DATABASE TECHNOLOGY

Database Assignment 1

Note : Use Emp, dept and salgrade table

1. To list all records with sal > 2000 and comm>200

```
mysql> select * from emp where job = 'clerk' or sal >2000;
+-------+--------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-----------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 | NULL |     20 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 | NULL |     30 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 | NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 | NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-----------+------+------------+---------+------+--------+
10 rows in set (0.00 sec)
```

2. To list all record with job='Clerk' or sal>2000

```
mysql> select * from emp where job = 'clerk' or sal >2000;
+-------+--------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-----------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 | NULL |     20 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 | NULL |     30 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 | NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 | NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-----------+------+------------+---------+------+--------+
10 rows in set (0.00 sec)
```

3. To list all the record with sal=1250 or 1100 or 2850

```
mysql> select * from emp where sal = 1100 or sal = 1250 or sal = 2850;
+-------+--------+----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+----------+------+------------+---------+---------+--------+
|  7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|  7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|  7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 |
|  7876 | ADAMS  | CLERK    | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 |
+-------+--------+----------+------+------------+---------+---------+--------+
4 rows in set (0.00 sec)
```

4. To list all employees with sal>1250 and <2850

```
+-------+--------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+--------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
|  7782 | CLARK  | MANAGER  | 7839 | 1981-06-09 | 2450.00 |   NULL |     10 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |   0.00 |     30 |
|  7934 | MILLER | CLERK    | 7782 | 1982-01-23 | 1300.00 |   NULL |     10 |
+-------+--------+----------+------+------------+---------+--------+--------+
4 rows in set (0.00 sec)
```

5. To list all employees with name ends with AS

```
mysql> select * from emp where ename like '%AS';
Empty set (0.00 sec)
```

6. To list all employees with job starts with C and ends with K

```
mysql> select * from emp where job like 'c%k';
+-------+--------+-------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB   | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7876 | ADAMS  | CLERK | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-------+------+------------+---------+------+--------+
4 rows in set (0.00 sec)
```

DATABASE TECHNOLOGY

7. To list all employees with job contains L at third position and M at third last position.

```
mysql> select * from emp where job like '%%l%m%%';
+-------+--------+----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+----------+------+------------+---------+---------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 |
|  7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|  7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 |
+-------+--------+----------+------+------------+---------+---------+--------+
4 rows in set (0.00 sec)
```

8. To list all the record with sal not equal to 1250 or 1100 or 2850.

```
mysql> select * from emp where sal != 1250 and sal != 1100 and sal != 2850;
+-------+--------+-----------+------+------------+---------+--------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+--------+-----------+------+------------+---------+--------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 |   NULL |     20 |
|  7499 | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 |   NULL |     20 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 |   NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 |   NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 |   NULL |     10 |
|  7844 | TURNER | SALESMAN  | 7698 | 1981-09-08 | 1500.00 |   0.00 |     30 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 |   NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 |   NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 |   NULL |     10 |
+-------+--------+-----------+------+------------+---------+--------+--------+
10 rows in set (0.00 sec)
```

9. To list all employees with salnot >1250 and <2850

```
mysql> select * from emp where sal not between 1251 and 2849;
+-------+--------+-----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+-----------+------+------------+---------+---------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 |    NULL |     20 |
|  7521 | WARD   | SALESMAN  | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 |
|  7654 | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 |    NULL |     10 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 |    NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 |    NULL |     20 |
+-------+--------+-----------+------+------------+---------+---------+--------+
10 rows in set (0.00 sec)
```

DATABASE TECHNOLOGY

10. To list all employees with job starts with C , E at 3rd position and ends with K.

```
mysql> select * from emp where job like 'c%e%k';
+-------+--------+-------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB   | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7876 | ADAMS  | CLERK | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-------+------+------------+---------+------+--------+
4 rows in set (0.00 sec)
```

11. To list all rows with comm is null.

```
mysql> select * from emp where comm is null;
+-------+--------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-----------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 | NULL |     20 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 | NULL |     30 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 | NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 | NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-----------+------+------------+---------+------+--------+
10 rows in set (0.00 sec)
```

12. To list all employees with sal is null and name starts with 'S'.

```
mysql> select * from emp where sal is null and ename like 's%';
Empty set (0.00 sec)
```

DATABASE TECHNOLOGY

13. To list all employees with job contains 5 characters.

```
mysql> select * from emp where job like '_____';
+-------+--------+-------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB   | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7876 | ADAMS  | CLERK | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-------+------+------------+---------+------+--------+
4 rows in set (0.00 sec)

mysql> select * from emp where length(job)=5;
+-------+--------+-------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB   | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+-------+------+------------+---------+------+--------+
|  7369 | SMITH  | CLERK | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7876 | ADAMS  | CLERK | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7900 | JAMES  | CLERK | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7934 | MILLER | CLERK | 7782 | 1982-01-23 | 1300.00 | NULL |     10 |
+-------+--------+-------+------+------------+---------+------+--------+
4 rows in set (0.00 sec)
```

14. To list all employees with name contain 'A' at 1 position and job Contains 5 characters.

```
mysql> select * from emp where ename like 'a%' and length(job)=5;
+-------+-------+-------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB   | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+-------+------+------------+---------+------+--------+
|  7876 | ADAMS | CLERK | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
+-------+-------+-------+------+------------+---------+------+--------+
1 row in set (0.00 sec)
```

DATABASE TECHNOLOGY

Q2. Solve the following

2.1. Retrieve the details (Name, Salary and dept no) of the emp who are working in

department code 20, 30 and 40.

```
mysql> select ename,sal,deptno from emp where deptno in (20,30,40);
+--------+---------+--------+
| ename  | sal     | deptno |
+--------+---------+--------+
| SMITH  |  800.00 |     20 |
| ALLEN  | 1600.00 |     30 |
| WARD   | 1250.00 |     30 |
| JONES  | 2975.00 |     20 |
| MARTIN | 1250.00 |     30 |
| BLAKE  | 2850.00 |     30 |
| SCOTT  | 3000.00 |     20 |
| TURNER | 1500.00 |     30 |
| ADAMS  | 1100.00 |     20 |
| JAMES  |  950.00 |     30 |
| FORD   | 3000.00 |     20 |
+--------+---------+--------+
11 rows in set (0.00 sec)
```

2.2 Display the total salary of all employees . Total salary will be calculated as

sal+comm+sal*0.10

```
mysql> select sum(sal + ifnull(comm,0) + sal*0.10) salary from emp;
+------------+
| salary     |
+------------+
| 34127.5000 |
+------------+
1 row in set (0.00 sec)
```

2.3. List the Name and job of the emp who have joined before 1 jan 1986 and whose salary range is between 1200and 2500. Display the columns with user defined Column headers.

```
mysql> select empno empid, ename name, job duety, mgr manager, hiredate joindate,sal salary,comm commission, deptno deptid from emp
    -> where hiredate < '1986-01-01' and sal between 1200 and 2500;
+-------+--------+----------+---------+------------+---------+------------+--------+
| empid | name   | duety    | manager | joindate   | salary  | commission | deptid |
+-------+--------+----------+---------+------------+---------+------------+--------+
|  7499 | ALLEN  | SALESMAN |    7698 | 1981-02-20 | 1600.00 |     300.00 |     30 |
|  7521 | WARD   | SALESMAN |    7698 | 1981-02-22 | 1250.00 |     500.00 |     30 |
|  7654 | MARTIN | SALESMAN |    7698 | 1981-09-28 | 1250.00 |    1400.00 |     30 |
|  7782 | CLARK  | MANAGER  |    7839 | 1981-06-09 | 2450.00 |       NULL |     10 |
|  7844 | TURNER | SALESMAN |    7698 | 1981-09-08 | 1500.00 |       0.00 |     30 |
|  7934 | MILLER | CLERK    |    7782 | 1982-01-23 | 1300.00 |       NULL |     10 |
+-------+--------+----------+---------+------------+---------+------------+--------+
6 rows in set (0.00 sec)
```

DATABASE TECHNOLOGY

4. List the empno, name, and department number of the emp works under manager with id 7698.

```
mysql> select empno,ename,deptno from emp where mgr = '7698';
+-------+--------+--------+
| empno | ename  | deptno |
+-------+--------+--------+
|  7499 | ALLEN  |     30 |
|  7521 | WARD   |     30 |
|  7654 | MARTIN |     30 |
|  7844 | TURNER |     30 |
|  7900 | JAMES  |     30 |
+-------+--------+--------+
5 rows in set (0.00 sec)
```

5. List the name, job, and salary of the emp who are working in departments 10 and 30.

```
mysql> select ename, job,sal from emp where deptno in(10,30);
+--------+-----------+---------+
| ename  | job       | sal     |
+--------+-----------+---------+
| ALLEN  | SALESMAN  | 1600.00 |
| WARD   | SALESMAN  | 1250.00 |
| MARTIN | SALESMAN  | 1250.00 |
| BLAKE  | MANAGER   | 2850.00 |
| CLARK  | MANAGER   | 2450.00 |
| KING   | PRESIDENT | 5000.00 |
| TURNER | SALESMAN  | 1500.00 |
| JAMES  | CLERK     |  950.00 |
| MILLER | CLERK     | 1300.00 |
+--------+-----------+---------+
9 rows in set (0.00 sec)
```

6. Display name concatenated with dept code separated by comma and space. Name the column as 'Emp info'.

```
mysql> select concat(ename,', ',deptno) "Emp info" from emp;
+-----------+
| Emp info  |
+-----------+
| SMITH, 20 |
| ALLEN, 30 |
| WARD, 30  |
| JONES, 20 |
| MARTIN, 30 |
| BLAKE, 30 |
| CLARK, 10 |
| SCOTT, 20 |
| KING, 10  |
| TURNER, 30 |
| ADAMS, 20 |
| JAMES, 30 |
| FORD, 20  |
| MILLER, 10 |
+-----------+
14 rows in set (0.00 sec)
```

2. 7. Display the emp details who do not have manager.

```
mysql> select * from emp where mgr is null;
+-------+-------+-----------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+-----------+------+------------+---------+------+--------+
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 |
+-------+-------+-----------+------+------------+---------+------+--------+
1 row in set (0.00 sec)
```

2. 8. Write a query which will display name, department no and date of joining of all

employee who were joined January 1, 1981 and March 31, 1983. Sort it based on date of

joining (ascending).

select ename,deptno,hiredate

from emp

where hiredate between '1981-1-1' and '1983-3-31'

order by hiredate

```
mysql> select ename, deptno,hiredate from emp
    -> where hiredate between '1981-01-01' and '1983-03-31'
    -> group by ename,deptno,hiredate
    -> order by hiredate;
+--------+--------+------------+
| ename  | deptno | hiredate   |
+--------+--------+------------+
| ALLEN  |     30 | 1981-02-20 |
| WARD   |     30 | 1981-02-22 |
| JONES  |     20 | 1981-04-02 |
| BLAKE  |     30 | 1981-05-01 |
| CLARK  |     10 | 1981-06-09 |
| TURNER |     30 | 1981-09-08 |
| MARTIN |     30 | 1981-09-28 |
| KING   |     10 | 1981-11-17 |
| JAMES  |     30 | 1981-12-03 |
| FORD   |     20 | 1981-12-03 |
| MILLER |     10 | 1982-01-23 |
| SCOTT  |     20 | 1982-12-09 |
| ADAMS  |     20 | 1983-01-12 |
+--------+--------+------------+
13 rows in set (0.00 sec)
```

2. 9. Display the employee details where the job contains word 'AGE' anywhere in the Job.

```
mysql> select * from emp where job regexp '^.*age.*$';
+-------+-------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+---------+------+------------+---------+------+--------+
|  7566 | JONES | MANAGER | 7839 | 1981-04-02 | 2975.00 | NULL |     20 |
|  7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 2850.00 | NULL |     30 |
|  7782 | CLARK | MANAGER | 7839 | 1981-06-09 | 2450.00 | NULL |     10 |
+-------+-------+---------+------+------------+---------+------+--------+
3 rows in set (0.00 sec)
```

2. 11. List the details of the employee , whose names start with 'A' and end with 'S' or

whose names contains N as the second or third character, and ending with either 'N' or 'S'.

```
mysql> select * from emp where ename regexp '^a.*s$|^..?n.*[ns]$';
+-------+-------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+---------+------+------------+---------+------+--------+
|  7566 | JONES | MANAGER | 7839 | 1981-04-02 | 2975.00 | NULL |     20 |
|  7876 | ADAMS | CLERK   | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
+-------+-------+---------+------+------------+---------+------+--------+
2 rows in set (0.00 sec)
```

2. 12. List the names of the emp having '_' character in their name.

```
mysql> select ename from emp where ename like '%\_%';
+------------+
| ename      |
+------------+
| Aditya_Rao |
| _Aditya    |
+------------+
2 rows in set (0.00 sec)

mysql> select ename from emp where ename regexp '_';
+------------+
| ename      |
+------------+
| Aditya_Rao |
| _Aditya    |
+------------+
2 rows in set (0.00 sec)
```

Single Row functions

3.1 To list all employees and their email, to generate email use 2 to 5 characters from ename

Concat it with 2 to 4 characters in job and then concat it with '@mycompany.com'.

```
mysql> select ename, concat(substr(ename,2,5),substr(ename,2,4),'@mycompany.com') email from emp;
+------------+------------------------+
| ename      | email                  |
+------------+------------------------+
| Aditya_Rao | dityadity@mycompany.com |
| ram        | amam@mycompany.com     |
| _Aditya    | AdityAdit@mycompany.com |
| SMITH      | MITHMITH@mycompany.com |
| ALLEN      | LLENLLEN@mycompany.com |
| WARD       | ARDARD@mycompany.com   |
| JONES      | ONESONES@mycompany.com |
| MARTIN     | ARTINARTI@mycompany.com |
| BLAKE      | LAKELAKE@mycompany.com |
| CLARK      | LARKLARK@mycompany.com |
| SCOTT      | COTTCOTT@mycompany.com |
| KING       | INGING@mycompany.com   |
| TURNER     | URNERURNE@mycompany.com |
| ADAMS      | DAMSDAMS@mycompany.com |
| JAMES      | AMESAMES@mycompany.com |
| FORD       | ORDORD@mycompany.com   |
| MILLER     | ILLERILLE@mycompany.com |
+------------+------------------------+
17 rows in set (0.00 sec)
```

3. 2. List all employees who joined in September.

select * from emp where hiredate like '____-09-__';

```
mysql> select * from emp where hiredate like '____-09-__';
+-------+---------+----------+------+------------+---------+---------+--------+
| EMPNO | ENAME   | JOB      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+---------+----------+------+------------+---------+---------+--------+
|   102 | _Aditya | admin    | 7501 | 2024-09-15 | 3000.00 |  500.00 |     10 |
|  7654 | MARTIN  | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|  7844 | TURNER  | SALESMAN | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 |
+-------+---------+----------+------+------------+---------+---------+--------+
3 rows in set (0.00 sec)
```

3. 3 List the empno, name, and department number of the emp who have experience of 18 or

more years and sort them based on their experience.

select empno,ename,deptno from emp where datediff(curdate(),hiredate)/365>=18

-> order by datediff(curdate(),hiredate) desc;

```
mysql> select empno,ename,deptno from emp where datediff(curdate(),hiredate)/365>=18
    -> order by datediff(curdate(),hiredate) desc;
+-------+--------+--------+
| empno | ename  | deptno |
+-------+--------+--------+
|  7369 | SMITH  |     20 |
|  7499 | ALLEN  |     30 |
|  7521 | WARD   |     30 |
|  7566 | JONES  |     20 |
|  7698 | BLAKE  |     30 |
|  7782 | CLARK  |     10 |
|  7844 | TURNER |     30 |
|  7654 | MARTIN |     30 |
|  7839 | KING   |     10 |
|  7900 | JAMES  |     30 |
|  7902 | FORD   |     20 |
|  7934 | MILLER |     10 |
|  7788 | SCOTT  |     20 |
|  7876 | ADAMS  |     20 |
+-------+--------+--------+
14 rows in set (0.00 sec)
```

3.4. Display the employee details who joined on 3rd of any month or any year

select * from emp where hiredate like '____-__-03';

select * from emp where hiredate regexp '^[0-9]{4}-[0-9]{2}-03';

```
mysql> select * from emp where hiredate like '____-__-03';
+-------+--------+---------+------+------------+---------+-------+--------+
| EMPNO | ENAME  | JOB     | MGR  | HIREDATE   | SAL     | COMM  | DEPTNO |
+-------+--------+---------+------+------------+---------+-------+--------+
|   101 | ram    | clerk   | 7608 | 2024-03-03 | 2000.00 | 10.00 |     10 |
|  7900 | JAMES  | CLERK   | 7698 | 1981-12-03 |  950.00 | NULL  |     30 |
|  7902 | FORD   | ANALYST | 7566 | 1981-12-03 | 3000.00 | NULL  |     20 |
+-------+--------+---------+------+------------+---------+-------+--------+
3 rows in set (0.00 sec)

mysql> select * from emp where hiredate regexp '^[0-9]{4}-[0-9]{2}-03';
+-------+--------+---------+------+------------+---------+-------+--------+
| EMPNO | ENAME  | JOB     | MGR  | HIREDATE   | SAL     | COMM  | DEPTNO |
+-------+--------+---------+------+------------+---------+-------+--------+
|   101 | ram    | clerk   | 7608 | 2024-03-03 | 2000.00 | 10.00 |     10 |
|  7900 | JAMES  | CLERK   | 7698 | 1981-12-03 |  950.00 | NULL  |     30 |
|  7902 | FORD   | ANALYST | 7566 | 1981-12-03 | 3000.00 | NULL  |     20 |
+-------+--------+---------+------+------------+---------+-------+--------+
3 rows in set (0.00 sec)
```

3.5. display all employees who joined between years 1981 to 1983.

select * from emp where hiredate between '1981-01-01' and '1983-12-31';

```
mysql> select * from emp where hiredate between '1981-01-01' and '1983-12-31';
+-------+--------+-----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+-----------+------+------------+---------+---------+--------+
|  7499 | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 |
|  7521 | WARD   | SALESMAN  | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 |
|  7654 | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 |    NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 |    NULL |     10 |
|  7844 | TURNER | SALESMAN  | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 |    NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 |    NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 |
+-------+--------+-----------+------+------------+---------+---------+--------+
13 rows in set (0.00 sec)
```

6. Display the Highest, Lowest, Total & Average salary of all employee. Label the columns

Maximum, Minimum, Total and Average respectively for each Department. Also round the

result to the nearest whole number.

DATABASE TECHNOLOGY

select deptno,floor(max(sal)) Maximum,floor(min(sal)) Minimum,floor(avg(sal)) Average,floor (sum(sal)) Total from

 emp

　　group by deptno

　　order by deptno;

```
mysql> select deptno,floor(max(sal)) Maximum,floor(min(sal)) Minimum,floor(avg(sal)) Average,floor (sum(sal)) Total from
  emp
    -> group by deptno
    -> order by deptno;
+--------+---------+---------+---------+-------+
| deptno | Maximum | Minimum | Average | Total |
+--------+---------+---------+---------+-------+
|     10 |    5000 |    1300 |    3125 | 18750 |
|     20 |    3000 |     800 |    2175 | 10875 |
|     30 |    2850 |     950 |    1557 | 10900 |
+--------+---------+---------+---------+-------+
3 rows in set (0.00 sec)
```

7. Display Department no and number of managers working in that department. Label the

column as 'Total Number of Managers' for each department.

select deptno,mgr,count(mgr) "Total No. of Manager" from emp

　　-> group by deptno,mgr

　　-> order by deptno;

```
mysql> select deptno,mgr,count(mgr) "Total No. of Manager" from emp
    -> group by deptno,mgr
    -> order by deptno;
+--------+------+----------------------+
| deptno | mgr  | Total No. of Manager |
+--------+------+----------------------+
|     10 | NULL |                    0 |
|     10 | 1008 |                    1 |
|     10 | 7501 |                    1 |
|     10 | 7608 |                    1 |
|     10 | 7782 |                    1 |
|     10 | 7839 |                    1 |
|     20 | 7566 |                    2 |
|     20 | 7788 |                    1 |
|     20 | 7839 |                    1 |
|     20 | 7902 |                    1 |
|     30 | 7500 |                    1 |
|     30 | 7698 |                    5 |
|     30 | 7839 |                    1 |
+--------+------+----------------------+
13 rows in set (0.02 sec)
```

DATABASE TECHNOLOGY

8. Get the Department number, and sum of Salary of all non managers where the sum is

greater than 20000.

select deptno, sum(sal)   from emp where mgr is null group by deptno

having sum(sal)>20000;

```
mysql> select deptno, sum(sal)   from emp where mgr is null group by deptno
    -> having sum(sal)>20000;
Empty set (0.00 sec)
```