LAB 01 Report

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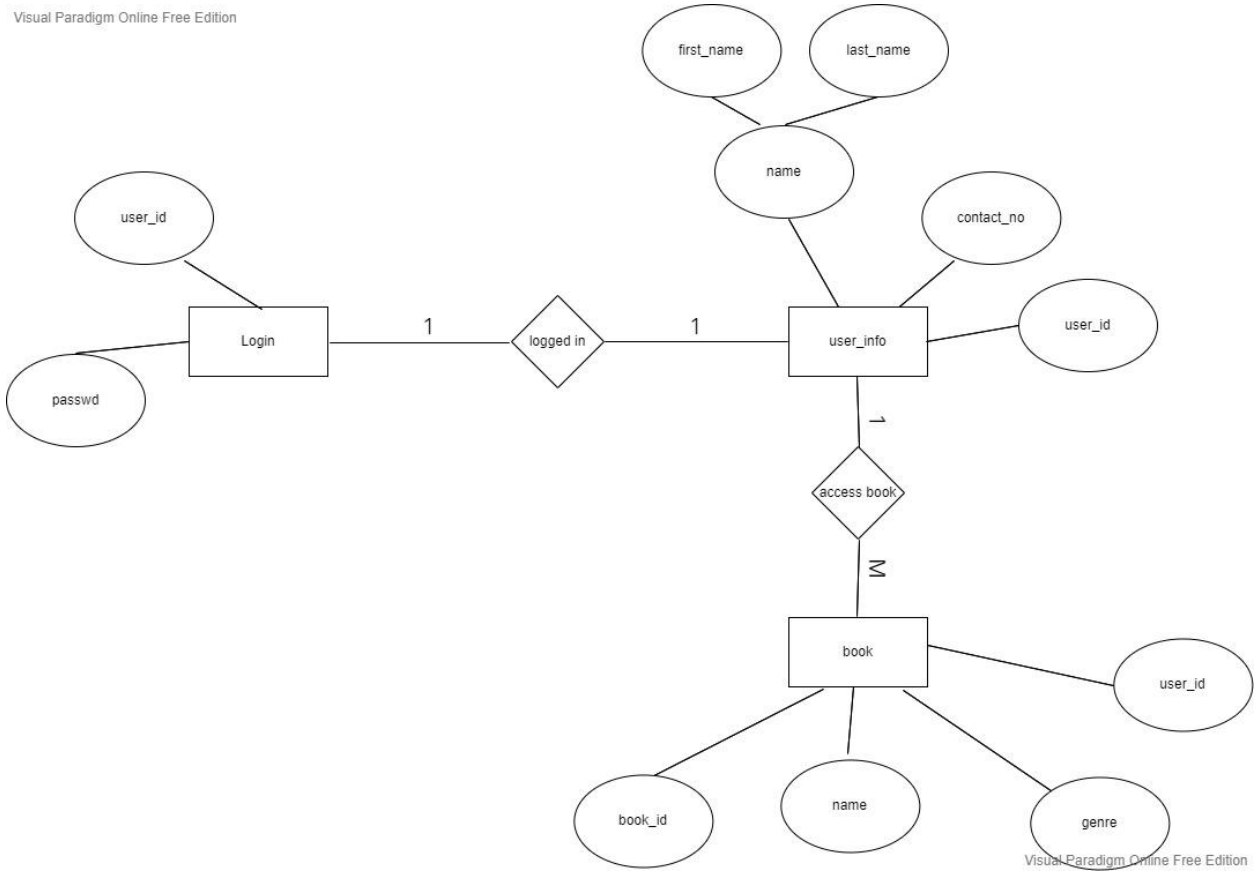
Ans1:

```
//Command to Compile: g++ demo.cpp -o demo.exe -lmysql

#include <iostream>
#include <windows.h>
#include <mysql.h>

using namespace std;

MYSQL *conn;

int main()
{
    conn = mysql_init(NULL);
    if (conn == NULL) {
        cout<<"Error: "<<mysql_error(conn)<<endl;
        exit(1);
    }

    // mysql_real_connect(Connection Instance, Username, Password,
Database, Port, Unix Socket, Client Flag)
    if (mysql_real_connect(conn, "localhost", "sawan", "password",
"lab_01", 3306, NULL, 0)) {
        cout<<"Connected Successfully!"<<endl;
        char tableName[256] = "demo_table";
        char query[256];
```

```
        snprintf(query, 256, "CREATE TABLE `%s` (`id` int NOT NULL
PRIMARY KEY, `name` varchar(255), `email` varchar(255), `phone`
varchar(255));", tableName);
        int createTableStatus = mysql_query(conn, query);
        if (createTableStatus != 0) {
            cout<<"Error while creating table:
"<<mysql_error(conn)<<endl;
        }
    } else {
        cout<<"Error while connecting!"<<endl;
    }

    return 0;
}
```

ER Diagram:



Ans2:

Queries for making the tables:

1. Table 1: Login
   CREATE TABLE login (
   user_id varchar(255) NOT NULL,
   passwd varchar(255) NOT NULL,
   );

2. Table 2: user_info
   CREATE TABLE user_info (
   user_id varchar(255) NOT NULL,
   first_name varchar(255) NOT NULL,
   last_name varchar(255) NOT NULL ,
   contact_no int NOT NULL,
   address varchar(255)
   );

3. Table 3: book
   CREATE TABLE user_info (
   user_id varchar(255),
   book_id varchar(255) NOT NULL,
   name varchar(255) NOT NULL,
   genre varchar(255)
   );

```
//Command to Compile: g++ demo.cpp -o demo.exe -lmysql

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#include <windows.h>
#include <mysql.h>

using namespace std;

MYSQL *conn;

int main()
{
    conn = mysql_init(NULL);
    if (conn == NULL) {
        cout<<"Error: "<<mysql_error(conn)<<endl;
        exit(1);
    }

    // mysql_real_connect(Connection Instance, Username, Password, Database, Port,
Unix Socket, Client Flag)
```

```
    if (mysql_real_connect(conn, "localhost", "mukul", "abcd1234", "lab_01", 3306,
NULL, 0)) {
        cout<<"Connected Successfully!"<<endl;
       ;
        char query[256];

        snprintf(query, 256, "CREATE TABLE `%s` ( `user_id` varchar(255) NOT NULL,
`passwd` varchar(255) NOT NULL);", "login");
        int createTableStatus = mysql_query(conn, query);
        if (createTableStatus != 0) {
            cout<<"Error while creating table: "<<mysql_error(conn)<<endl;
        }

        snprintf(query, 256, "CREATE TABLE `%s` ( `book_id` varchar(255) NOT NULL,
`user_id` varchar(255) , `name` varchar(255) NOT NULL,`genre` varchar(255));",
"book");
        createTableStatus = mysql_query(conn, query);
        if (createTableStatus != 0) {
            cout<<"Error while creating table: "<<mysql_error(conn)<<endl;
        }
        snprintf(query, 256, "CREATE TABLE `%s` ( `first_name` varchar(255) NOT
NULL,`last_name` varchar(255) NOT NULL, `user_id` varchar(255) NOT NULL, `contact_no`
int NOT NULL,`address` varchar(255));", "user_info");
        createTableStatus = mysql_query(conn, query);
        if (createTableStatus != 0) {
            cout<<"Error while creating table: "<<mysql_error(conn)<<endl;
        }

        createTableStatus = mysql_query(conn, query);
        if (createTableStatus != 0) {
            cout<<"Error while creating table: "<<mysql_error(conn)<<endl;
        }
    }
    else {
        cout<<"Error while connecting!"<<endl;
    }

    return 0;
}
```

Ans 3. (A)
Candidate Keys:

login : {user_id}
user_info: {user_id}
book: {book_id}

Ans 3 (B)
For **login**:

FD = {user_id → passwd}
Since there are no multi-valued attributes, the table is in 1NF.
Since there are no partial dependencies and all non-prime attributes depend only on the candidate key, the table is in 2NF as well.

For **user_info**:

FD = {user_id → first_name, user_id → last_name, user_id → contact_no}
Since there are no multi-valued attributes, the table is in 1NF.
Since there are no partial dependencies and all non-prime attributes depend only on the candidate key, the table is in 2NF as well.

.
For **book**:

book_id → name, book_id → genre, book_id → user_id
Since there are no multi-valued attributes, the table is in 1NF.
Since there are no partial dependencies and all non-prime attributes depend only on the candidate key, the table is in 2NF as well.