**ASSIGNMENT No 3 : Solution**

**INNER JOIN**

mysql> desc account;

+-------------+-------------+------+-----+---------+----------------+

| Field | Type | Null | Key | Default | Extra |

+-------------+-------------+------+-----+---------+----------------+

| acc\_no | bigint | NO | PRI | NULL | auto\_increment |

| branch\_name | varchar(25) | NO | MUL | NULL | |

| balance | int | YES | | 500 | |

+-------------+-------------+------+-----+---------+----------------+

3 rows in set (0.00 sec)

mysql> desc depositor;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| cust\_name | varchar(25) | YES | MUL | NULL | |

| acc\_no | bigint | YES | MUL | NULL | |

+-----------+-------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> select \* from loan;

+---------+-------------+-------------+

| loan\_no | branch\_name | loan\_amount |

+---------+-------------+-------------+

| 202201 | Swargate | 200000 |

| 202202 | Katraj | 50000 |

| 202203 | Katraj | 25000 |

| 202204 | Hadapsar | 500000 |

| 202205 | Swargate | 100000 |

| 202206 | Swargate | 20000 |

| 202207 | Katraj | 250000 |

| 202208 | Swargate | 80000 |

| 202209 | Hadapsar | 2500 |

+---------+-------------+-------------+

9 rows in set (0.00 sec)

mysql> select \* from depositor;

+-----------+--------+

| cust\_name | acc\_no |

+-----------+--------+

| Suman | 2 |

| Divya | 6 |

| Karan | 8 |

| Ram | 9 |

| Deepika | 10 |

+-----------+--------+

5 rows in set (0.00 sec)

**Find the list of all depositors along with details such as account no, customer name and branch.**

**INNER JOIN**

mysql> select account.acc\_no, branch\_name, cust\_name from account, depositor where account.acc\_no = depositor.acc\_no;

+--------+-------------+-----------+

| acc\_no | branch\_name | cust\_name |

+--------+-------------+-----------+

| 2 | Swargate | Suman |

| 6 | Swargate | Divya |

| 8 | Katraj | Karan |

| 9 | Swargate | Ram |

| 10 | Hadapsar | Deepika |

+--------+-------------+-----------+

5 rows in set (0.00 sec)

**LEFT OUTER JOIN**

mysql> select account.acc\_no, branch\_name, cust\_name from account left join depositor on account.acc\_no = depositor.acc\_no order by acc\_no;

+--------+-------------+-----------+

| acc\_no | branch\_name | cust\_name |

+--------+-------------+-----------+

| 1 | Hadapsar | NULL |

| 2 | Swargate | Suman |

| 3 | Katraj | NULL |

| 4 | Kothrud | NULL |

| 5 | Kothrud | NULL |

| 6 | Swargate | Divya |

| 7 | Kothrud | NULL |

| 8 | Katraj | Karan |

| 9 | Swargate | Ram |

| 10 | Hadapsar | Deepika |

| 12 | Katraj | NULL |

+--------+-------------+-----------+

11 rows in set (0.00 sec)

**RIGHT OUTER JOIN**

mysql> select account.acc\_no, branch\_name, cust\_name from account right join depositor on account.acc\_no = depositor.acc\_no order by acc\_no;

+--------+-------------+-----------+

| acc\_no | branch\_name | cust\_name |

+--------+-------------+-----------+

| 2 | Swargate | Suman |

| 6 | Swargate | Divya |

| 8 | Katraj | Karan |

| 9 | Swargate | Ram |

| 10 | Hadapsar | Deepika |

+--------+-------------+-----------+

5 rows in set (0.00 sec)

**EMPLOYEE Database:**

mysql> create table dept(dept\_id varchar(10) primary key ,dept\_name varchar(20) NOT NULL, location varchar(20) NOT NULL, budget int default 10000);

Query OK, 0 rows affected (0.03 sec)

mysql> desc dept;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| dept\_id | varchar(10) | NO | PRI | NULL | |

| dept\_name | varchar(20) | NO | | NULL | |

| location | varchar(20) | NO | | NULL | |

| budget | int | YES | | 10000 | |

+-----------+-------------+------+-----+---------+-------+

4 rows in set (0.00 sec)

mysql> insert into dept(dept\_id,dept\_name,location,budget) values ('402','Mechanical','2nd Floor South',12000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into dept(dept\_id,dept\_name,location,budget) values ('403','I.T.','3rd Floor South',30000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into dept(dept\_id,dept\_name,location,budget) values ('401','Computer','2nd Floor North',15000);

Query OK, 1 row affected (0.00 sec)

mysql> insert into dept(dept\_id,dept\_name,location,budget) values ('404','Electronics','3rd Floor East',17000);

Query OK, 1 row affected (0.01 sec)

mysql> insert into dept(dept\_id,dept\_name,location,budget) values ('405','Human Resources','Ground Floor',14000);

Query OK, 1 row affected (0.01 sec)

mysql> select \* from dept;

+---------+-----------------+-----------------+--------+

| dept\_id | dept\_name | location | budget |

+---------+-----------------+-----------------+--------+

| 401 | Computer | 2nd Floor North | 15000 |

| 402 | Mechanical | 2nd Floor South | 12000 |

| 403 | I.T. | 3rd Floor South | 30000 |

| 404 | Electronics | 3rd Floor East | 17000 |

| 405 | Human Resources | Ground Floor | 14000 |

+---------+-----------------+-----------------+--------+

5 rows in set (0.00 sec)

mysql> create table emp (emp\_id int primary key ,name varchar(15) NOT NULL, dept\_id varchar(10), salary decimal(18,2) default 5000, DOB date , phone\_no varchar(10) UNIQUE, city varchar(20) NOT NULL, foreign key(dept\_id) references dept(dept\_id));

Query OK, 0 rows affected (0.06 sec)

mysql> desc emp;

+----------+---------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+---------------+------+-----+---------+-------+

| emp\_id | int | NO | PRI | NULL | |

| name | varchar(15) | NO | | NULL | |

| dept\_id | varchar(10) | YES | MUL | NULL | |

| salary | decimal(18,2) | YES | | 5000.00 | |

| DOB | date | YES | | NULL | |

| phone\_no | varchar(10) | YES | UNI | NULL | |

| city | varchar(20) | NO | | NULL | |

+----------+---------------+------+-----+---------+-------+

7 rows in set (0.00 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('101','ABC','401','7000.00','1995-07-24','8908908908','Delhi');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('102','ABCD','401','9000.00','1996-07-14','8908358918','Mumbai');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('103','PQR','402','12000.00','1990-11-01','7234358722','Mumbai');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('104','ABD','403','20000.00','1988-12-31','7456758722','Chennai');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('105','XYZ','404','6000.00','1997-02-09','7482538719','Bangalore');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('106','PQRS','405','21000.00','1995-04-09','7682538510','Pune');

Query OK, 1 row affected (0.01 sec)

mysql> insert into emp(emp\_id,name,dept\_id,salary,DOB,phone\_no,city) values ('107','DEF','405','25000.00','1992-07-26','7682513596','Kolkata');

Query OK, 1 row affected (0.01 sec)

mysql> select \* from emp;

+--------+------+---------+----------+------------+------------+-----------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+-----------+

| 101 | ABC | 401 | 7000.00 | 1995-07-24 | 8908908908 | Delhi |

| 102 | ABCD | 401 | 9000.00 | 1996-07-14 | 8908358918 | Mumbai |

| 103 | PQR | 402 | 12000.00 | 1990-11-01 | 7234358722 | Mumbai |

| 104 | ABD | 403 | 20000.00 | 1988-12-31 | 7456758722 | Chennai |

| 105 | XYZ | 404 | 6000.00 | 1997-02-09 | 7482538719 | Bangalore |

| 106 | PQRS | 405 | 21000.00 | 1995-04-09 | 7682538510 | Pune |

| 107 | DEF | 405 | 25000.00 | 1992-07-26 | 7682513596 | Kolkata |

+--------+------+---------+----------+------------+------------+-----------+

7 rows in set (0.00 sec)

**SUBQUERIES**:

**Display the information of employees, paid more than ‘ABCD from emp table**

mysql> select \* from emp where salary > (select salary from emp where name = 'ABCD');

+--------+------+---------+----------+------------+------------+---------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+---------+

| 103 | PQR | 402 | 12000.00 | 1990-11-01 | 7234358722 | Mumbai |

| 104 | ABD | 403 | 20000.00 | 1988-12-31 | 7456758722 | Chennai |

| 106 | PQRS | 405 | 21000.00 | 1995-04-09 | 7682538510 | Pune |

| 107 | DEF | 405 | 25000.00 | 1992-07-26 | 7682513596 | Kolkata |

+--------+------+---------+----------+------------+------------+---------+

4 rows in set (0.01 sec)

**List the name of the employees, who live in the same city as of ‘ABCD’.**

mysql> select \* from emp where city = (select city from emp where name = 'ABCD');

+--------+------+---------+----------+------------+------------+--------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+--------+

| 102 | ABCD | 401 | 9000.00 | 1996-07-14 | 8908358918 | Mumbai |

| 103 | PQR | 402 | 12000.00 | 1990-11-01 | 7234358722 | Mumbai |

+--------+------+---------+----------+------------+------------+--------+

2 rows in set (0.00 sec)

**Display the information of employees, paid less salary than average salary throughout the company.**

mysql> Select \* from emp where salary <(select avg(salary)from emp ) ;

+--------+------+---------+----------+------------+------------+-----------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+-----------+

| 101 | ABC | 401 | 7000.00 | 1995-07-24 | 8908908908 | Delhi |

| 102 | ABCD | 401 | 9000.00 | 1996-07-14 | 8908358918 | Mumbai |

| 103 | PQR | 402 | 12000.00 | 1990-11-01 | 7234358722 | Mumbai |

| 105 | XYZ | 404 | 6000.00 | 1997-02-09 | 7482538719 | Bangalore |

+--------+------+---------+----------+------------+------------+-----------+

4 rows in set (0.01 sec)

**Display the information of employees having maximum salary in company.**

mysql> Select \* from emp where salary =(select max(salary)from emp );

+--------+------+---------+----------+------------+------------+---------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+---------+

| 107 | DEF | 405 | 25000.00 | 1992-07-26 | 7682513596 | Kolkata |

+--------+------+---------+----------+------------+------------+---------+

1 row in set (0.00 sec)

**Display the employee name ,salary and department no of those employees whose salary is the minimum salary of that department.**

mysql> SELECT name, salary, dept\_id FROM EMP WHERE salary IN ( SELECT MIN(salary) FROM emp GROUP BY dept\_id );

+------+----------+---------+

| name | salary | dept\_id |

+------+----------+---------+

| ABC | 7000.00 | 401 |

| PQR | 12000.00 | 402 |

| ABD | 20000.00 | 403 |

| XYZ | 6000.00 | 404 |

| PQRS | 21000.00 | 405 |

+------+----------+---------+

5 rows in set (0.01 sec)

**VIEWS:**

mysql> Create view v1 as select name,salary from emp;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from v1;

+------+----------+

| name | salary |

+------+----------+

| ABC | 7000.00 |

| ABCD | 9000.00 |

| PQR | 12000.00 |

| ABD | 20000.00 |

| XYZ | 6000.00 |

| PQRS | 21000.00 |

| DEF | 25000.00 |

+------+----------+

7 rows in set (0.01 sec)

mysql> select \* from v1 where salary > 10000;

+------+----------+

| name | salary |

+------+----------+

| PQR | 12000.00 |

| ABD | 20000.00 |

| PQRS | 21000.00 |

| DEF | 25000.00 |

+------+----------+

4 rows in set (0.00 sec)

mysql> create or replace view v1 as select name, salary, dept\_id from emp where salary > 10000;

Query OK, 0 rows affected (0.01 sec)

mysql> desc v1;

+---------+---------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+---------+---------------+------+-----+---------+-------+

| name | varchar(15) | NO | | NULL | |

| salary | decimal(18,2) | YES | | 5000.00 | |

| dept\_id | varchar(10) | YES | | NULL | |

+---------+---------------+------+-----+---------+-------+

3 rows in set (0.00 sec)

mysql> select \* from v1;

+------+----------+---------+

| name | salary | dept\_id |

+------+----------+---------+

| PQR | 12000.00 | 402 |

| ABD | 20000.00 | 403 |

| PQRS | 21000.00 | 405 |

| DEF | 25000.00 | 405 |

+------+----------+---------+

4 rows in set (0.00 sec)

**//UPDATE using View**

mysql> update v1 set salary = 35000.00 where name = 'ABD';

Query OK, 1 row affected (0.00 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from v1;

+------+----------+---------+

| name | salary | dept\_id |

+------+----------+---------+

| PQR | 12000.00 | 402 |

| ABD | 35000.00 | 403 |

| PQRS | 21000.00 | 405 |

| DEF | 25000.00 | 405 |

+------+----------+---------+

4 rows in set (0.00 sec)

mysql> select \* from emp;

+--------+------+---------+----------+------------+------------+-----------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+-----------+

| 101 | ABC | 401 | 7000.00 | 1995-07-24 | 8908908908 | Delhi |

| 102 | ABCD | 401 | 9000.00 | 1996-07-14 | 8908358918 | Mumbai |

| 103 | PQR | 402 | 12000.00 | 1990-11-01 | 7234358722 | Mumbai |

| 104 | ABD | 403 | 35000.00 | 1988-12-31 | 7456758722 | Chennai |

| 105 | XYZ | 404 | 6000.00 | 1997-02-09 | 7482538719 | Bangalore |

| 106 | PQRS | 405 | 21000.00 | 1995-04-09 | 7682538510 | Pune |

| 107 | DEF | 405 | 25000.00 | 1992-07-26 | 7682513596 | Kolkata |

+--------+------+---------+----------+------------+------------+-----------+

7 rows in set (0.00 sec)

//**DELETE**

mysql> delete from v1 where dept\_id = 402;

Query OK, 1 row affected (0.01 sec)

mysql> select \* from v1;

+------+----------+---------+

| name | salary | dept\_id |

+------+----------+---------+

| ABD | 35000.00 | 403 |

| PQRS | 21000.00 | 405 |

| DEF | 25000.00 | 405 |

+------+----------+---------+

3 rows in set (0.00 sec)

mysql> select \* from emp;

+--------+------+---------+----------+------------+------------+-----------+

| emp\_id | name | dept\_id | salary | DOB | phone\_no | city |

+--------+------+---------+----------+------------+------------+-----------+

| 101 | ABC | 401 | 7000.00 | 1995-07-24 | 8908908908 | Delhi |

| 102 | ABCD | 401 | 9000.00 | 1996-07-14 | 8908358918 | Mumbai |

| 104 | ABD | 403 | 35000.00 | 1988-12-31 | 7456758722 | Chennai |

| 105 | XYZ | 404 | 6000.00 | 1997-02-09 | 7482538719 | Bangalore |

| 106 | PQRS | 405 | 21000.00 | 1995-04-09 | 7682538510 | Pune |

| 107 | DEF | 405 | 25000.00 | 1992-07-26 | 7682513596 | Kolkata |

+--------+------+---------+----------+------------+------------+-----------+

6 rows in set (0.00 sec)

**CONCLUSION**:

In this assignment we have studied and implemented concepts like types of Join ,Sub-Query and Views with MySQL.