**MUHAMMAD NAZREN BIN ISHAK**

* I am using the MySQL Database.

Section A

Answer Question 1

* First I create a Database name `Enoquix`
* Second I drop the exist table and create new table name `user` and `user\_singin\_logs`

DROP TABLE IF EXISTS `users`;

CREATE TABLE IF NOT EXISTS `users` (

`user\_id` int(11) NOT NULL AUTO\_INCREMENT,

`email\_id` varchar(200) NOT NULL,

`password` varchar(64) NOT NULL,

`first\_name` varchar(128) NOT NULL,

`last\_name` varchar(128) NOT NULL,

`enabled` bit(1) DEFAULT NULL,

PRIMARY KEY (`user\_id`)

);

DROP TABLE IF EXISTS `user\_singin\_logs`;

CREATE TABLE IF NOT EXISTS `user\_singin\_logs`(

`user\_id` int(11) NOT NULL,

`session\_id` varchar(128) NOT NULL,

`signed\_in\_time` timestamp NOT NULL,

`signed\_out\_time` timestamp NOT NULL,

PRIMARY KEY (`session\_id`),

FOREIGN KEY (`user\_id`) REFERENCES users (`user\_id`)

);

Answer Question 2

=>To answer question 2, I have insert a few data base on both table

=>The FULL JOIN on MYSQL is not supported. Thus, I am using this structure to emulated them based on

question given

=> This join query will fetch user\_id, signed\_in\_time, signed\_out\_time by descending order.

SELECT users.user\_id,user\_singin\_logs.signed\_in\_time,user\_singin\_logs.signed\_out\_time

FROM

users LEFT OUTER JOIN user\_singin\_logs

ON users.user\_id = user\_singin\_logs.user\_id

UNION

SELECT users.user\_id,user\_singin\_logs.signed\_in\_time,user\_singin\_logs.signed\_out\_time

FROM

users RIGHT OUTER JOIN user\_singin\_logs

ON users.user\_id = user\_singin\_logs.user\_id

ORDER BY user\_id DESC;



Answer Question 3

=>Based on the question, let’s say there’s no primary key in users table

=>Assume I dropping the primary key using following command:

ALTER TABLE users

DROP PRIMARY KEY;

=>Then to answer the question, I executed the following command:

SELECT SUM(user\_id)

AS NumUniqueUser

FROM (

SELECT COUNT(DISTINCT user\_id) AS user\_id

FROM users

UNION

SELECT COUNT(DISTINCT user\_id) AS user\_id

FROM user\_singin\_logs

) AS u;



Answer Question 4

=>Based on the question, let’s say there’s no primary key in users table

=>To answer the given question, I executed the following command:

SELECT user\_id,COUNT(\*) AS Num\_Duplicate\_Existed FROM

(

SELECT user\_id FROM users

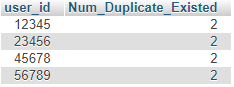
UNION ALL

SELECT user\_id FROM user\_singin\_logs

)AS Num\_UniqueUser

GROUP BY user\_id

HAVING COUNT(\*)>1;

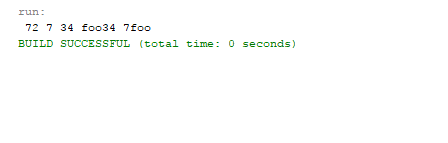


Section B

Question 1

=>Based on the question, the output for the following program is:

=> Output: 72 7 34 foo34 7foo



Question 2

=>Please refer to the jar. file