**Homework 2 Report**

**Q1**.

**Query:** SELECT USER\_ID, F\_NAME, L\_NAME FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE INVITER\_ID=5 AND STATUS ='Y');

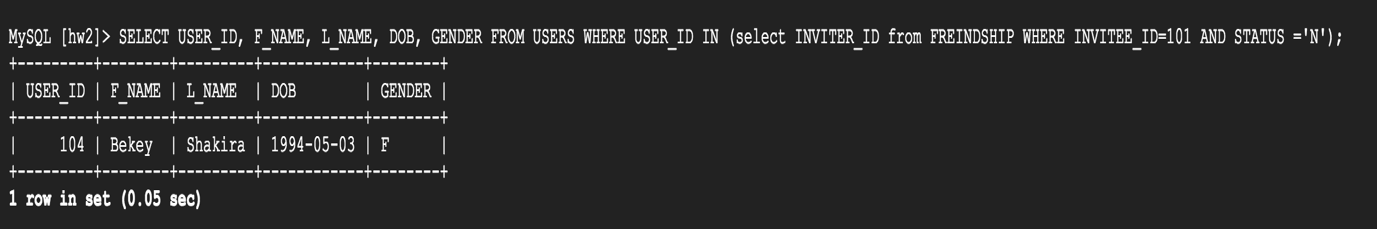
**Explanation**: First we’ll select all the friends list from FREINDSHIP relation of INVITER\_ID 5 and then we can list down all the details of those friends from USERS table. In following picture INVITER\_ID is 101 instead of 5.



**Q2**.

**Query:** SELECT USER\_ID, F\_NAME, L\_NAME, DOB, GENDER FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE INVITER\_ID=1 AND STATUS ='N');

**Explanation**: We can pullup the records from FREINDSHIP table with status as ‘N’ or not accepted. The inner query will return all pending request to user id 1.i.e user ids who sent request but user 1 has not accepted them. The outer query will display the name, gender DOB of those invitees. In following picture INVITER\_ID is 101 instead of 1.



**Q3.**

**Query:** SELECT USER\_ID, F\_NAME, L\_NAME, DOB, GENDER FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE INVITER\_ID = 1 AND STATUS ='Y') HAVING USERS.GENDER='F'

**INTERSECT**

SELECT USER\_ID, F\_NAME, L\_NAME, DOB, GENDER FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE INVITER\_ID= 2 AND STATUS ='Y') HAVING USERS.GENDER='F';

**Explanation:** In order to retrieve the common or mutual friends of user 1 and 2, we’ll use INTERSECT set

Operation on the results of user 1’s friends and user 2’s friends. The intersection of subquery one and two will result in desired output.

Since INTERSECT doesn’t work in MySQL, we can replace the above-mentioned query in following format: SELECT DISTINCT \* FROM

(SELECT f1, f2, f3... FROM table1)

INNER JOIN

(SELECT f1, f2, f3... FROM table2)

USING (primary key)

**Q4**.

**Query:** SELECT USER\_ID, FROM USERS WHERE USER\_ID IN (SELECT INVITER\_ID, COUNT(INVITEE\_ID) AS FREINDS\_COUNT FROM FREINDSHIP WHERE INVITER\_ID IN

(SELECT USER\_ID FROM (select \* FROM USERS WHERE USER\_ID IN (select C.USER\_ID from COMMENT C JOIN POST P on P.POST\_ID=C.POST\_ID where P.USER\_ID=10) HAVING GENDER='F' AND DOB>'1983-05-03') AS FrndCommnted )

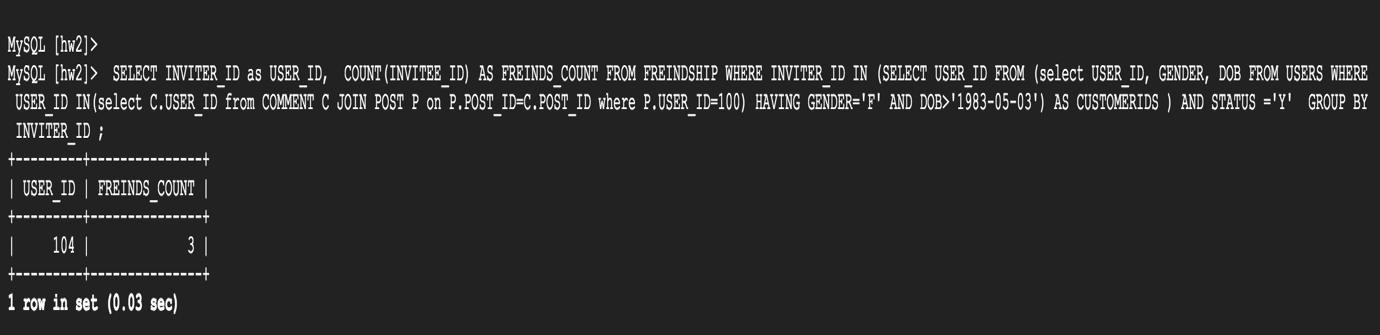
AND STATUS ='Y' GROUP BY INVITER\_ID);

**Explanation**: First select users who commented on user id 10’s post by following query:

select \* FROM USERS WHERE USER\_ID IN (select C.USER\_ID from COMMENT C JOIN POST P on P.POST\_ID=C.POST\_ID where P.USER\_ID=10

Now, Filter the results of above mentioned query with Gender as ‘F’ and DOB > ‘1990-12-20’. Furthermore, we have to calculate the friends count of those users which is done by following query:

SELECT USER\_ID, FROM USERS WHERE USER\_ID IN (SELECT INVITER\_ID, COUNT(INVITEE\_ID) AS FREINDS\_COUNT FROM FREINDSHIP WHERE INVITER\_ID IN (*output from above queries*) AND STATUS ='Y' GROUP BY INVITER\_ID);



**Q5.**

**Query:** SELECT \* from ((select USERS.USER\_ID from USERS where USER\_ID NOT IN (select U.USER\_ID from USERS U JOIN FREINDSHIP F on F.INVITER\_ID=U.USER\_ID and F.STATUS='Y') ) as A

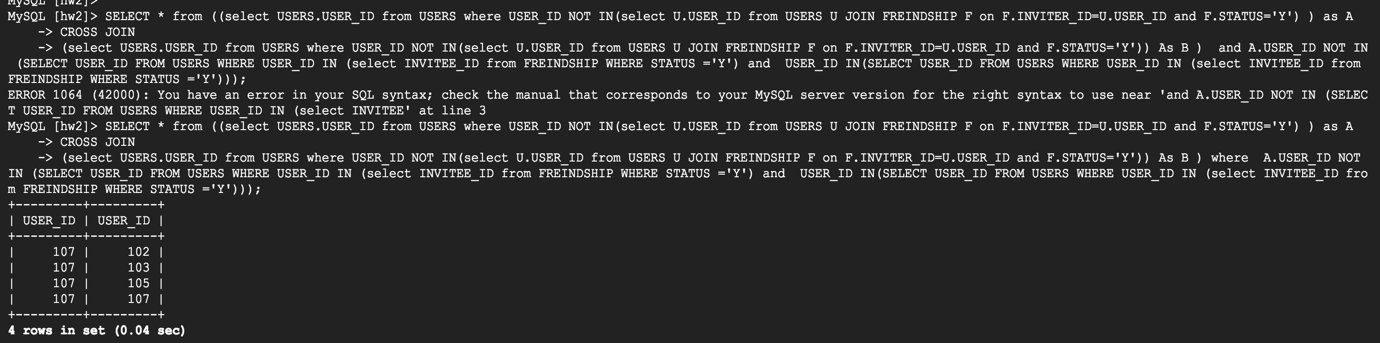
**CROSS JOIN**

(select USERS.USER\_ID from USERS where USER\_ID NOT IN (select U.USER\_ID from USERS U JOIN FREINDSHIP F on F.INVITER\_ID=U.USER\_ID and F.STATUS='Y')) As B ) where A.USER\_ID NOT IN

(SELECT USER\_ID FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE STATUS ='Y') **INTERSECT** (SELECT USER\_ID FROM USERS WHERE USER\_ID IN (select INVITEE\_ID from FREINDSHIP WHERE STATUS ='Y')));

**Explanation:** First select the users who are friend of each other’s by CROSS JOIN and then by using INTERSECT select users who are not friends but have some mutual friends.

Then we search for pairs which are **not** in result set of above two operations.



**Q6**.

**Query:** SELECT A.FemaleUser, B.MaleUser FROM

((SELECT \* FROM

(SELECT U.USER\_ID as FemaleUser, COUNT(C.USER\_ID) AS CNT FROM USERS U JOIN COMMENT C ON U.USER\_ID=C.USER\_ID AND U.GENDER='F' GROUP BY C.USER\_ID) AS CNTA WHERE CNTA.CNT >=5) A

**CROSS JOIN**

(SELECT \* FROM (SELECT U.USER\_ID as MaleUser, COUNT(C.USER\_ID) AS CNT FROM USERS U JOIN COMMENT C ON U.USER\_ID=C.USER\_ID AND U.GENDER='M' GROUP BY C.USER\_ID) AS CNTB WHERE

CNTB.CNT >=5) B);

**Explanation:** First, let’s select **Female** users who commented 5 or more than five (at least 5) on a user’s post. The following query will result the **female** users who commented at least 5 times on someone else’s post:

SELECT U.USER\_ID as FemaleUser, COUNT(C.USER\_ID) AS CNT FROM USERS U JOIN COMMENT C ON U.USER\_ID=C.USER\_ID AND U.GENDER='F' GROUP BY C.USER\_ID) AS CNTA WHERE CNTA.CNT >=5) A

Similarly we can calculate **male** users who commented at least 5 times on someone else’s post with changing the U.GENDER='M’ and then we can take cross join to make the pair of male and female users.

