgr  | hiredate | sal   | comm  | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7369  | SMITH  | CLERK     | 7902 | 1980-12-17 | 800   | NULL  | 20     |
| 7566  | JONES  | MANAGER  | 7839 | 1981-04-02 | 11512 | NULL  | 20     |
| 7788  | SCOTT  | ANALYST  | 7566 | 1982-12-09 | 17845 | NULL  | 20     |
| 7876  | ADAMS  | CLERK     | 7788 | 1983-01-12 | 15692 | NULL  | 20     |
| 7902  | FORD   | ANALYST  | 7566 | 1981-12-03 | 13652 | NULL  | 20     |
+-----+-----+-----+-----+-----+-----+-----+-----+
5 rows in set (0.00 sec)

mysql> select * from emp where deptno=30;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job      | mgr  | hiredate | sal   | comm  | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7499  | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 21500 | 150   | 30     |
| 7521  | WARD   | SALESMAN  | 7698 | 1981-02-22 | 10000 | 500   | 30     |
| 7654  | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 12789 | 1400  | 30     |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

Q3. Write a SQL query to print data of all employee whose salary is greater than 15000.

Select * from emp where sal>15000;

```
MySQL 8.0 Command Line Client
7 rows in set (0.00 sec)

mysql> select * from emp where sal>15000;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job      | mgr | hiredate | sal   | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 21500 | 150   | 30      |
| 7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 21563 | NULL  | 30      |
| 7788 | SCOTT  | ANALYST  | 7566 | 1982-12-09 | 17845 | NULL  | 20      |
| 7876 | ADAMS  | CLERK    | 7788 | 1983-01-12 | 15692 | NULL  | 20      |
| 7900 | JAMES  | CLERK    | 7698 | 1981-12-03 | 21212 | NULL  | 30      |
| 7935 | AMAN   | JAVA DEVELOPER | 7698 | 2024-01-01 | 23000 | 150   | 30      |
+-----+-----+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

mysql> select * from emp where sal<15000;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job      | mgr | hiredate | sal   | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7369 | SMITH  | CLERK    | 7902 | 1980-12-17 | 800   | NULL  | 20      |
| 7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 10000 | 500   | 30      |
| 7566 | JONES  | MANAGER  | 7839 | 1981-04-02 | 11512 | NULL  | 20      |
| 7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 12789 | 1400  | 30      |
| 7782 | CLARK  | MANAGER  | 7839 | 1981-06-09 | 10365 | NULL  | 10      |
| 7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 10234 | NULL  | 10      |
| 7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 11552 | 0      | 30      |
| 7902 | FORD   | ANALYST  | 7566 | 1981-12-03 | 13652 | NULL  | 20      |
| 7934 | MILLER | CLERK    | 7782 | 1982-01-23 | 14892 | NULL  | 10      |
+-----+-----+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)
```

Q2. Write a SQL Query to print data of all employee whose job is **CLERK**?

Select * from emp where job='CLERK';

```
MySQL 8.0 Command Line Client
mysql> select * from emp where job='CLERK';
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job   | mgr  | hiredate | sal  | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7369  | SMITH  | CLERK | 7902 | 1980-12-17 | 800  | NULL | 20      |
| 7876  | ADAMS  | CLERK | 7788 | 1983-01-12 | 15692 | NULL | 20      |
| 7900  | JAMES  | CLERK | 7698 | 1981-12-03 | 21212 | NULL | 30      |
| 7934  | MILLER | CLERK | 7782 | 1982-01-23 | 14892 | NULL | 10      |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)

mysql> select * from emp where job='MANAGER';
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job   | mgr  | hiredate | sal  | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7566  | JONES  | MANAGER | 7839 | 1981-04-02 | 11512 | NULL | 20      |
| 7698  | BLAKE  | MANAGER | 7839 | 1981-05-01 | 21563 | NULL | 30      |
| 7782  | CLARK  | MANAGER | 7839 | 1981-06-09 | 10365 | NULL | 10      |
+-----+-----+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from emp where job='SALESMAN';
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job   | mgr  | hiredate | sal  | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7499  | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 21500 | 150  | 30      |
| 7521  | WARD   | SALESMAN | 7698 | 1981-02-22 | 10000 | 500  | 30      |
| 7654  | MARTIN | SALESMAN | 7698 | 1981-09-28 | 12789 | 1400 | 30      |
| 7844  | TURNER | SALESMAN | 7698 | 1981-09-08 | 11552 | 0    | 30      |
+-----+-----+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

Q2. Write a SQL Query to calculate annual salary of all employee?

Select sal, sal*12 from emp;

```
MySQL 8.0 Command Line Client
+-----+-----+
| 13652 | 163824 |
| 14892 | 178704 |
| 23000 | 276000 |
+-----+-----+
16 rows in set (0.01 sec)

mysql> select sal as Monthly_Salary,sal*12 as Annual_Salary from emp;
+-----+-----+
| Monthly_Salary | Annual_Salary |
+-----+-----+
| NULL           | NULL          |
| 800            | 9600          |
| 21500          | 258000        |
| 10000          | 120000        |
| 11512          | 138144        |
| 12789          | 153468        |
| 21563          | 258756        |
| 10365          | 124380        |
| 17845          | 214140        |
| 10234          | 122808        |
| 11552          | 138624        |
| 15692          | 188304        |
| 21212          | 254544        |
| 13652          | 163824        |
| 14892          | 178704        |
| 23000          | 276000        |
+-----+-----+
16 rows in set (0.00 sec)

mysql>
```

Q3. Write a SQL Query to print data of all Male Candidate?

Select * from emp where gender='M';

Q3. Write a SQL Query to print data of all Female Candidate?

Select * from emp where gender='F';

Q1.Explain Aggregate function in SQL?

Ans: An Aggregate function in SQL performs a calculation on a set of values and return single result.Generally it is used with group by clause in SQL

We dicuss following aggregate function in SQL

1. Sum():Returns the total sum of a all values of a numeric column.

Syntax:

Select sum(column name) from
tablename;

Example:

Select sum(sal) from emp;

```
MySQL 8.0 Command Line Client
16 rows in set (0.00 sec)

mysql> select sum(sal) from emp;
+-----+
| sum(sal) |
+-----+
|    216608 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

Activate Windows
Go to Settings to activate Windows.

Type here to search 19°C 20:00 16-01-2025

Example:

1. Write a SQL Query to print sum salary of all employee whose deptno is 10

Select sum(sal) from emp where deptno=10;

2. Write a SQL Query to print sum salary of all employee whose deptno is 20

Select sum(sal) from emp where deptno=20;

3. Write a SQL Query to print sum salary of all employee whose deptno is 30

Select sum(sal) from emp where deptno=30;

4. Write a SQL Query to print sum salary of all employee whose job is Clerk

Select sum(sal) from emp where job='CLERK';

5. Write a SQL Query to print sum salary of all employee whose job is Manager

Select sum(sal) from emp where job='MANAGER';

6. Write a SQL Query to print sum salary of all male employee

Select sum(sal) from emp where gender='M';

7. Write a SQL Query to print sum salary of all female employee

Select sum(sal) from emp where gender='F';

2. Avg(): It will return average value of particular column

Syntax:

Select avg(column) from tablename;

Select avg(sal) from emp;



```
MySQL 8.0 Command Line Client
+-----+
| sum(sal) |
+-----+
| 216608 |
+-----+
1 row in set (0.00 sec)

mysql> select avg(sal) from emp;
+-----+
| avg(sal) |
+-----+
| 14440.533333333333 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

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Windows taskbar: Type here to search, 19°C, 20:09, 16-01-2025

8. Write a SQL Query to print average salary of all employee whose deptno is 10

Select avg(sal) from emp where deptno=10;

9. Write a SQL Query to print average salary of all employee whose deptno is 20

Select avg(sal) from emp where deptno=20;

10. Write a SQL Query to print average salary of all employee whose deptno is 30

Select avg(sal) from emp where deptno=30;

11. Write a SQL Query to print average salary of all employee whose job is Clerk

Select avg(sal) from emp where job='CLERK';

12. Write a SQL Query to print average salary of all employee whose job is Manager

Select avg(sal) from emp where job='MANAGER';

13. Write a SQL Query to print average salary of all male employee

Select avg(sal) from emp where gender='M';

14. Write a SQL Query to print average salary of all female employee

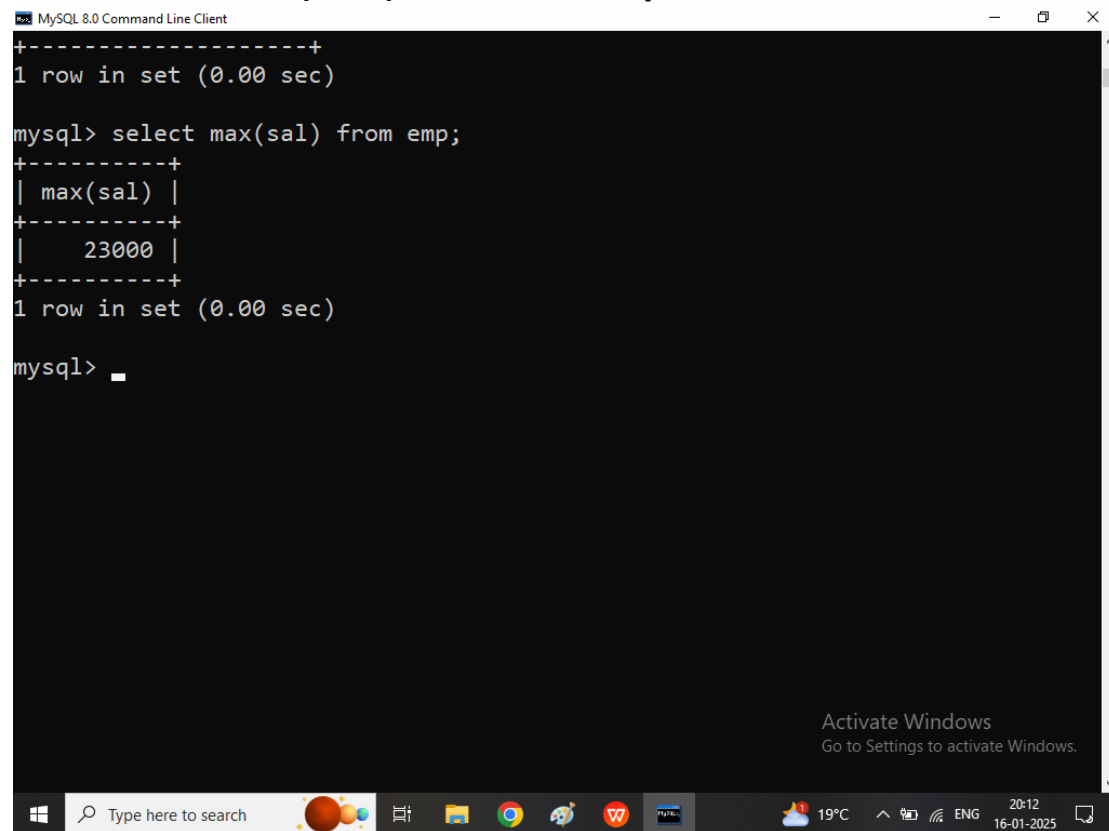
Select avg(sal) from emp where gender='F';

3. Max(): It will return maximum value of a particular column

Syntax:

Select max(column) from tablename;

Select max(sal) from emp;



```
MySQL 8.0 Command Line Client
+-----+
1 row in set (0.00 sec)

mysql> select max(sal) from emp;
+-----+
| max(sal) |
+-----+
|    23000 |
+-----+
1 row in set (0.00 sec)

mysql> 
```

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15. Write a SQL Query to print maximum salary of all employee whose deptno is 10

Select max(sal) from emp where deptno=10;

16. Write a SQL Query to print maximum salary of all employee whose deptno is 20

Select max(sal) from emp where deptno=20;

17. Write a SQL Query to print maximum salary of all employee whose deptno is 30

Select max(sal) from emp where deptno=30;

18. Write a SQL Query to print maximum salary of all employee whose job is Clerk

Select avg(sal) from emp where job='CLERK';

19. Write a SQL Query to print average salary of all employee whose job is Manager

Select avg(sal) from emp where job='MANAGER';

20. Write a SQL Query to print average salary of all male employee

Select avg(sal) from emp where gender='M';

21. Write a SQL Query to print average salary of all female employee

Select avg(sal) from emp where gender='F';

4. Min(): It will return minimum value of a particular column

Syntax:

Select min(sal) from emp;

```
MySQL 8.0 Command Line Client
+-----+
| 23000 |
+-----+
1 row in set (0.00 sec)

mysql> select min(sal) from emp;
+-----+
| min(sal) |
+-----+
|      800 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

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5. Count(): It will return number of rows or number values in a particular column exclude null values

Syntax:

Select count(*) from tableName;

Example:

Write a SQL Query to count Number of Employee in emp table

Select count(*) from emp;

```
MySQL 8.0 Command Line Client
+-----+
| 23000 |
+-----+
1 row in set (0.00 sec)

mysql> select min(sal) from emp;
+-----+
| min(sal) |
+-----+
|      800 |
+-----+
1 row in set (0.00 sec)

mysql> Select count(*) from emp;
+-----+
| count(*) |
+-----+
|       16 |
+-----+
1 row in set (0.04 sec)

mysql> _
```

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Select count(column name) from emp;
Select count(deptno) from emp;

```
MySQL 8.0 Command Line Client
+-----+
| min(sal) |
+-----+
|      800 |
+-----+
1 row in set (0.00 sec)

mysql> Select count(*) from emp;
+-----+
| count(*) |
+-----+
|       16 |
+-----+
1 row in set (0.04 sec)

mysql> Select count(deptno) from emp;
+-----+
| count(deptno) |
+-----+
|          15 |
+-----+
1 row in set (0.00 sec)

mysql> _
```

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Q4. Explain order by clause in SQL?

Ans: if we want to sort data in sql then we should go for order by clause

The order by clause by default sort data in ascending order

Syntax:

Select column list from tablename order by
column name;

OR

Select column list from tablename order by
column name ASC|DESC;

Q1. Write a SQL Query to print data of all employee on the basis of salary in ascending order?

Select * from emp order by sal;

```
Select MySQL 8.0 Command Line Client
+-----+
1 row in set (0.00 sec)

mysql> select * from emp order by sal;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename  | job          | mgr  | hiredate | sal   | comm  | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1      | NULL   | NULL         | NULL | NULL     | NULL  | NULL  | NULL   |
| 7369   | SMITH  | CLERK        | 7902 | 1980-12-17 | 800   | NULL  | 20     |
| 7521   | WARD   | SALESMAN     | 7698 | 1981-02-22 | 10000 | 500   | 30     |
| 7839   | KING   | PRESIDENT    | NULL | 1981-11-17 | 10234 | NULL  | 10     |
| 7782   | CLARK  | MANAGER      | 7839 | 1981-06-09 | 10365 | NULL  | 10     |
| 7566   | JONES  | MANAGER      | 7839 | 1981-04-02 | 11512 | NULL  | 20     |
| 7844   | TURNER | SALESMAN     | 7698 | 1981-09-08 | 11552 | 0     | 30     |
| 7654   | MARTIN | SALESMAN     | 7698 | 1981-09-28 | 12789 | 1400  | 30     |
| 7902   | FORD   | ANALYST      | 7566 | 1981-12-03 | 13652 | NULL  | 20     |
| 7934   | MILLER | CLERK        | 7782 | 1982-01-23 | 14892 | NULL  | 10     |
| 7876   | ADAMS  | CLERK        | 7788 | 1983-01-12 | 15692 | NULL  | 20     |
| 7788   | SCOTT  | ANALYST      | 7566 | 1982-12-09 | 17845 | NULL  | 20     |
| 7900   | JAMES  | CLERK        | 7698 | 1981-12-03 | 21212 | NULL  | 30     |
| 7499   | ALLEN  | SALESMAN     | 7698 | 1981-02-20 | 21500 | 150   | 30     |
| 7698   | BLAKE  | MANAGER      | 7839 | 1981-05-01 | 21563 | NULL  | 30     |
| 7935   | AMAN   | JAVA DEVELOPER | 7698 | 2024-01-01 | 23000 | 150   | 30     |
+-----+-----+-----+-----+-----+-----+-----+-----+
16 rows in set (0.00 sec)
```

Q1. Write a SQL Query to print data of all employee on the basis of salary in descending order?

Select * from emp order by sal desc;


```
Select MySQL 8.0 Command Line Client
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 21500 | 150 | 30 |
| 7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 21563 | NULL | 30 |
| 7935 | AMAN | JAVA DEVELOPER | 7698 | 2024-01-01 | 23000 | 150 | 30 |
+-----+-----+-----+-----+-----+-----+-----+-----+
16 rows in set (0.00 sec)

mysql> select * from emp order by sal desc;
+-----+-----+-----+-----+-----+-----+-----+-----+
| empno | ename | job | mgr | hiredate | sal | comm | deptno |
+-----+-----+-----+-----+-----+-----+-----+-----+
| 7935 | AMAN | JAVA DEVELOPER | 7698 | 2024-01-01 | 23000 | 150 | 30 |
| 7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 21563 | NULL | 30 |
| 7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 21500 | 150 | 30 |
| 7900 | JAMES | CLERK | 7698 | 1981-12-03 | 21212 | NULL | 30 |
| 7788 | SCOTT | ANALYST | 7566 | 1982-12-09 | 17845 | NULL | 20 |
| 7876 | ADAMS | CLERK | 7788 | 1983-01-12 | 15692 | NULL | 20 |
| 7934 | MILLER | CLERK | 7782 | 1982-01-23 | 14892 | NULL | 10 |
| 7902 | FORD | ANALYST | 7566 | 1981-12-03 | 13652 | NULL | 20 |
| 7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 12789 | 1400 | 30 |
| 7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 11552 | 0 | 30 |
| 7566 | JONES | MANAGER | 7839 | 1981-04-02 | 11512 | NULL | 20 |
| 7782 | CLARK | MANAGER | 7839 | 1981-06-09 | 10365 | NULL | 10 |
| 7839 | KING | PRESIDENT | NULL | 1981-11-17 | 10234 | NULL | 10 |
| 7521 | WARD | SALESMAN | 7698 | 1981-02-22 | 10000 | 500 | 30 |
| 7369 | SMITH | CLERK | 7902 | 1980-12-17 | 800 | NULL | 20 |
| 1 | NULL | NULL | NULL | NULL | NULL | NULL | NULL |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

Q3. Write a SQL Query to print data of all employee on the basis of name in ascending order?

```
mysql> select * from emp order by name;
ERROR 1054 (42S22): Unknown column 'name' in 'order clause'
mysql> select * from emp order by ename;
```

empno	ename	job	mgr	hiredate	sal	comm	deptno
1	NULL	NULL	NULL	NULL	NULL	NULL	NULL
7876	ADAMS	CLERK	7788	1983-01-12	15692	NULL	20
7499	ALLEN	SALESMAN	7698	1981-02-20	21500	150	30
7935	AMAN	JAVA DEVELOPER	7698	2024-01-01	23000	150	30
7698	BLAKE	MANAGER	7839	1981-05-01	21563	NULL	30
7782	CLARK	MANAGER	7839	1981-06-09	10365	NULL	10
7902	FORD	ANALYST	7566	1981-12-03	13652	NULL	20
7900	JAMES	CLERK	7698	1981-12-03	21212	NULL	30
7566	JONES	MANAGER	7839	1981-04-02	11512	NULL	20
7839	KING	PRESIDENT	NULL	1981-11-17	10234	NULL	10
7654	MARTIN	SALESMAN	7698	1981-09-28	12789	1400	30
7934	MILLER	CLERK	7782	1982-01-23	14892	NULL	10
7788	SCOTT	ANALYST	7566	1982-12-09	17845	NULL	20
7369	SMITH	CLERK	7902	1980-12-17	800	NULL	20
7844	TURNER	SALESMAN	7698	1981-09-08	11552	0	30
7521	WARD	SALESMAN	7698	1981-02-22	10000	500	30

16 rows in set (0.00 sec)

Q4. Write a SQL Query to print data of all employee on the basis of name in descending order?

16 rows in set (0.00 sec)

mysql> select * from emp order by ename desc;

empno	ename	job	mgr	hiredate	sal	comm	deptno
7521	WARD	SALESMAN	7698	1981-02-22	10000	500	30
7844	TURNER	SALESMAN	7698	1981-09-08	11552	0	30
7369	SMITH	CLERK	7902	1980-12-17	800	NULL	20
7788	SCOTT	ANALYST	7566	1982-12-09	17845	NULL	20
7934	MILLER	CLERK	7782	1982-01-23	14892	NULL	10
7654	MARTIN	SALESMAN	7698	1981-09-28	12789	1400	30
7839	KING	PRESIDENT	NULL	1981-11-17	10234	NULL	10
7566	JONES	MANAGER	7839	1981-04-02	11512	NULL	20
7900	JAMES	CLERK	7698	1981-12-03	21212	NULL	30
7902	FORD	ANALYST	7566	1981-12-03	13652	NULL	20
7782	CLARK	MANAGER	7839	1981-06-09	10365	NULL	10
7698	BLAKE	MANAGER	7839	1981-05-01	21563	NULL	30
7935	AMAN	JAVA DEVELOPER	7698	2024-01-01	23000	150	30
7499	ALLEN	SALESMAN	7698	1981-02-20	21500	150	30
7876	ADAMS	CLERK	7788	1983-01-12	15692	NULL	20
1	NULL	NULL	NULL	NULL	NULL	NULL	NULL

16 rows in set (0.00 sec)

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Type here to search



18°C



20:28

16-01-2025