

The University of Texas at Arlington

DATABASE SYSTEM

(CSE 5330)

PROJECT 2

(PART 3)

Team Member:-

1) Kuldip Savaliya

UTA ID :- 1001832000

2) Vinay Panchal

UTA ID :- 1001990785

The following tasks are performed in part 3:-

- 1) Creates csv file for USER_ACCOUNTS, USER_ROLES, TABLES and PRIVILEGES.
- 2) Load data in tables using insert command.
- 3) Queries to retrieve and print all the data:-

```
mysql> SELECT * FROM USER_ACCOUNTS;
```

```
+-----+-----+-----+-----+
| USER_ID_NO | USER_NAME | USER_PHONE_NO | USER_ROLES |
+-----+-----+-----+-----+
| 1          | K.Savaliya | 6823362600    | 1          |
| 10         | A.Kapopara | 6823365632    | 2          |
| 2          | V.Panchal  | 8623362601    | 2          |
| 3          | Y.Panchal  | 6823362602    | 2          |
| 4          | D.Oza      | 6823362603    | 3          |
| 5          | M.Lakhani  | 6283362605    | 3          |
| 6          | D.Patel    | 6823362698    | 2          |
| 7          | M.Thakkar  | 6823369874    | 2          |
| 8          | D.Shah     | 6823369872    | 2          |
| 9          | K.Mehta    | 6823365647    | 1          |
+-----+-----+-----+-----+
```

```
10 rows in set (0.00 sec)
```

mysql> SELECT * FROM USER_ROLES;

ROLE_ID	ROLE_NAME	DESCRIPTION
1	ADMIN	ALL ACCESS
2	USER	PARTIAL ACCESS
3	MANAGER	MOST ACCESS

3 rows in set (0.00 sec)

mysql> SELECT * FROM TABLES;

TABLE_ID	TABLE_NAME	DESCRIPTION	USER_ID_NO
1	Table_1	Description_1	1
10	Table_10	Description_10	10
2	Table_2	Description_2	2
3	Table_3	Description_3	3
4	Table_4	Description_4	4
5	Table_5	Description_5	5
6	Table_6	Description_6	6
7	Table_7	Description_7	7
8	Table_8	Description_8	8
9	Table_9	Description_9	9

10 rows in set (0.00 sec)

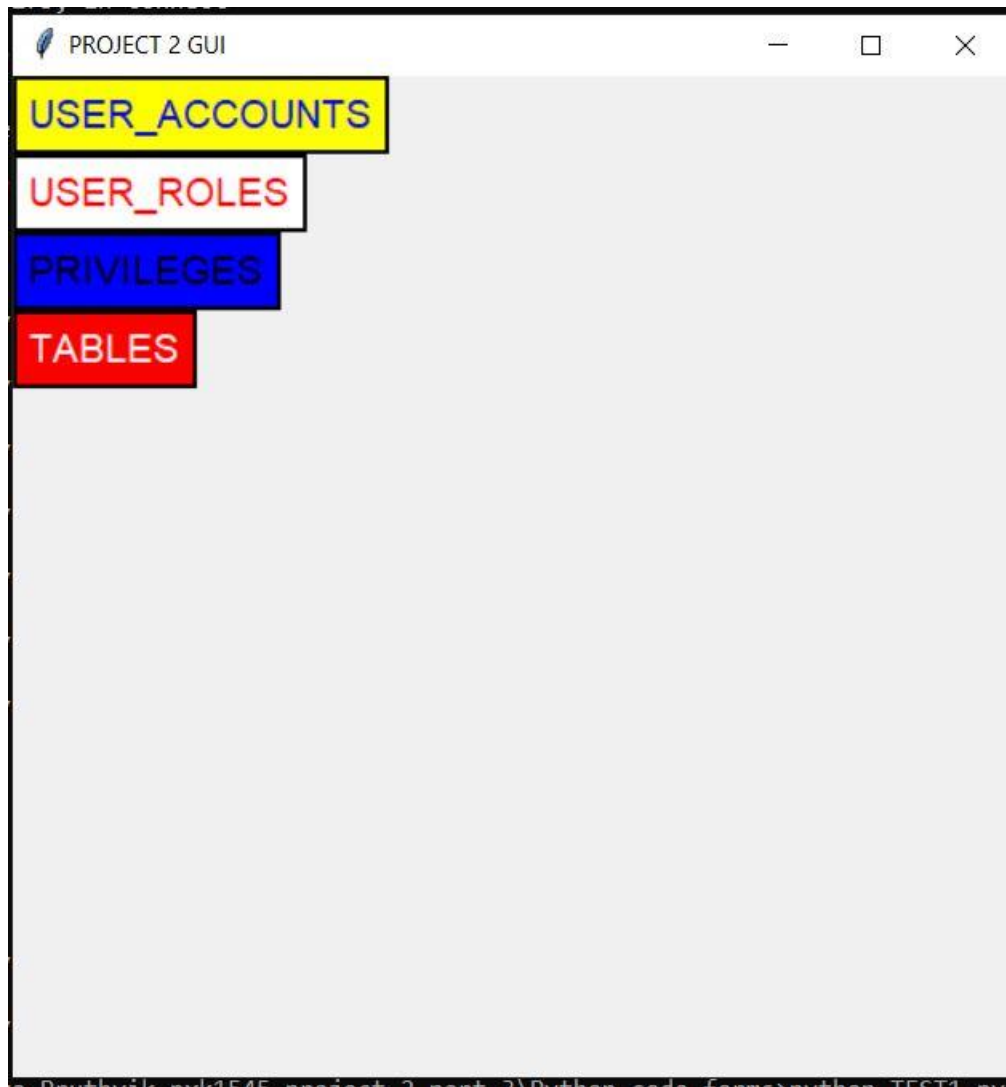
mysql> SELECT * FROM PRIVILEGES;

```
+-----+-----+-----+-----+
| P_ID | PNAME | DESCRIPTION | P_TYPE |
+-----+-----+-----+-----+
| 1 | CREATE | FOR CREATE TABLE | Account |
| 2 | DROP | FOR DROP TABLE | Account |
| 3 | MODIFY | FOR MODIFY TABLE | Account |
| 4 | SELECT | FOR SELECT TABLE | Account |
| 5 | ALTER | FOR ALTER TABLE | Account |
| 6 | READ | FOR READ TABLE | Relational |
| 7 | WRITE | FOR WRITE TABLE | Relational |
| 8 | UPDATE | FOR UPDATE TABLE | Relational |
+-----+-----+-----+-----+
8 rows in set (0.00 sec)
```

mysql> SELECT * FROM OWNS;

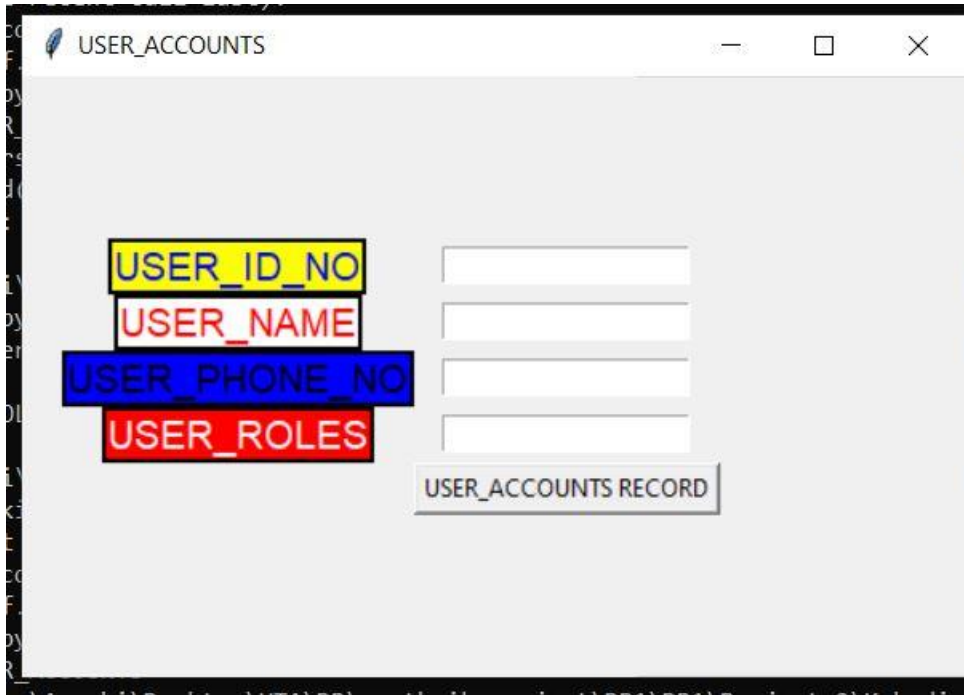
mysql> SELECT * FROM BELONGSTO;

4) Database update transaction query:-



4.1) Add all information about a new USER_ACCOUNT

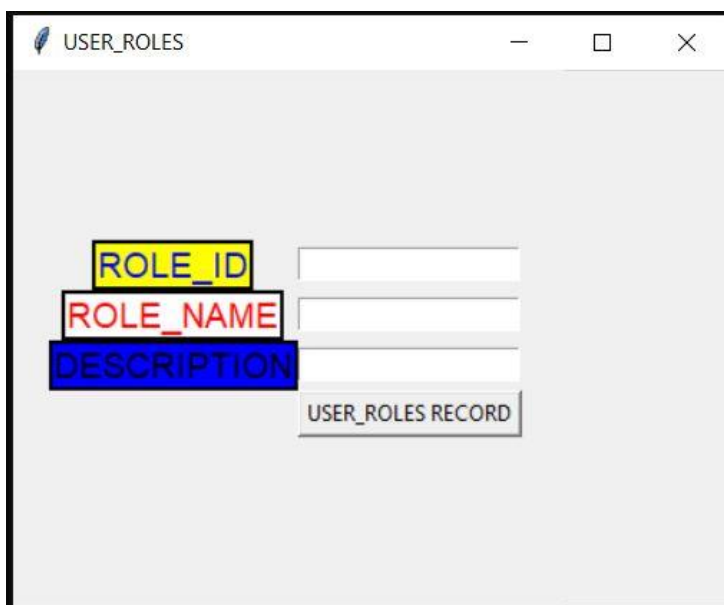
sql = "INSERT INTO USER_ACCOUNTS VALUES(%s, %s, %s, %s)"



The screenshot shows a web form titled "USER_ACCOUNTS". On the left, there are four colored boxes representing database fields: "USER_ID_NO" (yellow), "USER_NAME" (red), "USER_PHONE_NO" (blue), and "USER_ROLES" (red). To the right of these boxes are four corresponding empty text input fields. Below the input fields is a button labeled "USER_ACCOUNTS RECORD".

4.2) Add all information about a new ROLE

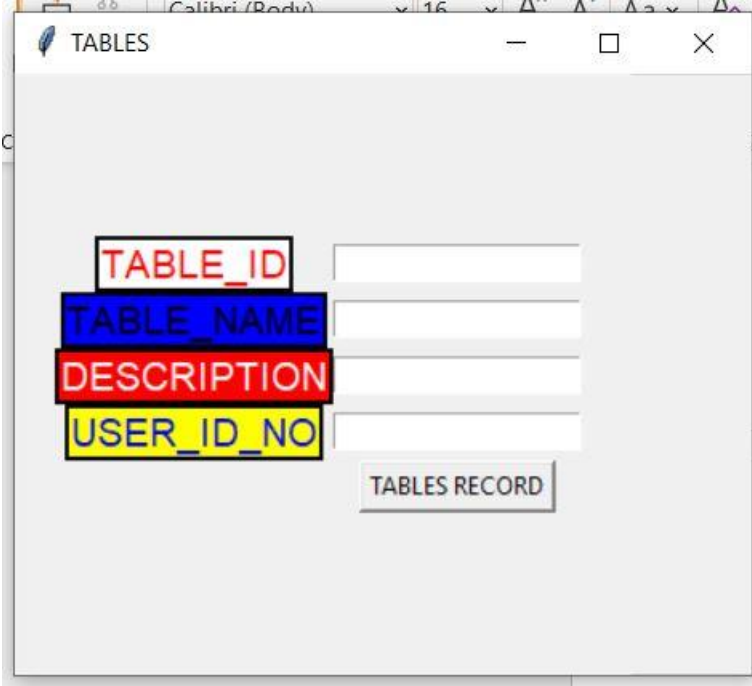
sql = "INSERT INTO USER_ROLES VALUES(%s, %s, %s)"



The screenshot shows a web form titled "USER_ROLES". On the left, there are three colored boxes representing database fields: "ROLE_ID" (yellow), "ROLE_NAME" (red), and "DESCRIPTION" (blue). To the right of these boxes are three corresponding empty text input fields. Below the input fields is a button labeled "USER_ROLES RECORD".

4.3) Add all information about a new TABLE

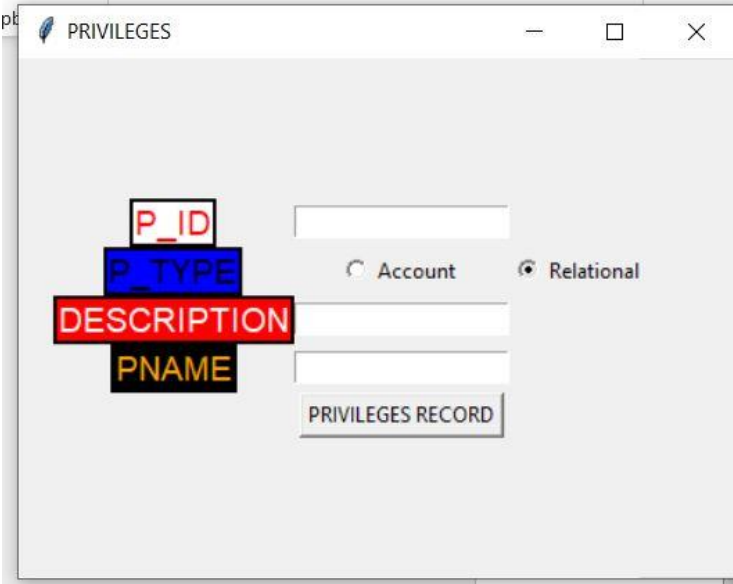
sql = "INSERT INTO TABLES VALUES(%s, %s, %s, %s)"



The screenshot shows a window titled "TABLES" with a light gray background. On the left, there are four stacked labels: "TABLE_ID" (white text on a red background), "TABLE_NAME" (white text on a blue background), "DESCRIPTION" (white text on a red background), and "USER_ID_NO" (black text on a yellow background). To the right of these labels are four corresponding white input fields. Below the input fields is a button labeled "TABLES RECORD".

4.4) Insert a new PRIVILEGE

sql: str = "INSERT INTO PRIVILEGES VALUES(%s, %s, %s, %s)"



The screenshot shows a window titled "PRIVILEGES" with a light gray background. On the left, there are four stacked labels: "P_ID" (white text on a red background), "P_TYPE" (white text on a blue background), "DESCRIPTION" (white text on a red background), and "PNAME" (black text on a black background). To the right of these labels are four corresponding white input fields. Between the second and third input fields, there are two radio buttons: "Account" (unselected) and "Relational" (selected). Below the input fields is a button labeled "PRIVILEGES RECORD".

4.5) Relate USER_ACCOUNTS to USER_ROLES

```
mysql> SELECT USER_ID_NO, USER_NAME, ROLE_NAME,  
USER_ROLES.ROLE_ID FROM USER_ACCOUNTS, USER_ROLES  
WHERE USER_ACCOUNTS.USER_ID_NO =  
USER_ROLES.ROLE_ID AND USER_ROLES.ROLE_ID = '1';
```

```
+-----+-----+-----+-----+  
| USER_ID_NO | USER_NAME | ROLE_NAME | ROLE_ID |  
+-----+-----+-----+-----+  
| 1          | K.Savaliya | ADMIN    | 1       |  
+-----+-----+-----+-----+  
1 row in set (0.00 sec)
```

4.6) Relate an ACCOUNT_PRIVILEGE to a ROLE

```
mysql> SELECT ROLE_ID, ROLE_NAME, PNAME FROM  
USER_ROLES, PRIVILEGES, OWNS WHERE OWNS.USER_ROLES  
= USER_ROLES.ROLE_ID AND PRIVILEGES.PNAME = "Account";
```

```
+-----+-----+-----+  
| ROLE_ID | ROLE_NAME | PNAME |  
+-----+-----+-----+  
| 1       | ADMIN    | Account |  
| 1       | ADMIN    | Account |  
| 2       | USER    | Account |  
| 2       | USER    | Account |  
| 3       | MANAGER  | Account |  
+-----+-----+-----+  
5 rows in set (0.00 sec)
```


4.7) Relate an RELATIONAL_PRIVILEGE, ROLE and TABLE

```
mysql> SELECT TABLE_NAME, ROLE_ID, ROLE_NAME, PNAME
FROM USER_ROLES, PRIVILEGES, BELONGSTO, TABLES WHERE
BELONGSTO.USER_ROLES = USER_ROLES.ROLE_ID AND
PRIVILEGES.PNAME = "Relational" AND BELONGSTO.TABLES =
TABLES.TABLE_ID;
```

```
+-----+-----+-----+-----+
| TABLE_NAME | ROLE_ID | ROLE_NAME | PNAME |
+-----+-----+-----+-----+
| Table_1 | 1 | ADMIN | Relational |
| Table_2 | 2 | USER | Relational |
| Table_3 | 3 | MANAGER | Relational |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

4.8) Queries to retrieve all privileges associate with a particular ROLE, and all privileges associated with a particular USER_ACCOUNT.

```
mysql> SELECT * FROM PRIVILEGES JOIN OWNS ON
PRIVILEGES.P_Id = OWNS.PRIVILEGES where
OWNS.USER_ROLES = 1;
```

```
+-----+-----+-----+-----+-----+-----+
| P_ID | PNAME | DESCRIPTION | P_TYPE | USER_ROLES |
PRIVILEGES |
+-----+-----+-----+-----+-----+-----+
| 1 | CREATE | FOR CREATE TABLE | Account | 1 | 1 |
|
| 4 | SELECT | FOR SELECT TABLE | Account | 1 | 4 |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.01 sec)
```

```
mysql> SELECT * FROM PRIVILEGES JOIN BELONGSTO ON
PRIVILEGES.P_ID = BELONGSTO.PRIVILEGE_ID where
BELONGSTO.USER_ROLES = 2;
```

```
+-----+-----+-----+-----+-----+-----+
---+
| P_ID | PNAME | DESCRIPTION | P_TYPE | USER_ROLES |
PRIVILEGE_ID | TABLES |
+-----+-----+-----+-----+-----+-----+-----+
---+
| 7 | WRITE | FOR WRITE TABLE | Relational | 2 |
7 | 2 |
+-----+-----+-----+-----+-----+-----+-----+
---+
1 row in set (0.00 sec)
```

```
mysql> SELECT * FROM PRIVILEGES JOIN OWNS JOIN
USER_ACCOUNTS ON PRIVILEGES.P_ID = OWNS.PRIVILEGES
and OWNS.USER_ROLES = USER_ACCOUNTS.USER_ROLES
where USER_ACCOUNTS.USER_ID_NO = 5;
```

```
+-----+-----+-----+-----+-----+-----+
---+-----+-----+
| P_ID | PNAME | DESCRIPTION | P_TYPE | USER_ROLES |
PRIVILEGES | USER_ID_NO | USER_NAME | USER_PHONE_NO |
USER_ROLES |
+-----+-----+-----+-----+-----+-----+-----+
---+-----+-----+
| 3 | MODIFY | FOR MODIFY TABLE | Account | 3 | 3 |
| 5 | M.Lakhani | 6283362605 | 3 |
+-----+-----+-----+-----+-----+-----+-----+
---+-----+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT * FROM PRIVILEGES JOIN BELONGSTO JOIN
USER_ACCOUNTS ON PRIVILEGES.P_Id =
BELONGSTO.PRIVILEGE_ID and BELONGSTO.USER_ROLES =
USER_ACCOUNTS.USER_ROLES where
USER_ACCOUNTS.USER_ID_NO = 8;
```

```
+-----+-----+-----+-----+-----+-----+-----+
---+-----+-----+-----+-----+
| P_ID | PNAME | DESCRIPTION | P_TYPE | USER_ROLES |
PRIVILEGE_ID | TABLES | USER_ID_NO | USER_NAME |
USER_PHONE_NO | USER_ROLES |
+-----+-----+-----+-----+-----+-----+-----+
---+-----+-----+-----+-----+
| 7 | WRITE | FOR WRITE TABLE | Relational | 2 |
7 | 2 | 8 | D.Shah | 6823369872 | 2 |
+-----+-----+-----+-----+-----+-----+-----+
---+-----+-----+-----+-----+
1 row in set (0.00 sec)
```