Assignment 2

Practice DQL statement

Write SQL statement for the following

1. To find all managers with salary >1500

```
mysql> select *
    -> from emp
    -> where job = 'Manager' and sal>1500;
+-------+-------+---------+------+------------+---------+------+--------+
| 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. list all employees with sal >1200 and < 2000

```
mysql> select *
    -> From emp
    -> where sal between 1201 and 1999;
+-------+--------+----------+------+------------+---------+---------+--------+
| 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 |
|  7934 | MILLER | CLERK    | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 |
+-------+--------+----------+------+------------+---------+---------+--------+
```

3. list all employees with sal is 1600 or sal is 800 or sal is 1900

```
mysql> select *
    -> from emp
    -> where sal in(1600,800,1900);
+-------+-------+----------+------+------------+---------+--------+--------+
| 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 |
+-------+-------+----------+------+------------+---------+--------+--------+
2 rows in set (0.00 sec)
```

4. List all employees with R at second last position in name.

```
mysql> select *
    -> from emp
    -> where ename like '%R_';
+-------+-------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+-------+----------+------+------------+---------+--------+--------+
|  7521 | WARD  | SALESMAN | 7698 | 1981-02-22 | 1250.00 | 500.00 |     30 |
|  7782 | CLARK | MANAGER  | 7839 | 1981-06-09 | 2450.00 |   NULL |     10 |
|  7902 | FORD  | ANALYST  | 7566 | 1981-12-03 | 3000.00 |   NULL |     20 |
+-------+-------+----------+------+------------+---------+--------+--------+
3 rows in set (0.00 sec)
```

```
mysql> select *
    -> from emp
    -> where ename regexp '.*R.$';
+-------+-------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+-------+----------+------+------------+---------+--------+--------+
|  7521 | WARD  | SALESMAN | 7698 | 1981-02-22 | 1250.00 | 500.00 |     30 |
|  7782 | CLARK | MANAGER  | 7839 | 1981-06-09 | 2450.00 |   NULL |     10 |
|  7902 | FORD  | ANALYST  | 7566 | 1981-12-03 | 3000.00 |   NULL |     20 |
+-------+-------+----------+------+------------+---------+--------+--------+
3 rows in set (0.00 sec)
```

5. List all employees with name starts with A and ends with N

```
mysql> select *
    -> from emp
    -> where ename regexp '^A.*N$';
+-------+-------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+-------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
+-------+-------+----------+------+------------+---------+--------+--------+
1 row in set (0.00 sec)
```

Q2. Solve following

1. list all employees with salary > 1250 and dept no=30

```
mysql> select *
    -> from emp
    -> where sal > 1250 and deptno = 30;
+-------+--------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+--------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
|  7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 2850.00 |   NULL |     30 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |   0.00 |     30 |
+-------+--------+----------+------+------------+---------+--------+--------+
3 rows in set (0.00 sec)
```

2. list all employees with salary >=1250 and <= 3000

```
mysql> select *
    -> from emp
    -> where sal between 1250 and 3000;
+-------+--------+----------+------+------------+---------+---------+--------+
| 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 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |    0.00 |     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. list all employees with salary >1250 and < 3000

```
mysql> select *
    -> from emp
    -> where sal between 1251 and 2999;
+-------+--------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+--------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
|  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 |
|  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)
```

4. list all employees with salary either equal to 3000 or 1250 or 2500

```
mysql> select *
    -> from emp
    -> where sal in(3000,1250,2500);
+-------+--------+----------+------+------------+---------+---------+--------+
| 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 |
|  7788 | SCOTT  | ANALYST  | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|  7902 | FORD   | ANALYST  | 7566 | 1981-12-03 | 3000.00 |    NULL |     20 |
+-------+--------+----------+------+------------+---------+---------+--------+
4 rows in set (0.00 sec)
```

5. list all employee with name=SMITH

```
mysql> select *
    -> from emp
    -> where ename = 'smith';
+-------+-------+-------+------+------------+--------+------+--------+
| EMPNO | ENAME | JOB   | MGR  | HIREDATE   | SAL    | COMM | DEPTNO |
+-------+-------+-------+------+------------+--------+------+--------+
|  7369 | SMITH | CLERK | 7902 | 1980-12-17 | 800.00 | NULL |     20 |
+-------+-------+-------+------+------------+--------+------+--------+
1 row in set (0.00 sec)
```

6. list all employees with name starting with S

```
mysql> select *
    -> from emp
    -> where ename like 'S%';
+-------+-------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+---------+------+------------+---------+------+--------+
|  7369 | SMITH | CLERK   | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7788 | SCOTT | ANALYST | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
+-------+-------+---------+------+------------+---------+------+--------+
2 rows in set (0.00 sec)
```

```
mysql> select *
    -> from emp
    -> where ename regexp '^S.*$';
+-------+-------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+---------+------+------------+---------+------+--------+
|  7369 | SMITH | CLERK   | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7788 | SCOTT | ANALYST | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
+-------+-------+---------+------+------------+---------+------+--------+
2 rows in set (0.00 sec)
```

7. list all employees with name ending with S

```
mysql> select *
    -> from emp
    -> where ename regexp 'S$';
+-------+-------+---------+------+------------+---------+------+--------+
| 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 |
|  7900 | JAMES | CLERK   | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
+-------+-------+---------+------+------------+---------+------+--------+
3 rows in set (0.00 sec)
```

8. list all employees with name contains I at 2nd position

```
mysql> select *
    -> from emp
    -> where ename regexp '^.l';
+-------+-------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+-------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
|  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)
```

9. list all employees with name starts with A ends with N and somewhere in between L is there

```
mysql> select *
    -> from emp
    -> where ename regexp '^A.*L.*N$';
+-------+-------+----------+------+------------+---------+--------+--------+
| EMPNO | ENAME | JOB      | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+-------+----------+------+------------+---------+--------+--------+
|  7499 | ALLEN | SALESMAN | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 |
+-------+-------+----------+------+------------+---------+--------+--------+
1 row in set (0.00 sec)
```

10. list all employees with name starts with A and B at 3 rd position and P at second last position

```
mysql> select *
    -> from emp
    -> where ename regexp '^A.B.*P.$';
Empty set (0.00 sec)
```

11. List all employees with name starts with either A or starts with S or starts with W

```
mysql> select *
    -> from emp
    -> where ename regexp '^[ASW].*$';
+-------+-------+----------+------+------------+---------+---------+--------+
| 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 |
|  7521 | WARD  | SALESMAN | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 |
|  7788 | SCOTT | ANALYST  | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|  7876 | ADAMS | CLERK    | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 |
+-------+-------+----------+------+------------+---------+---------+--------+
5 rows in set (0.00 sec)
```

Practice Aggregate functions

12. Find max sal and min sal for each job

```
mysql> select job, max(sal), min(sal)
    -> from emp
    -> group by job;
+-----------+----------+----------+
| job       | max(sal) | min(sal) |
+-----------+----------+----------+
| CLERK     |  1300.00 |   800.00 |
| SALESMAN  |  1600.00 |  1250.00 |
| MANAGER   |  2975.00 |  2450.00 |
| ANALYST   |  3000.00 |  3000.00 |
| PRESIDENT |  5000.00 |  5000.00 |
+-----------+----------+----------+
5 rows in set (0.00 sec)
```

13. find how many employees have not received commission

```
mysql> select comm, count(*)
    -> from emp
    -> where comm = 0 or comm is null
    -> group by comm;
+------+----------+
| comm | count(*) |
+------+----------+
| NULL |       10 |
| 0.00 |        1 |
+------+----------+
2 rows in set (0.00 sec)
```

14. find sum of sal of all employees working in dept no 10

```
mysql> select deptno, sum(sal)
    -> from emp
    -> where deptno = 10
    -> group by deptno;
+--------+----------+
| deptno | sum(sal) |
+--------+----------+
|     10 |  8750.00 |
+--------+----------+
1 row in set (0.00 sec)
```

15. Find maximum salary,average sal for each job in every department

```
mysql> select deptno,job, max(sal), avg(sal)
    -> from emp
    -> group by deptno, job
    -> order by deptno;
+--------+-----------+----------+-------------+
| deptno | job       | max(sal) | avg(sal)    |
+--------+-----------+----------+-------------+
|     10 | CLERK     |  1300.00 | 1300.000000 |
|     10 | MANAGER   |  2450.00 | 2450.000000 |
|     10 | PRESIDENT |  5000.00 | 5000.000000 |
|     20 | ANALYST   |  3000.00 | 3000.000000 |
|     20 | CLERK     |  1100.00 |  950.000000 |
|     20 | MANAGER   |  2975.00 | 2975.000000 |
|     30 | CLERK     |   950.00 |  950.000000 |
|     30 | MANAGER   |  2850.00 | 2850.000000 |
|     30 | SALESMAN  |  1600.00 | 1400.000000 |
+--------+-----------+----------+-------------+
9 rows in set (0.00 sec)
```

16. find max salary for every department if deptno is > 15 and arrange data in deptno order.

```
mysql> select deptno, max(sal)
    -> from emp
    -> where deptno > 15
    -> group by deptno
    -> order by deptno;
+--------+----------+
| deptno | max(sal) |
+--------+----------+
|     20 |  3000.00 |
|     30 |  2850.00 |
+--------+----------+
2 rows in set (0.00 sec)
```

17. find sum salary for every department if sum is > 3000

```
mysql> select deptno, sum(sal)
    -> from emp
    -> group by deptno
    -> having sum(sal) > 3000;
+--------+----------+
| deptno | sum(sal) |
+--------+----------+
|     20 | 10875.00 |
|     30 |  9400.00 |
|     10 |  8750.00 |
+--------+----------+
3 rows in set (0.00 sec)
```

18. list all department which has minimum 5 employees

```
mysql> select deptno, count(*)
    -> from emp
    -> group by deptno
    -> having count(*) >= 5;
+--------+----------+
| deptno | count(*) |
+--------+----------+
|     20 |        5 |
|     30 |        6 |
+--------+----------+
2 rows in set (0.00 sec)
```

19. count how many employees earn salary more than 2000 in each job

```
mysql> select job, count(*)
    -> from emp
    -> where sal > 2000
    -> group by job;
+-----------+----------+
| job       | count(*) |
+-----------+----------+
| MANAGER   |        3 |
| ANALYST   |        2 |
| PRESIDENT |        1 |
+-----------+----------+
3 rows in set (0.00 sec)
```

20. list all enames and jobs in small case letter

```
mysql> select ename, job , lower(ename), lower(job)
    -> from emp;
+--------+-----------+--------------+------------+
| ename  | job       | lower(ename) | lower(job) |
+--------+-----------+--------------+------------+
| SMITH  | CLERK     | smith        | clerk      |
| ALLEN  | SALESMAN  | allen        | salesman   |
| WARD   | SALESMAN  | ward         | salesman   |
| JONES  | MANAGER   | jones        | manager    |
| MARTIN | SALESMAN  | martin       | salesman   |
| BLAKE  | MANAGER   | blake        | manager    |
| CLARK  | MANAGER   | clark        | manager    |
| SCOTT  | ANALYST   | scott        | analyst    |
| KING   | PRESIDENT | king         | president  |
| TURNER | SALESMAN  | turner       | salesman   |
| ADAMS  | CLERK     | adams        | clerk      |
| JAMES  | CLERK     | james        | clerk      |
| FORD   | ANALYST   | ford         | analyst    |
| MILLER | CLERK     | miller       | clerk      |
+--------+-----------+--------------+------------+
14 rows in set (0.00 sec)
```

21. list all names and jobs so that the length of name should be 15 if it is smaller then add spaces to left.

```
mysql> SELECT LPAD(ename, 15, ' ') AS padded_name, job FROM emp;
+-----------------+-----------+
| padded_name     | job       |
+-----------------+-----------+
|           SMITH | CLERK     |
|           ALLEN | SALESMAN  |
|            WARD | SALESMAN  |
|           JONES | MANAGER   |
|          MARTIN | SALESMAN  |
|           BLAKE | MANAGER   |
|           CLARK | MANAGER   |
|           SCOTT | ANALYST   |
|            KING | PRESIDENT |
|          TURNER | SALESMAN  |
|           ADAMS | CLERK     |
|           JAMES | CLERK     |
|            FORD | ANALYST   |
|          MILLER | CLERK     |
+-----------------+-----------+
14 rows in set (0.00 sec)
```

```
mysql> SELECT LPAD(ename, 15, '*') AS padded_name, job FROM emp;
+-----------------+-----------+
| padded_name     | job       |
+-----------------+-----------+
| **********SMITH | CLERK     |
| **********ALLEN | SALESMAN  |
| ***********WARD | SALESMAN  |
| **********JONES | MANAGER   |
| *********MARTIN | SALESMAN  |
| **********BLAKE | MANAGER   |
| **********CLARK | MANAGER   |
| **********SCOTT | ANALYST   |
| ***********KING | PRESIDENT |
| *********TURNER | SALESMAN  |
| **********ADAMS | CLERK     |
| **********JAMES | CLERK     |
| ***********FORD | ANALYST   |
| *********MILLER | CLERK     |
+-----------------+-----------+
14 rows in set (0.00 sec)
```

22. Display min sal,max sal, average sal for all employees working under same manager

```
mysql> select mgr, min(sal), max(sal), avg(sal)
    -> from emp
    -> group by mgr;
+------+----------+----------+-------------+
| mgr  | min(sal) | max(sal) | avg(sal)    |
+------+----------+----------+-------------+
| 7902 |   800.00 |   800.00 |  800.000000 |
| 7698 |   950.00 |  1600.00 | 1310.000000 |
| 7839 |  2450.00 |  2975.00 | 2758.333333 |
| 7566 |  3000.00 |  3000.00 | 3000.000000 |
| NULL |  5000.00 |  5000.00 | 5000.000000 |
| 7788 |  1100.00 |  1100.00 | 1100.000000 |
| 7782 |  1300.00 |  1300.00 | 1300.000000 |
+------+----------+----------+-------------+
7 rows in set (0.00 sec)
```

23. Find sum of total earnings(sal+comm), average of sal+comm, for all employees who earn sal > 2000 and work in either dept no 10 or 20

```
mysql> select sum(sal + ifnull(comm, 0)) 'Total Salary', truncate(avg(sal + ifnull(comm,
 0)),2)'Average Salary'
    -> from emp
    -> where sal > 2000 and deptno in(10,20);
+--------------+----------------+
| Total Salary | Average Salary |
+--------------+----------------+
|     16425.00 |        3285.00 |
+--------------+----------------+
1 row in set (0.00 sec)
```

24. list all employees who joined in Aug 1980 and salary is >1500 and < 2500

```
mysql> select *
    -> from emp
    -> where year(hiredate) = 1980 and month(hiredate) = 8 and sal between 1501 and
 2499;
Empty set (0.00 sec)
```

25. list all employees joined in either aug or may or dec

```
mysql> select *
    -> from emp
    -> where month(hiredate) in(8,5,12);
+-------+-------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+-------+---------+------+------------+---------+------+--------+
|  7369 | SMITH | CLERK   | 7902 | 1980-12-17 |  800.00 | NULL |     20 |
|  7698 | BLAKE | MANAGER | 7839 | 1981-05-01 | 2850.00 | NULL |     30 |
|  7788 | SCOTT | ANALYST | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
|  7900 | JAMES | CLERK   | 7698 | 1981-12-03 |  950.00 | NULL |     30 |
|  7902 | FORD  | ANALYST | 7566 | 1981-12-03 | 3000.00 | NULL |     20 |
+-------+-------+---------+------+------------+---------+------+--------+
5 rows in set (0.00 sec)
```

26. Display name and hiredate in dd/mm/yy format for all employees whose job is salesman and they earn some commission.

```
mysql> select ename, date_format(hiredate, "%d-%m-%y") 'Hire Date'
    -> from emp
    -> where job = 'salesman' and comm > 0;
+--------+-----------+
| ename  | Hire Date |
+--------+-----------+
| ALLEN  | 20-02-81  |
| WARD   | 22-02-81  |
| MARTIN | 28-09-81  |
+--------+-----------+
3 rows in set (0.00 sec)
```

27. List empcode,empno,name and job for each employee. (note :empcode is 3 to 5 characters from name and last 2 characters of job)

```
mysql> SELECT CONCAT(SUBSTR(ename, 3, 5), SUBSTR(job, -2)) AS empcode, empno, ename,
 job FROM emp;
+---------+-------+--------+-----------+
| empcode | empno | ename  | job       |
+---------+-------+--------+-----------+
| ITHRK   |  7369 | SMITH  | CLERK     |
| LENAN   |  7499 | ALLEN  | SALESMAN  |
| RDAN    |  7521 | WARD   | SALESMAN  |
| NESER   |  7566 | JONES  | MANAGER   |
| RTINAN  |  7654 | MARTIN | SALESMAN  |
| AKEER   |  7698 | BLAKE  | MANAGER   |
| ARKER   |  7782 | CLARK  | MANAGER   |
| OTTST   |  7788 | SCOTT  | ANALYST   |
| NGNT    |  7839 | KING   | PRESIDENT |
| RNERAN  |  7844 | TURNER | SALESMAN  |
| AMSRK   |  7876 | ADAMS  | CLERK     |
| MESRK   |  7900 | JAMES  | CLERK     |
| RDST    |  7902 | FORD   | ANALYST   |
| LLERRK  |  7934 | MILLER | CLERK     |
+---------+-------+--------+-----------+
14 rows in set (0.00 sec)
```

28. display thousand separator and $ symbol for commission if it is null then display it as 0 for all employees whose name starts with A and ends with N

```
mysql> SELECT ename, comm, CONCAT('$', FORMAT(IFNULL(comm, 0), 0)) AS commission_with_symbol
    -> FROM emp
    -> WHERE ename LIKE 'A%N';
+-------+--------+-----------------------+
| ename | comm   | commission_with_symbol |
+-------+--------+-----------------------+
| ALLEN | 300.00 | $300                  |
+-------+--------+-----------------------+
1 row in set (0.00 sec)
```

29. Display empid,name,sal,comm,remark Remark should base on following conditions

comm >= 600 "excellent Keep it up"

if it < 600 or not null "good"

otherwise "Need improvement"

```
mysql> select empno, ename, sal, comm, case
    -> when comm >= 600 then 'Excellent Keep it up'
    -> when comm < 600 or not null then 'Good'
    -> else 'Need improvement' end remark
    -> from emp;
+-------+--------+---------+---------+----------------------+
| empno | ename  | sal     | comm    | remark               |
+-------+--------+---------+---------+----------------------+
|  7369 | SMITH  |  800.00 |    NULL | Need improvement     |
|  7499 | ALLEN  | 1600.00 |  300.00 | Good                 |
|  7521 | WARD   | 1250.00 |  500.00 | Good                 |
|  7566 | JONES  | 2975.00 |    NULL | Need improvement     |
|  7654 | MARTIN | 1250.00 | 1400.00 | Excellent Keep it up |
|  7698 | BLAKE  | 2850.00 |    NULL | Need improvement     |
|  7782 | CLARK  | 2450.00 |    NULL | Need improvement     |
|  7788 | SCOTT  | 3000.00 |    NULL | Need improvement     |
|  7839 | KING   | 5000.00 |    NULL | Need improvement     |
|  7844 | TURNER | 1500.00 |    0.00 | Good                 |
|  7876 | ADAMS  | 1100.00 |    NULL | Need improvement     |
|  7900 | JAMES  |  950.00 |    NULL | Need improvement     |
|  7902 | FORD   | 3000.00 |    NULL | Need improvement     |
|  7934 | MILLER | 1300.00 |    NULL | Need improvement     |
+-------+--------+---------+---------+----------------------+
14 rows in set (0.00 sec)
```

30. Display empid, name, deptno and department name by using following conditions.

dept 10 then "Hr"

if 20 then "Admin"

if 30 then "accounts"

otherwise purchase

```
mysql> select empno, ename, deptno, case
    -> when deptno = 10 then 'HR'
    -> when deptno = 20 then 'Admin'
    -> when deptno = 30 then 'Accounts'
    -> else 'Purchase' end Department
    -> from emp;
+-------+--------+--------+------------+
| empno | ename  | deptno | Department |
+-------+--------+--------+------------+
|  7369 | SMITH  |     20 | Admin      |
|  7499 | ALLEN  |     30 | Accounts   |
|  7521 | WARD   |     30 | Accounts   |
|  7566 | JONES  |     20 | Admin      |
|  7654 | MARTIN |     30 | Accounts   |
|  7698 | BLAKE  |     30 | Accounts   |
|  7782 | CLARK  |     10 | HR         |
|  7788 | SCOTT  |     20 | Admin      |
|  7839 | KING   |     10 | HR         |
|  7844 | TURNER |     30 | Accounts   |
|  7876 | ADAMS  |     20 | Admin      |
|  7900 | JAMES  |     30 | Accounts   |
|  7902 | FORD   |     20 | Admin      |
|  7934 | MILLER |     10 | HR         |
+-------+--------+--------+------------+
14 rows in set (0.00 sec)
```

Topic ---------- create Table, DML , subquery and joins

31. Practice creating following tables

MySQL syntax:

```
create table mydept_DBDA
(
deptid int primary key,
dname varchar(20) not null unique,
dloc varchar(20)
)
```

Oracle syntax:

```
create table mydept_DBDA
(
deptid number primary key,
dname varchar2(20) not null unique,
dloc varchar2(20)
)
```

```
insert into mydept_DBDA values(30,'Purchase','Mumbai');
```

```
mysql> show tables
    -> ;
+-------------------------+
| Tables_in_iacsd_march23 |
+-------------------------+
| bonus                   |
| dept                    |
| dummy                   |
| emp                     |
| mydept_dbda             |
| salgrade                |
+-------------------------+
6 rows in set (0.00 sec)

mysql> desc mydept_dbda;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| deptid | int         | NO   | PRI | NULL    |       |
| dname  | varchar(20) | NO   | UNI | NULL    |       |
| dloc   | varchar(20) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> insert into mydept_dbda values(30,'Purchase','Mumbai');
Query OK, 1 row affected (0.02 sec)

mysql> select * from mydept_dbda;
+--------+----------+--------+
| deptid | dname    | dloc   |
+--------+----------+--------+
|     30 | Purchase | Mumbai |
+--------+----------+--------+
1 row in set (0.00 sec)
```

MySql syntax:

create table myemployee

(

empno int primary key,

fname varchar(15) not null,

mname varchar(15),

lname varchar(15) not null,

sal float(9,2) check(sal >=1000),

doj date,

passportnum varchar(15) unique,

deptno int,

constraint fk_deptno foreign key(deptno) references mydept_DBDA(deptid) on delete set null

on update cascade

)

```
mysql> create table myemployee (
    -> empno int primary key,
    -> fname varchar(15) not null,
    -> mname varchar(15),
    -> lname varchar(15) not null,
    -> sal float(9,2)check(SAL>=1000),
    -> doj date,
    -> passportnum varchar(15) unique,
    -> deptno int,
    -> constraint fk_deptno foreign key(deptno)references mydept_dbda(deptid) on delete set null
    -> on update cascade
    -> )
    -> ;
Query OK, 0 rows affected, 1 warning (0.18 sec)

mysql> desc myemployee;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| empno       | int         | NO   | PRI | NULL    |       |
| fname       | varchar(15) | NO   |     | NULL    |       |
| mname       | varchar(15) | YES  |     | NULL    |       |
| lname       | varchar(15) | NO   |     | NULL    |       |
| sal         | float(9,2)  | YES  |     | NULL    |       |
| doj         | date        | YES  |     | NULL    |       |
| passportnum | varchar(15) | YES  | UNI | NULL    |       |
| deptno      | int         | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

Oracle syntax:

create table myemployee

(

empno number(5) primary key,

fname varchar2(15) not null,

mname varchar2(15),

lname varchar2(15) not null,

sal number(9,2) check(sal >=1000),

doj date default sysdate,

passportnum varchar2(15) unique,

deptno number constraint fk_deptno references mydept_DBDA(deptid) on delete

cascade

)

32. Create following tables Student, Course

Student (sid,sname) ---------- sid ---primary key

Course(cid,cname)---------- cid ---primary key

```
mysql> create table student(
    -> sid int primary key not null,
    -> sname varchar(20) not null
    -> );
Query OK, 0 rows affected (0.11 sec)

mysql> create table course (
    -> cid int primary key not null,
    -> cname varchar(20)
    -> );
Query OK, 0 rows affected (0.14 sec)
```

```
mysql> desc student;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| sid   | int         | NO   | PRI | NULL    |       |
| sname | varchar(20) | NO   |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)

mysql> desc course;
+-------+-------------+------+-----+---------+-------+
| Field | Type        | Null | Key | Default | Extra |
+-------+-------------+------+-----+---------+-------+
| cid   | int         | NO   | PRI | NULL    |       |
| cname | varchar(20) | YES  |     | NULL    |       |
+-------+-------------+------+-----+---------+-------+
2 rows in set (0.00 sec)
```

Marks(studid,courseid,marks)

Sample data for marks table

studid,courseid,marks

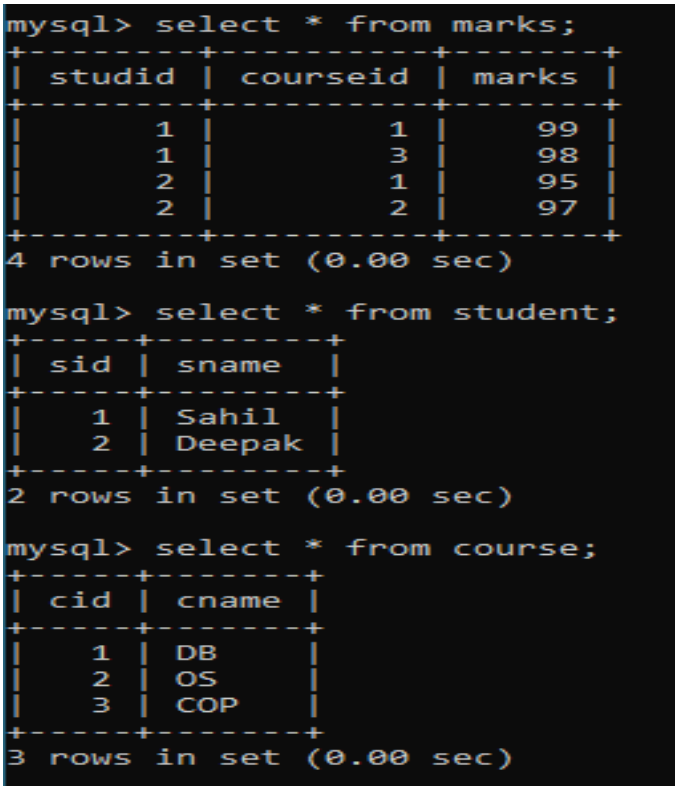
1 1 99

1 3 98

2 1 95

2 2 97

```
create table marks(
studid number,
courseid number,
marks number,
constraint pk primary key(studid,courseid),
constraint fk_sid foreign key (studid) references student(sid) on delete cascade,
constraint fk_cid foreign key (courseid) references course(cid)
)
```



```
mysql> select * from marks;
+--------+----------+-------+
| studid | courseid | marks |
+--------+----------+-------+
|      1 |        1 |    99 |
|      1 |        3 |    98 |
|      2 |        1 |    95 |
|      2 |        2 |    97 |
+--------+----------+-------+
4 rows in set (0.00 sec)

mysql> select * from student;
+-----+--------+
| sid | sname  |
+-----+--------+
|   1 | Sahil  |
|   2 | Deepak |
+-----+--------+
2 rows in set (0.00 sec)

mysql> select * from course;
+-----+-------+
| cid | cname |
+-----+-------+
|   1 | DB    |
|   2 | OS    |
|   3 | COP   |
+-----+-------+
3 rows in set (0.00 sec)
```

33. Create empty table emp10 with table structure same as emp table.

```
create table emp10 as
(
select *
from emp
where 1=2
);
```

```
mysql> create table emp10(
    -> select *
    -> from emp
    -> where 1=2
    -> );
Query OK, 0 rows affected (0.24 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from emp10;
Empty set (0.00 sec)

mysql> desc emp10;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| EMPNO    | int         | NO   |     | NULL    |       |
| ENAME    | varchar(10) | YES  |     | NULL    |       |
| JOB      | varchar(9)  | YES  |     | NULL    |       |
| MGR      | int         | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
| SAL      | decimal(7,2)| YES  |     | NULL    |       |
| COMM     | decimal(7,2)| YES  |     | NULL    |       |
| DEPTNO   | int         | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> desc emp;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| EMPNO    | int         | NO   |     | NULL    |       |
| ENAME    | varchar(10) | YES  |     | NULL    |       |
| JOB      | varchar(9)  | YES  |     | NULL    |       |
| MGR      | int         | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
| SAL      | decimal(7,2)| YES  |     | NULL    |       |
| COMM     | decimal(7,2)| YES  |     | NULL    |       |
| DEPTNO   | int         | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
8 rows in set (0.00 sec)
```

34. Solve following using alter table

add primary key constraint on emp,dept,salgrade

emp ----→ empno

dept---→ deptno

salgrade---→ grade

add foreign key constarint in emp

deptno --->> dept(deptno)

add new column in emp table netsal with constraint default 1000

```
mysql> desc emp;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| EMPNO    | int         | NO   | PRI | NULL    |       |
| ENAME    | varchar(10) | YES  |     | NULL    |       |
| JOB      | varchar(9)  | YES  |     | NULL    |       |
| MGR      | int         | YES  |     | NULL    |       |
| HIREDATE | date        | YES  |     | NULL    |       |
| SAL      | decimal(7,2)| YES  |     | NULL    |       |
| COMM     | decimal(7,2)| YES  |     | NULL    |       |
| DEPTNO   | int         | YES  | MUL | NULL    |       |
| netsal   | double(9,2) | YES  |     | 1000.00 |       |
+----------+-------------+------+-----+---------+-------+
9 rows in set (0.00 sec)

mysql> desc dept;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| DEPTNO | int         | NO   | PRI | NULL    |       |
| DNAME  | varchar(14) | YES  |     | NULL    |       |
| LOC    | varchar(13) | YES  |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> desc salgrade;
+-------+------+------+-----+---------+-------+
| Field | Type | Null | Key | Default | Extra |
+-------+------+------+-----+---------+-------+
| GRADE | int  | NO   | PRI | NULL    |       |
| LOSAL | int  | YES  |     | NULL    |       |
| HISAL | int  | YES  |     | NULL    |       |
+-------+------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

35. Update employee sal ---- increase sal of each employee by 15 % sal +comm, change the job to manager and mgr to 7777 for all employees in deptno 10.

```
mysql> update emp
    -> set sal  = sal+(sal* 0.15)+ifnull(comm,0), job = 'MANAGER', mgr = 7777
    -> where deptno = 10;
Query OK, 3 rows affected (0.02 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql>
mysql> select * from emp
    -> where deptno = 10;
+-------+--------+---------+------+------------+---------+------+--------+
| EMPNO | ENAME  | JOB     | MGR  | HIREDATE   | SAL     | COMM | DEPTNO |
+-------+--------+---------+------+------------+---------+------+--------+
|  7782 | CLARK  | MANAGER | 7777 | 1981-06-09 | 2817.50 | NULL |     10 |
|  7839 | KING   | MANAGER | 7777 | 1981-11-17 | 5750.00 | NULL |     10 |
|  7934 | MILLER | MANAGER | 7777 | 1982-01-23 | 1495.00 | NULL |     10 |
+-------+--------+---------+------+------------+---------+------+--------+
3 rows in set (0.00 sec)
```

36. Change job of smith to senior clerk

```
mysql> alter table emp
    -> modify job varchar(15);
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> update emp
    -> set job = "Senior Clerk"
    -> where ename = 'smith';
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from emp
    -> where ename = 'smith';
+-------+-------+-------------+------+------------+-------+------+--------+---------+
| EMPNO | ENAME | job         | MGR  | HIREDATE   | SAL   | COMM | DEPTNO | netsal  |
+-------+-------+-------------+------+------------+-------+------+--------+---------+
|  7369 | SMITH | Senior Clerk | 7902 | 1980-12-17 | 800.00 | NULL |     20 | 1000.00 |
+-------+-------+-------------+------+------------+-------+------+--------+---------+
1 row in set (0.00 sec)
```

37. increase salary of all employees by 15% if they are earning some commission

```
mysql> update emp
    -> set sal = sal + (sal * 0.15)
    -> Where comm > 0;
Query OK, 3 rows affected (0.02 sec)
Rows matched: 3  Changed: 3  Warnings: 0

mysql> select * from emp
    -> where comm > 0;
+-------+--------+----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+----------+------+------------+---------+---------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1840.00 |  300.00 |     30 |
|  7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 1437.50 |  500.00 |     30 |
|  7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1437.50 | 1400.00 |     30 |
+-------+--------+----------+------+------------+---------+---------+--------+
3 rows in set (0.00 sec)
```

38. list all employees with sal>smith's sal

```
mysql> select *
    -> from emp
    -> where sal > (select sal from emp where ename = 'smith');
+-------+--------+----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+----------+------+------------+---------+---------+--------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1840.00 |  300.00 |     30 |
|  7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 1437.50 |  500.00 |     30 |
|  7566 | JONES  | MANAGER  | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 |
|  7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1437.50 | 1400.00 |     30 |
|  7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 |
|  7782 | CLARK  | MANAGER  | 7777 | 1981-06-09 | 2817.50 |    NULL |     10 |
|  7788 | SCOTT  | ANALYST  | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 |
|  7839 | KING   | MANAGER  | 7777 | 1981-11-17 | 5750.00 |    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 | MANAGER  | 7777 | 1982-01-23 | 1495.00 |    NULL |     10 |
+-------+--------+----------+------+------------+---------+---------+--------+
13 rows in set (0.00 sec)
```

39. list all employees who are working in smith's department

```
mysql> select *
    -> from emp
    -> where deptno = (select deptno from emp where ename = 'smith');
+-------+-------+---------+------+------------+---------+------+--------+
| 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 |
|  7788 | SCOTT | ANALYST | 7566 | 1982-12-09 | 3000.00 | NULL |     20 |
|  7876 | ADAMS | CLERK   | 7788 | 1983-01-12 | 1100.00 | NULL |     20 |
|  7902 | FORD  | ANALYST | 7566 | 1981-12-03 | 3000.00 | NULL |     20 |
+-------+-------+---------+------+------------+---------+------+--------+
5 rows in set (0.00 sec)
```

40. list all employees with sal < rajan's sal and salary > revati's sal

```
mysql> select *
    -> from emp
    -> where sal between (select sal from emp where ename = 'rajan') and (select sal from emp whe
re ename = 'Revati');
+-------+--------+------------+------+------------+---------+--------+--------+
| EMPNO | ENAME  | job        | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO |
+-------+--------+------------+------+------------+---------+--------+--------+
|  7499 | ALLEN  | SALESMAN   | 7698 | 1981-02-20 | 1840.00 | 300.00 |     30 |
|  7844 | TURNER | SALESMAN   | 7698 | 1981-09-08 | 1500.00 |   0.00 |     30 |
|  7062 | REVATI | OPERATIONS | 8000 | 1999-12-09 | 2500.00 | 200.00 |     40 |
|  8109 | RAJAN  | OPERATIONS | 8452 | 1999-03-10 | 1500.00 | 200.00 |     40 |
+-------+--------+------------+------+------------+---------+--------+--------+
4 rows in set (0.00 sec)
```

41. delete all employees working in alan's department

```
mysql> delete from emp
    -> where deptno in (select deptno from dept where ename='ALLEN');
Query OK, 1 row affected (16.46 sec)

mysql> select * from emp;
+-------+--------+-----------+------+------------+---------+---------+--------+
| 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 |
|  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)
```

42. change salary of Alan to the salary of Miller.

```
mysql> update emp
    -> set sal=(select sal from (select * from emp)e where e.ename='MILLER') where ename='ALLEN';
Query OK, 1 row affected (1.16 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select*from emp;
+-------+--------+-----------+------+------------+---------+---------+--------+
| 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 | 1300.00 |  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 |
+-------+--------+-----------+------+------------+---------+---------+--------+
14 rows in set (0.04 sec)
```

43. change the salary of all employees who are working in WARD's department to the salary of Miller.

```
mysql> update emp
    -> set sal = (select sal from (select * from emp)e where e.ename = 'Miller')
    -> where deptno = (select deptno from (select * from emp) a where a.ename = 'Wa
rd');
Query OK, 6 rows affected (0.44 sec)
Rows matched: 6  Changed: 6  Warnings: 0

mysql> select * from emp;
+-------+--------+-----------+------+------------+---------+---------+--------+
| EMPNO | ENAME  | JOB       | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO |
+-------+--------+-----------+------+------------+---------+---------+--------+
|  7369 | SMITH  | CLERK     | 7902 | 1980-12-17 | 1000.00 |    NULL |     20 |
|  7499 | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 1625.00 |  300.00 |     30 |
|  7521 | WARD   | SALESMAN  | 7698 | 1981-02-22 | 1625.00 |  500.00 |     30 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 3718.75 |    NULL |     20 |
|  7654 | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 1625.00 | 1400.00 |     30 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 1625.00 |    NULL |     30 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 3062.50 |    NULL |     10 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3750.00 |    NULL |     20 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 6250.00 |    NULL |     10 |
|  7844 | TURNER | SALESMAN  | 7698 | 1981-09-08 | 1625.00 |    0.00 |     30 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1375.00 |    NULL |     20 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 | 1625.00 |    NULL |     30 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3750.00 |    NULL |     20 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1625.00 |    NULL |     10 |
+-------+--------+-----------+------+------------+---------+---------+--------+
14 rows in set (0.00 sec)
```

44. list all employees with salary > either Smith's salary or alan's sal

```
mysql> select *
    -> from emp
    -> where sal > any(select sal from emp where ename in('SMITH','ALLEN'));
+-------+--------+-----------+------+------------+---------+---------+--------+---------+
| EMPNO | ENAME  | job       | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO | netsal  |
+-------+--------+-----------+------+------------+---------+---------+--------+---------+
|  7499 | ALLEN  | SALESMAN  | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 | 1000.00 |
|  7521 | WARD   | SALESMAN  | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 | 1000.00 |
|  7566 | JONES  | MANAGER   | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 | 1000.00 |
|  7654 | MARTIN | SALESMAN  | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 | 1000.00 |
|  7698 | BLAKE  | MANAGER   | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 | 1000.00 |
|  7782 | CLARK  | MANAGER   | 7839 | 1981-06-09 | 2450.00 |    NULL |     10 | 1000.00 |
|  7788 | SCOTT  | ANALYST   | 7566 | 1982-12-09 | 3000.00 |    NULL |     20 | 1000.00 |
|  7839 | KING   | PRESIDENT | NULL | 1981-11-17 | 5000.00 |    NULL |     10 | 1000.00 |
|  7844 | TURNER | SALESMAN  | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 | 1000.00 |
|  7876 | ADAMS  | CLERK     | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 | 1000.00 |
|  7900 | JAMES  | CLERK     | 7698 | 1981-12-03 |  950.00 |    NULL |     30 | 1000.00 |
|  7902 | FORD   | ANALYST   | 7566 | 1981-12-03 | 3000.00 |    NULL |     20 | 1000.00 |
|  7934 | MILLER | CLERK     | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 | 1000.00 |
+-------+--------+-----------+------+------------+---------+---------+--------+---------+
13 rows in set (0.00 sec)
```

45. list all employees who earn more than average sal of dept 10

```
mysql> select *
    -> from emp
    -> where sal > (select avg(sal) from emp where deptno = 10);
+-------+-------+-----------+------+------------+---------+------+--------+---------+
| EMPNO | ENAME | job       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO | netsal  |
+-------+-------+-----------+------+------------+---------+------+--------+---------+
|  7566 | JONES | MANAGER   | 7839 | 1981-04-02 | 2975.00 | NULL |     20 | 1000.00 |
|  7788 | SCOTT | ANALYST   | 7566 | 1982-12-09 | 3000.00 | NULL |     20 | 1000.00 |
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 | 1000.00 |
|  7902 | FORD  | ANALYST   | 7566 | 1981-12-03 | 3000.00 | NULL |     20 | 1000.00 |
+-------+-------+-----------+------+------------+---------+------+--------+---------+
4 rows in set (0.01 sec)
```

46. list all employees who earn more than average sal of Alan's department

```
mysql> select *
    -> from emp
    -> where sal > (select avg(sal) from emp where ename = 'ALLEN');
+-------+-------+-----------+------+------------+---------+------+--------+---------+
| EMPNO | ENAME | job       | MGR  | HIREDATE   | SAL     | COMM | DEPTNO | netsal  |
+-------+-------+-----------+------+------------+---------+------+--------+---------+
|  7566 | JONES | MANAGER   | 7839 | 1981-04-02 | 2975.00 | NULL |     20 | 1000.00 |
|  7698 | BLAKE | MANAGER   | 7839 | 1981-05-01 | 2850.00 | NULL |     30 | 1000.00 |
|  7782 | CLARK | MANAGER   | 7839 | 1981-06-09 | 2450.00 | NULL |     10 | 1000.00 |
|  7788 | SCOTT | ANALYST   | 7566 | 1982-12-09 | 3000.00 | NULL |     20 | 1000.00 |
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 | NULL |     10 | 1000.00 |
|  7902 | FORD  | ANALYST   | 7566 | 1981-12-03 | 3000.00 | NULL |     20 | 1000.00 |
+-------+-------+-----------+------+------------+---------+------+--------+---------+
6 rows in set (0.00 sec)
```

47. list all employees who are working in purchase department

```
mysql> select *
    -> from dept;
+--------+------------+-----------+
| DEPTNO | DNAME      | LOC       |
+--------+------------+-----------+
|     10 | ACCOUNTING | NEW YORK  |
|     20 | RESEARCH   | DALLAS    |
|     30 | SALES      | CHICAGO   |
|     40 | OPERATIONS | BOSTON    |
+--------+------------+-----------+
4 rows in set (0.00 sec)
```

```
mysql> select *
    -> from emp
    -> where deptno = (select deptno from dept where dname = 'Sales');
+-------+--------+----------+------+------------+---------+---------+--------+---------+
| EMPNO | ENAME  | job      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO | netsal  |
+-------+--------+----------+------+------------+---------+---------+--------+---------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 | 1000.00 |
|  7521 | WARD   | SALESMAN | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 | 1000.00 |
|  7654 | MARTIN | SALESMAN | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 | 1000.00 |
|  7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 | 1000.00 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 | 1000.00 |
|  7900 | JAMES  | CLERK    | 7698 | 1981-12-03 |  950.00 |    NULL |     30 | 1000.00 |
+-------+--------+----------+------+------------+---------+---------+--------+---------+
6 rows in set (0.00 sec)

mysql> select *
    -> from emp
    -> where deptno = (select deptno from dept where dname = 'Purchase');
Empty set (0.00 sec)
```

48. list all employees who earn more than average salary of their own department

```
mysql> select *
    -> from emp e
    -> where sal > (select avg(sal) from emp a where e.deptno = a.deptno);
+-------+-------+-----------+------+------------+---------+--------+--------+---------+
| EMPNO | ENAME | job       | MGR  | HIREDATE   | SAL     | COMM   | DEPTNO | netsal  |
+-------+-------+-----------+------+------------+---------+--------+--------+---------+
|  7499 | ALLEN | SALESMAN  | 7698 | 1981-02-20 | 1600.00 | 300.00 |     30 | 1000.00 |
|  7566 | JONES | MANAGER   | 7839 | 1981-04-02 | 2975.00 |   NULL |     20 | 1000.00 |
|  7698 | BLAKE | MANAGER   | 7839 | 1981-05-01 | 2850.00 |   NULL |     30 | 1000.00 |
|  7788 | SCOTT | ANALYST   | 7566 | 1982-12-09 | 3000.00 |   NULL |     20 | 1000.00 |
|  7839 | KING  | PRESIDENT | NULL | 1981-11-17 | 5000.00 |   NULL |     10 | 1000.00 |
|  7902 | FORD  | ANALYST   | 7566 | 1981-12-03 | 3000.00 |   NULL |     20 | 1000.00 |
+-------+-------+-----------+------+------------+---------+--------+--------+---------+
6 rows in set (0.00 sec)
```

49. list all employees who earn sal < than their managers salary

```
mysql> select *
    -> from emp e
    -> where sal < any(select sal from emp a where e.mgr = a.empno);
+-------+--------+--------------+------+------------+---------+---------+--------+---------+
| EMPNO | ENAME  | job          | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO | netsal  |
+-------+--------+--------------+------+------------+---------+---------+--------+---------+
|  7369 | SMITH  | Senior Clerk | 7902 | 1980-12-17 |  800.00 |    NULL |     20 | 1000.00 |
|  7499 | ALLEN  | SALESMAN     | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 | 1000.00 |
|  7521 | WARD   | SALESMAN     | 7698 | 1981-02-22 | 1250.00 |  500.00 |     30 | 1000.00 |
|  7566 | JONES  | MANAGER      | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 | 1000.00 |
|  7654 | MARTIN | SALESMAN     | 7698 | 1981-09-28 | 1250.00 | 1400.00 |     30 | 1000.00 |
|  7698 | BLAKE  | MANAGER      | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 | 1000.00 |
|  7782 | CLARK  | MANAGER      | 7839 | 1981-06-09 | 2450.00 |    NULL |     10 | 1000.00 |
|  7844 | TURNER | SALESMAN     | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 | 1000.00 |
|  7876 | ADAMS  | CLERK        | 7788 | 1983-01-12 | 1100.00 |    NULL |     20 | 1000.00 |
|  7900 | JAMES  | CLERK        | 7698 | 1981-12-03 |  950.00 |    NULL |     30 | 1000.00 |
|  7934 | MILLER | CLERK        | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 | 1000.00 |
+-------+--------+--------------+------+------------+---------+---------+--------+---------+
11 rows in set (0.00 sec)
```

50. list all employees who are earning more than average salary of their job

```
mysql> select *
    -> from emp e
    -> where sal > (select avg(sal) from emp a where e.job = a.job);
+-------+--------+----------+------+------------+---------+---------+--------+---------+
| EMPNO | ENAME  | job      | MGR  | HIREDATE   | SAL     | COMM    | DEPTNO | netsal  |
+-------+--------+----------+------+------------+---------+---------+--------+---------+
|  7499 | ALLEN  | SALESMAN | 7698 | 1981-02-20 | 1600.00 |  300.00 |     30 | 1000.00 |
|  7566 | JONES  | MANAGER  | 7839 | 1981-04-02 | 2975.00 |    NULL |     20 | 1000.00 |
|  7698 | BLAKE  | MANAGER  | 7839 | 1981-05-01 | 2850.00 |    NULL |     30 | 1000.00 |
|  7844 | TURNER | SALESMAN | 7698 | 1981-09-08 | 1500.00 |    0.00 |     30 | 1000.00 |
|  7934 | MILLER | CLERK    | 7782 | 1982-01-23 | 1300.00 |    NULL |     10 | 1000.00 |
+-------+--------+----------+------+------------+---------+---------+--------+---------+
5 rows in set (0.00 sec)
```

51. display employee name and department

```
mysql> select ename, deptno
    -> from emp;
+--------+--------+
| ename  | deptno |
+--------+--------+
| 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)
```

52. display empno,name,department name and grade (use emp,dept and salgrade table)

```
mysql> select empno,ename,dname,grade
    -> from emp e,dept d,salgrade sg
    -> where e.deptno=d.deptno and e.sal between sg.losal and sg.hisal ;
+-------+--------+------------+-------+
| empno | ename  | dname      | grade |
+-------+--------+------------+-------+
|  7900 | JAMES  | SALES      |     1 |
|  7369 | SMITH  | RESEARCH   |     1 |
|  7876 | ADAMS  | RESEARCH   |     2 |
|  7934 | MILLER | ACCOUNTING |     3 |
|  7844 | TURNER | SALES      |     3 |
|  7654 | MARTIN | SALES      |     3 |
|  7521 | WARD   | SALES      |     3 |
|  7499 | ALLEN  | SALES      |     3 |
|  7902 | FORD   | RESEARCH   |     5 |
|  7839 | KING   | ACCOUNTING |     5 |
|  7788 | SCOTT  | RESEARCH   |     5 |
|  7782 | CLARK  | ACCOUNTING |     5 |
|  7698 | BLAKE  | SALES      |     5 |
|  7566 | JONES  | RESEARCH   |     5 |
+-------+--------+------------+-------+
14 rows in set (0.00 sec)
```

53. list all employees number,name, mgrno and manager name

```
mysql> select e.empno, e.ename, e.mgr, m.ename
    -> from emp e, emp m
    -> where e.mgr = m.empno;
+-------+--------+------+-------+
| empno | ename  | mgr  | ename |
+-------+--------+------+-------+
|  7369 | SMITH  | 7902 | FORD  |
|  7499 | ALLEN  | 7698 | BLAKE |
|  7521 | WARD   | 7698 | BLAKE |
|  7566 | JONES  | 7839 | KING  |
|  7654 | MARTIN | 7698 | BLAKE |
|  7698 | BLAKE  | 7839 | KING  |
|  7782 | CLARK  | 7839 | KING  |
|  7788 | SCOTT  | 7566 | JONES |
|  7844 | TURNER | 7698 | BLAKE |
|  7876 | ADAMS  | 7788 | SCOTT |
|  7900 | JAMES  | 7698 | BLAKE |
|  7902 | FORD   | 7566 | JONES |
|  7934 | MILLER | 7782 | CLARK |
+-------+--------+------+-------+
13 rows in set (0.00 sec)
```

54. create following tables and solve following questions(primary keys are marked in yellow)

foreign keys are marked in green

product(pid,pname,price,qty,cid,sid)

salesman (sid,sname,address)

category(cid,cname,description)

```
mysql> select * from product;
+-----+-------------+-------+------+------+------+
| pid | pname       | price | qty  | cid  | sid  |
+-----+-------------+-------+------+------+------+
|  10 | Lays        | 20.00 |   50 |    1 |  101 |
|  20 | Limca       | 30.00 |  100 |    2 |  102 |
|  30 | Solid Masti | 20.00 |   40 |    3 |  103 |
|  40 | Red Bull    | 20.00 |  135 |    4 |  104 |
|  50 | Orange      | 20.00 |  100 |    5 |  105 |
+-----+-------------+-------+------+------+------+
5 rows in set (0.00 sec)
```

```
mysql> select * from category;
+-----+-------------+-------------------+
| cid | cname       | cdesc             |
+-----+-------------+-------------------+
|   1 | Chips       | very crispy       |
|   2 | Cold drink  | cool cool         |
|   3 | Snacks      | Yummy Yummy       |
|   4 | Energy Drink | Gives you wingsss |
|   5 | Juices      | Refreshing        |
+-----+-------------+-------------------+
5 rows in set (0.00 sec)
```

```
mysql> select * from salesman;
+-----+--------+---------+
| sid | sname  | address |
+-----+--------+---------+
| 101 | Alex   | Nagpur  |
| 102 | Ben    | Goa     |
| 103 | Roy    | Pune    |
| 104 | Jason  | Mumbai  |
| 105 | Andrew | Jaipur  |
+-----+--------+---------+
5 rows in set (0.00 sec)
```

1. list all product name,their category name and name of a person, who sold that product

```
mysql> select p.pname, c.cname, s.sname
    -> from product p, category c, salesman s
    -> where p.sid = s.sid and p.cid = c.cid;
+-------------+--------------+--------+
| pname       | cname        | sname  |
+-------------+--------------+--------+
| Lays        | Chips        | Alex   |
| Limca       | Cold drink   | Ben    |
| Solid Masti | Snacks       | Roy    |
| Red Bull    | Energy Drink | Jason  |
| Orange      | Juices       | Andrew |
+-------------+--------------+--------+
5 rows in set (0.00 sec)
```

2. list all product name and salesman name for all salesman who stays in pune

```
mysql> select pname, sname
    -> from product p, salesman s
    -> where p.sid = s.sid and s.address = 'Pune';
+-------------+-------+
| pname       | sname |
+-------------+-------+
| Solid Masti | Roy   |
+-------------+-------+
1 row in set (0.00 sec)
```

3. list all product name and category name

```
mysql> select pname, cname
    -> from product p, category c
    -> where p.cid = c.cid;
+-------------+--------------+
| pname       | cname        |
+-------------+--------------+
| Lays        | Chips        |
| Limca       | Cold drink   |
| Solid Masti | Snacks       |
| Red Bull    | Energy Drink |
| Orange      | Juices       |
+-------------+--------------+
5 rows in set (0.00 sec)
```

55. create following tables and solve following questions(primary keys are marked in yellow) foreign keys are marked in green

faculty(fid,fname,sp.skill1,sp.skill2)

courses(cid,cname,rid,fid)

room(roomid,rname,rloc)

faculty

fid fname spskill1 spskill2

10 kjzhcjhz a b

11 sdd x z

12 lksjk a x

13 ksdjlkj a b

```
mysql> select * from faculty;
+-----+----------+----------+----------+
| fid | fname    | spskill1 | spskill2 |
+-----+----------+----------+----------+
|  10 | kjzhcjhz | a        | b        |
|  12 | sdd      | x        | z        |
|  13 | lksjk    | a        | x        |
|  14 | ksdjlkj  | a        | b        |
+-----+----------+----------+----------+
4 rows in set (0.00 sec)
```

courses

cid cname rid fid

121 DBDA 100 10

131 DAC 101

141 DTISS

151 DIOT 105 12

```
mysql> select * from courses;
+-----+--------+------+------+
| cid | cname  | rid  | fid  |
+-----+--------+------+------+
| 121 | DBDA   |  100 |   10 |
| 131 | DAC    |  101 | NULL |
| 141 | DITISS | NULL | NULL |
| 151 | DIOT   |  105 |   12 |
+-----+--------+------+------+
4 rows in set (0.00 sec)
```

Room

roomid rname rloc

100 jasmin 1st floor

101 Rose 2nd floor

105 Lotus 1st floor

103 Mogra 1st floor

```
mysql> select * from room;
+--------+-------+-----------+
| roomid | rname | rloc      |
+--------+-------+-----------+
|    100 | jasmin | 1st Floor |
|    101 | Rose   | 2nd Floor |
|    103 | Mogra  | 1st Floor |
|    105 | Lotus  | 1st Floor |
+--------+-------+-----------+
4 rows in set (0.00 sec)
```

1. list all courses for which no room is assigned and all rooms which are available

```
mysql> select c.cid, c.cname,r.roomid, r.rname
    -> from courses c left join room r
    -> on c.rid = r.roomid
    -> where r.roomid is null
    -> union
    -> select c.cid, c.cname,r.roomid, r.rname
    -> from courses c right join room r
    -> on c.rid = r.roomid
    -> where c.cid is null;
+------+--------+--------+-------+
| cid  | cname  | roomid | rname |
+------+--------+--------+-------+
|  141 | DITISS |   NULL | NULL  |
| NULL | NULL   |    103 | Mogra |
+------+--------+--------+-------+
2 rows in set (0.00 sec)
```

2. list all faculties who are not allocated to any course and rooms which are not allocated to any course

```
mysql> select f.fid, f.fname, r.roomid, r.rname
    -> from faculty f left join courses c
    -> on c.fid = f.fid left join room r on c.rid = r.roomid
    -> where c.fid is null
    -> union
    -> select null,null,r.roomid,r.rname
    -> from courses c right join room r
    -> on r.roomid = c.rid
    -> where c.rid is null;
+------+---------+--------+-------+
| fid  | fname   | roomid | rname |
+------+---------+--------+-------+
|   13 | lksjk   |   NULL | NULL  |
|   14 | ksdjlkj |   NULL | NULL  |
| NULL | NULL    |    103 | Mogra |
+------+---------+--------+-------+
3 rows in set (0.00 sec)
```

3. list all rooms which are allocated or not allocated to any courses

```
mysql> select r.roomid,r.rname,c.cid,c.cname
    -> from room r left join courses c
    -> on r.roomid = c.rid;
+--------+--------+------+-------+
| roomid | rname  | cid  | cname |
+--------+--------+------+-------+
|    100 | jasmin |  121 | DBDA  |
|    101 | Rose   |  131 | DAC   |
|    103 | Mogra  | NULL | NULL  |
|    105 | Lotus  |  151 | DIOT  |
+--------+--------+------+-------+
4 rows in set (0.00 sec)
```

4. list all rooms which are not allocated to any courses

```
mysql> select *
    -> from room
    -> where not exists(select rid from courses where rid = roomid);
+--------+-------+-----------+
| roomid | rname | rloc      |
+--------+-------+-----------+
|    103 | Mogra | 1st Floor |
+--------+-------+-----------+
1 row in set (0.00 sec)
```

5. display courses and faculty assigned to those courses whose special skill is database

```
mysql> select c.cid,c.cname,f.fid,f.fname,f.spskill1,f.spskill2
    -> from courses c left join faculty f
    -> on c.fid = f.fid
    -> where f.spskill1 = 'Database'or f.spskill1 = 'Java' or f.spskill2 = 'Databas
e' or f.spskill2 = 'Java';
+-----+-------+------+----------+----------+----------+
| cid | cname | fid  | fname    | spskill1 | spskill2 |
+-----+-------+------+----------+----------+----------+
| 121 | DBDA  |   10 | kjzhcjhz | Database | Java     |
+-----+-------+------+----------+----------+----------+
1 row in set (0.00 sec)
```

6. display time table --- it should contain course details , faculty and room details

56. create following tables with given constraints

product---- qty >0, default 20.00,pname not null and unique

provided pname qty price catid sid

123 lays 30 30.00 1 12

111 pepsi 40 50.00 4 11

134 nachos 50 50.00 1 12

124 dairy milk 40 60.00 2 14

125 pringles 40 60.00 1 14

salesman ----- sname -----not null

sid sname city

11 Rahul Pune

12 Kirti Mumbai

13 Prasad Nashik

14 Arnav Amaravati

category ---- cname unique and not null

cid cname description

1 chips very crunchy

2 chocolate very chocolaty

3 snacks yummy

4 cold drinks thanda thanda cool cool

```
mysql> select * from product2;
+-----+-----------+------+-------+-------+------+
| pid | pname     | qty  | price | catid | sid  |
+-----+-----------+------+-------+-------+------+
| 111 | Pepsi     |   40 | 50.00 |     4 |   11 |
| 123 | Lays      |   30 | 30.00 |     1 |   12 |
| 124 | Dairy Milk|   40 | 60.00 |     2 |   14 |
| 125 | Pringles  |   40 | 60.00 |     1 |   14 |
| 134 | Nachos    |   50 | 50.00 |     1 |   12 |
+-----+-----------+------+-------+-------+------+
5 rows in set (0.00 sec)
```

```
mysql> select * from category2;
+-----+-------------+-------------------------+
| cid | cname       | cdesc                   |
+-----+-------------+-------------------------+
|   1 | Chips       | Very Crunchy            |
|   2 | Chocolate   | Very Chocolaty          |
|   3 | Snacks      | Yummy                   |
|   4 | Cold Drinks | Thanda Thanda cool cool |
+-----+-------------+-------------------------+
4 rows in set (0.00 sec)
```

```
mysql> select * from salesman2;
+-----+--------+-----------+
| sid | sname  | city      |
+-----+--------+-----------+
|  11 | Rahul  | Pune      |
|  12 | Kirti  | Mumbai    |
|  13 | Prasad | Nashik    |
|  14 | Arnav  | Amaravati |
+-----+--------+-----------+
4 rows in set (0.00 sec)
```

1. List all products with category chips

```
mysql> select *
    -> from product2 p, category2 c
    -> where p.catid = c.cid and c.cname = 'chips';
+-----+----------+------+-------+-------+------+-----+-------+--------------+
| pid | pname    | qty  | price | catid | sid  | cid | cname | cdesc        |
+-----+----------+------+-------+-------+------+-----+-------+--------------+
| 123 | Lays     |   30 | 30.00 |     1 |   12 |   1 | Chips | Very Crunchy |
| 125 | Pringles |   40 | 60.00 |     1 |   14 |   1 | Chips | Very Crunchy |
| 134 | Nachos   |   50 | 50.00 |     1 |   12 |   1 | Chips | Very Crunchy |
+-----+----------+------+-------+-------+------+-----+-------+--------------+
3 rows in set (0.00 sec)
```

2. display all products sold by kirti

```
mysql> select *
    -> from product2 p, salesman2 s
    -> where p.sid = s.sid and s.sname = 'Kirti';
+-----+--------+------+-------+-------+------+-----+-------+--------+
| pid | pname  | qty  | price | catid | sid  | sid | sname | city   |
+-----+--------+------+-------+-------+------+-----+-------+--------+
| 123 | Lays   |   30 | 30.00 |     1 |   12 |  12 | Kirti | Mumbai |
| 134 | Nachos |   50 | 50.00 |     1 |   12 |  12 | Kirti | Mumbai |
+-----+--------+------+-------+-------+------+-----+-------+--------+
2 rows in set (0.00 sec)
```

3. display all salesman who do not sold any product

```
mysql> select *
    -> from salesman2 s
    -> where not exists(select * from product2 p where s.sid =p.sid);
+-----+--------+--------+
| sid | sname  | city   |
+-----+--------+--------+
|  13 | Prasad | Nashik |
+-----+--------+--------+
1 row in set (0.00 sec)
```

4. display all category for which no product is there

```
mysql> select *
    -> from category2 c
    -> where not exists(select * from product2 p where c.cid = p.catid);
+-----+--------+-------+
| cid | cname  | cdesc |
+-----+--------+-------+
|   3 | Snacks | Yummy |
+-----+--------+-------+
1 row in set (0.00 sec)
```

5. display all products with no category assigned

```
mysql> select *
    -> from product2
    -> where catid is null;
Empty set (0.00 sec)
```

6. list all salesman who stays in city with name starts with P or N

```
mysql> select *
    -> from salesman2
    -> where sname regexp '^[PN].*$';
+-----+--------+--------+
| sid | sname  | city   |
+-----+--------+--------+
|  13 | Prasad | Nashik |
+-----+--------+--------+
1 row in set (0.00 sec)
```

7. add new column in salesman table by name credit limit

```
mysql> alter table salesman2
    -> add Credit_limit int after sname;
Query OK, 0 rows affected (0.16 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> select * from salesman2;
+-----+--------+--------------+-----------+
| sid | sname  | Credit_limit | city      |
+-----+--------+--------------+-----------+
|  11 | Rahul  |         NULL | Pune      |
|  12 | Kirti  |         NULL | Mumbai    |
|  13 | Prasad |         NULL | Nashik    |
|  14 | Arnav  |         NULL | Amaravati |
+-----+--------+--------------+-----------+
4 rows in set (0.00 sec)
```