



LIBRARY MANAGEMENT SYSTEM

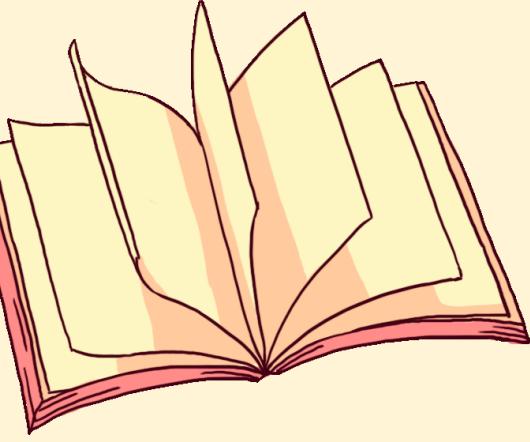
IGDTUW

PROBLEM STATEMENT

TO DEVELOP A LIBRARY MANAGEMENT SYSTEM FOR IGDTUW USING C++, PYTHON, OR JAVA. TO ADD GRAPHICS TO YOUR PROJECT, UTILIZE GRAPHICS HEADER FILE FOR C++, FOR JAVA YOU CAN USE GRAPHICS IN APPLET, AND FINALLY FOR PYTHON, YOU CAN USE ANY LIBRARY FEW EXAMPLES OF WHICH ARE GRAPHICS MODULE, TURTLE GRAPHICS, AND TKINTER.



TECH STACKS



PROGRAMMING LANGUAGE

» PYTHON



FRAMEWORK

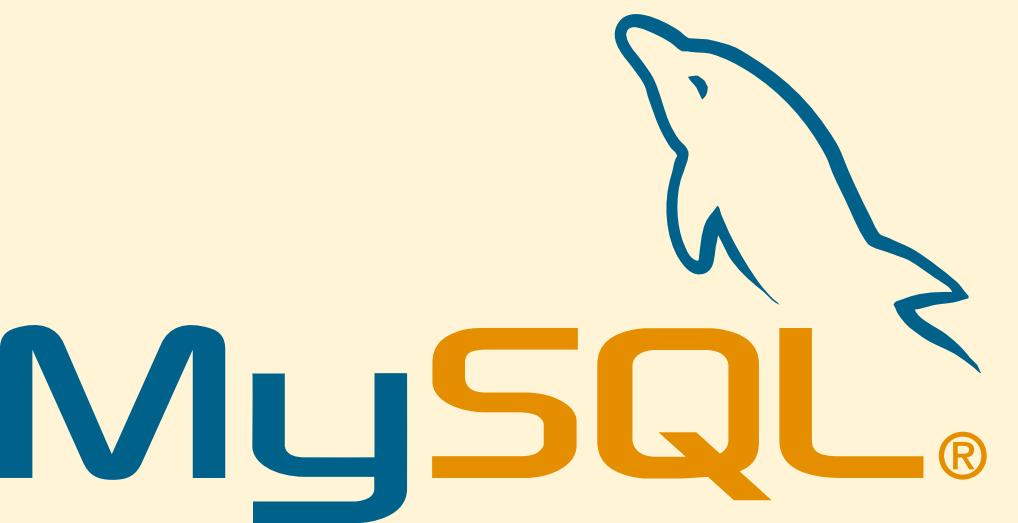
» MYSQL

LIBRARIES

» PILLOW TKINTER

OTHERS

» CANVA



ARCHITECTURE

USER
INTERFACE

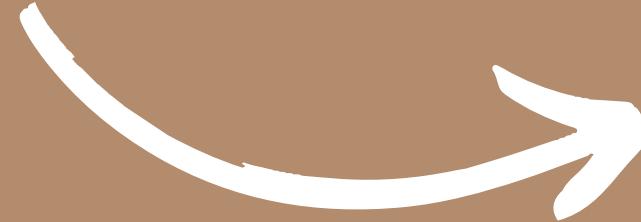


ADMIN FUNCTIONALITIES



```
C:\Windows\py.exe
choose an option:
1. Add student
2. Show details of all books
3. Show details of all issued books
4. Show details of all students
5. Search a book
6. Details of a student
7. View fine on a student
8. Add a book
9. View issue requests of a book
10. Update book details
11. Log Out
enter an option:_
```

STUDENT FUNCTIONALITIES



```
IDLE Shell 3.11.2*
File Edit Shell Debug Options Window Help
Python 3.11.2 (tags/v3.11.2:878ead1, Feb  7 2023, 16:38:35) [MSC v.1934 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=====
RESTART: C:\Users\Bhamini Katyal\Desktop\gui.py =====
welcome Bhavika
choose an option:
1. My profile
2.Change Password
3.Issue a book
4.Return a book
5.View Fines
6.Search a Book
7.Book Recommendation
8.Log out
enter an option:|
```

DATABASE



```
MySQL 8.0 Command Line Client

mysql> select * from book;
+-----+-----+-----+-----+-----+
| book_id | book_name | author | subject | quantity | copy_issued |
+-----+-----+-----+-----+-----+
| 2       | newbook   | newauthor | C        | 5          | 1          |
| 21      | wjh        | cdj       | ans     | 25         | 10         |
| a12321  | abcd       | efgh      | ijkls   | 20         | 5          |
| c11234  | Let us C   | author    | C        | 7          | 2          |
| f11223  | basics of electronics | millman | AE      | 20         | -1         |
| g12345  | electrical research | Jenifer  | BEE     | 20         | 21         |
| g23455  | let us c++  | Aarushi Singh | C++    | 20         | 2          |
| k22345  | let us python | aryakeshri | python | 20         | 2          |
| s10023  | design of machine elements | vb bhandhani | MAE    | 10         | 0          |
| sdbj    | dje        | end       | wijs   | 3          | 1          |
| t12345  | Operating sys | emiway    | os     | 20         | 2          |
| t45673  | maths world | Arvind Kunar | AM     | 20         | 2          |
| z65478  | intelligence | zeben     | artificial intelligence | 20         | 21         |
+-----+-----+-----+-----+-----+
13 rows in set (0.00 sec)

mysql> select * from student;
+-----+-----+-----+-----+-----+
| enrollment_no | name | year | fine | password |
+-----+-----+-----+-----+-----+
| 1             | Aanya | 1    | 10   | a001  |
| 2             | Bhavika | 2    | 77   | B002  |
| 3             | Disha  | 3    | 46   | d003  |
| 4             | Smita  | 4    | 52   | s004  |
| 5             | Mia    | 2    | 0    | m005  |
| 9             | bcdef  | 3    | 28   | b009  |
| 10            | Aadya  | 1    | 5    | a010  |
| 11            | new    | 3    | 0    | n011  |
+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> select * from issue_book;
+-----+-----+-----+-----+
| enrollment_no | book_id | date_of_issue | date_of_return |
+-----+-----+-----+-----+
| 3           | g12345 | 2023-02-06   | 2023-03-01   |
| 4           | g23455 | 2023-03-02   | 2023-03-11   |
| 5           | k12543 | 2023-03-15   | 2023-03-25   |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

mysql> select * from return_book;
+-----+-----+-----+
| enrollment_no | book_id | date_of_return |
+-----+-----+-----+
```

```
MySQL 8.0 Command Line Client
```

3	g12345	2023-02-06	2023-03-01
4	g23455	2023-03-02	2023-03-11
5	k12543	2023-03-15	2023-03-25

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

```
mysql> select * from return_book;
```

	enrollment_no	book_id	date_of_return

2	f11223	2023-03-19
2	c11234	2023-03-19

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

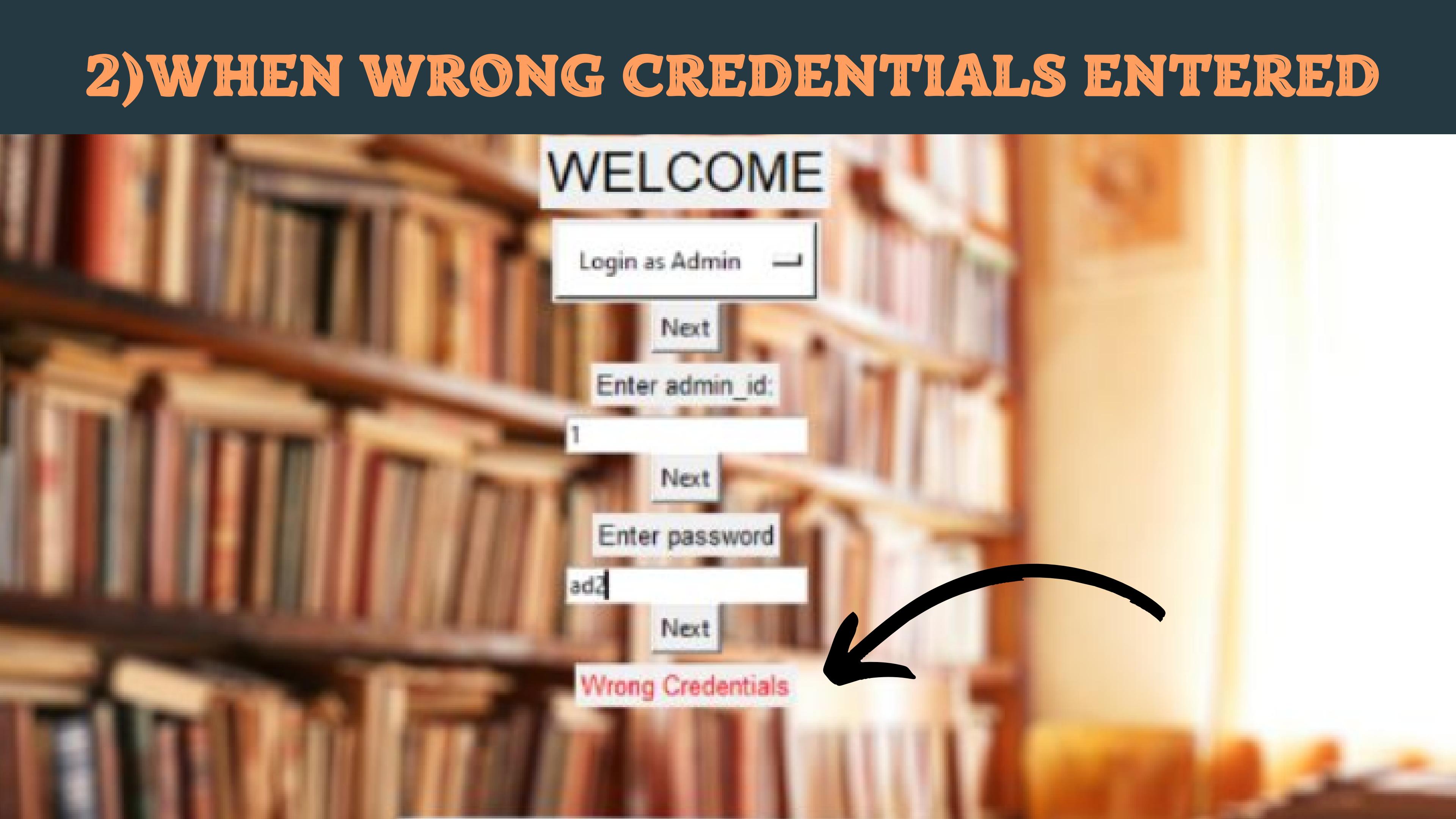
```
mysql>
```

RESULT OF TEST CASES

1) WELCOME PAGE



2) WHEN WRONG CREDENTIALS ENTERED



A screenshot of a web-based login application. The interface consists of several stacked input fields and associated buttons. At the top is a header bar with the word "WELCOME". Below it is a dropdown menu labeled "Login as Admin". The main body of the form contains the following sequence:

- An input field labeled "Enter admin_id:" containing the value "1".
- A "Next" button.
- An input field labeled "Enter password" containing the value "ad12".
- A "Next" button.
- An input field labeled "Wrong Credentials" in red text.

A large black curved arrow points from the right side towards the "Wrong Credentials" message.

3) LOGIN SUCCESSFUL

===== RESTART: C:\Users\Bhamini Katyal\Desktop\Equinox_code_warriers.py =====

choose an option:

1. Add student
2. Show details of all books
3. Show details of all issued books
4. Show details of all students
5. Search a book
6. Details of a student
7. View fine on a student
8. Add a book
9. View issue requests of a book
10. Update book details
11. Update Student Details
12. Remove a Book
13. Remove a student
14. Log Out

enter an option:

4)ADDING A NEW USER

choose an option:

1. Add student
2. Show details of all books
3. Show details of all issued books
4. Show details of all students
5. Search a book
6. Details of a student
7. View fine on a student
8. Add a book
9. View issue requests of a book
10. Update book details
11. Update Student Details
12. Remove a Book
13. Remove a student
14. Log Out

enter an option:1

enter enrollment no. of the student:011

enter the name of the student: new

enter year:3

enter password:011

enter fine due:0

record inserted successfully

5)ADMIN CAN VIEW ALL BOOK DETAILS

```
book_id: 21
book_name: wjh
author: cdj
subject ans
quantity of books: 25
copy_issued: 10
*****
*****
book_id: a12321
book_name: abcd
author: efgh
subject ijkl
quantity of books: 20
copy_issued: 5
*****
*****
book_id: c11234
book_name: Let us C
author: Harsh Beniwal
subject C
quantity of books: 10
copy_issued: 3
*****
*****
book_id: f11223
book_name: basics of electronics
author: millman
```

6)ADMIN CAN VEW ALL ISSUE REQUEST

```
14. Log Out  
enter an option:3  
*****  
enrollment_no: 1  
book_id: c11234  
date_of_issue: 2023-01-21  
date_of_return: 2023-01-30  
*****  
enrollment_no: 3  
book_id: g12345  
date_of_issue: 2023-02-06  
date_of_return: 2023-03-01  
*****  
enrollment_no: 4  
book_id: g23455  
date_of_issue: 2023-03-02  
date_of_return: 2023-03-11  
*****  
enrollment_no: 5  
book_id: k12543  
date_of_issue: 2023-03-15  
date_of_return: 2023-03-25  
*****  
completed!!!
```

7)ADMIN CAN VEIW DETAILS OF ALL STUDENTS

```
14. Log Out  
enter an option:4  
*****  
enrollment_no: 1  
name: Aanya  
year: 1  
fine 10  
password a001  
*****  
*****  
enrollment_no: 2  
name: Bhavika  
year: 2  
fine 77  
password b002  
*****  
*****  
enrollment_no: 3  
name: Disha  
year: 3  
fine 46  
password d003  
*****  
*****  
enrollment_no: 4  
name: Smita  
year: 4  
fine 52  
password s004
```

8)SEARCH A SPECIFIC BOOK

```
enter an option:5
enter book code to be searchedc11234
book_id: c11234
book_name: Let us C
author: Harsh Beniwal
subject: C
quantitys: 10
copy_issued: 3
1 RECORD(s) found
14. Log Out
```

9) SEARCH DETAIL OF SPECIFIC STUDENT

enter an option: 6

enter enrollment no to be searched002

金玉良缘，百年好合，永结同心。

enrollment no: 2

name: Bhavika

year: 2

fine: 77

password: b002

音符

1 RECORD(s) found

10)CHECK FINE OF A SPECIFIC STUDENT

13.

14.

enter an option:?

enter enrollment number of the student:002

Fine is:

77

11)ADD ANY BOOK

enter an option:8

Enter book id2

Enter book name newbook

Enter author name newauthor

Enter subjectc

Enter quantity5

Enter no of copies issued1

Book added successfully

12)CAN VEW ISSUE REQUEST OF SPECIFIC PERSON

```
enter an option:9
enter book id to be searchedc11234
enrollment no: 1
date of issue: 2023-01-21
book id: c11234
date of return: 2023-01-30
1 RECORD(s) found
```

13)CAN UPDATE BOOK DETAILS

```
enter an option:10
enter Book code of the book table whose details are to be updatedc11234
*** enter new data ***
enter book name:Let us C
enter author's name:author
enter subject:C
enter the quantity of books:7
enter copy issued:2
1 Record(s) updated successfully
```

14)CAN UPDATE STUDENT DETAILS

enter an option:11

enter enrollment no of student:007

*** enter new data***

enter name of student:nia

enter year:1

enter fine:2

enter new password:007

Record updated successfully

15)DELETE A BOOK OF CHOICE

```
enter an option:12
```

```
enter book code whose details are to be deletedk12543
record deleted successfully
```

16)DELETE A STUDENT OF CHOICE

```
enter an option:13
```

```
enter enrollment no of students whose detail is to be deleted007
record deleted successfully
```

18)LOGOUT

choose an option:

1. Add student
2. Show details of all books
3. Show details of all issued books
4. Show details of all students
5. Search a book
6. Details of a student
7. View fine on a student
8. Add a book
9. View issue requests of a book
10. Update book details
11. Update Student Details
12. Remove a Book
13. Remove a student
14. Log Out

enter an option:14

>>>



19)ON LOGGING IN STUDENT WITH ENROLLMENT NUMBER

```
RESTART> C:\USERS\Bhavika\Katyai
welcome Bhavika
choose an option:
1. My profile
2.Change Password
3.Issue a book
4.Return a book
5.View Fines
6.Search a Book
7.Book Recommendation
8.Log out
enter an option:
```

20)STUDENT CAN VIEW HIS/HER PROFILE

```
welcome Bhavika  
choose an option:  
1. My profile  
2.Change Password  
3.Issue a book  
4.Return a book  
5.View Fines  
6.Search a Book  
7.Book Recommendation  
8.Log out  
  
enter an option:1  
enrollment no: 2  
name: Bhavika  
year: 2  
fine: 77
```

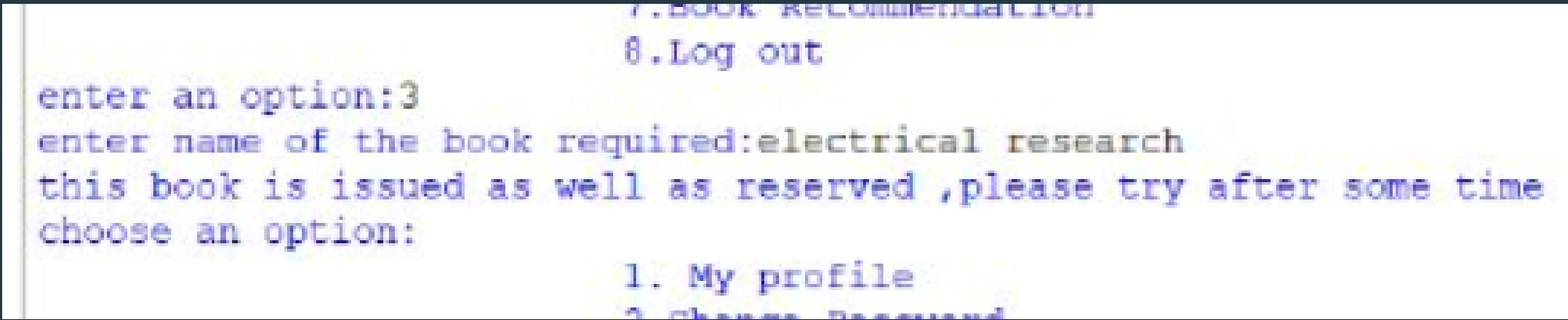
21)STUDENT CAN CHANGE HIS PASSWORD

```
enter an option:2
enter new password:B002
Password has been changed
```

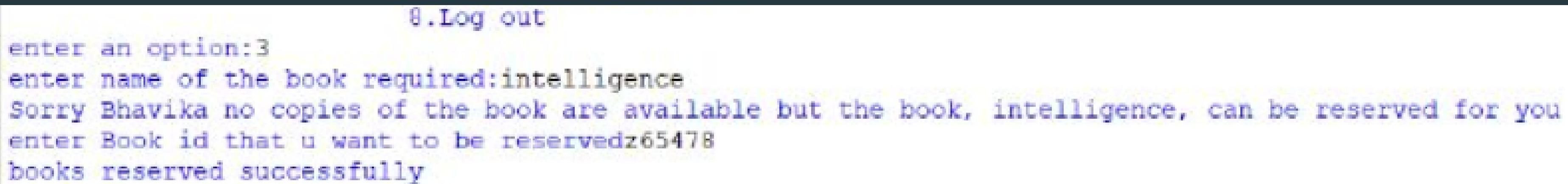
22)STUDENT CAN ISSUE A BOOK

```
choose an option:
1. My profile
2.Change Password
3.Issue a book
4.Return a book
5.View Fines
6.Search a Book
7.Book Recommendation
8.Log out
enter an option:3
enter name of the book required:Let us C
The book has been issued to you for 15 days
```

23)BOOK IS ALREADY RESERVED SO BOOK RESERVATION NOT POSSIBLE



24)BOOK RESERVATION SYSTEM



25)ON ENTERING INVALID ID OF BOOK

8.Log out

enter an option:4

enter id of the book to be returned:f11223

Invalid id

26)FEATURE TO RETURN THE BOOK

choose an option:

- 1. My profile
- 2.Change Password
- 3.Issue a book
- 4.Return a book
- 5.View Fines
- 6.Search a Book
- 7.Book Recommendation
- 8.Log out

enter an option:4

enter id of the book to be returned:c11234

The book has been returned

27)CAN VIEW FINE

choose an option:

- 1. My profile
- 2.Change Password
- 3.Issue a book
- 4.Return a book
- 5.view Fines
- 6.Search a Book
- 7.Book Recommendation
- 8.Log out

enter an option:5

Fine is

77

choose an option:

28)CAN SEARCH BOOK OF CHOICE

```
book_id: q23455
book_name: let us c++
author: Aarushi Singh
subject: C++
quantitys: 20
copy_issued: 2
*****
1 RECORD(s) found
```

29)BOOK RECOMMENDATION BASED ON PREVIOUS BORROWING

Enter the subject whose recommendation you want :AE
basics of electronics
choose an option:

1. My profile
2. Change Password
3. Issue a book
4. Return a book
5. View Fines
6. Search a Book
7. Book Recommendation
8. Log out

29)LOGOUT

welcome Bhavika
choose an option:

- 1. My profile
- 2.Change Password
- 3.Issue a book
- 4.Return a book
- 5.View Fines
- 6.Search a Book
- 7.Book Recommendation
- 8.Log out

enter an option:8

>>>

SQL TABLES CONNECTED WITH THE CODE

1)BOOK TABLE

```
mysql> select * from book;
```

book_id	book_name	author	subject	quantity	copy_issued
2	newbook	newauthor	C	5	1
21	wjh	cdj	ans	25	10
a12321	abcd	efgh	ijkl	20	5
c11234	Let us C	author	C	7	2
f11223	basics of electronics	millman	AE	20	-1
g12345	electrical research	Jenifer	BEE	20	21
g23455	let us c++	Aarushi Singh	C++	20	2
k22345	let us python	aryakeshri	python	20	2
s10023	design of machine elements	vb bhandhani	MAE	10	0
sdbj	dje	end	wijs	3	1
t12345	Operating sys	emiway	os	20	7
t45673	maths world	Arvind Kunar	AM	20	2
z65478	intelligence	zeben	artificial intelligence	20	21

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

2) STUDENT TABLE

```
mysql> select * from student;
```

enrollment_no	name	year	fine	password
1	Aanya	1	10	a001
2	Bhavika	2	77	B002
3	Disha	3	46	d903
4	Smita	4	52	s004
5	Mia	2	0	m005
9	bcddef	3	28	b009
10	Aadya	1	5	a010
11	new	3	0	n011

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

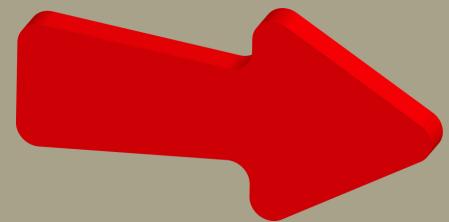
3) ISSUE_BOOK TABLE

```
mysql> select * from issue_book;
+-----+-----+-----+-----+
| enrollment_no | book_id | date_of_issue | date_of_return |
+-----+-----+-----+-----+
|      3 | g12345 | 2023-02-06 | 2023-03-01 |
|      4 | g23455 | 2023-03-02 | 2023-03-11 |
|      5 | k12543 | 2023-03-15 | 2023-03-25 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

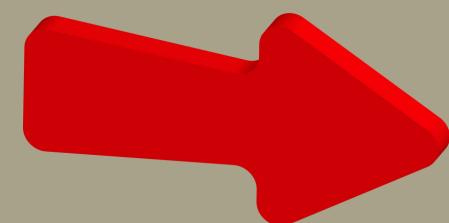
4) RETURN_BOOK TABLE

```
mysql> select * from return_book;
+-----+-----+-----+
| enrollment_no | book_id | date_of_return |
+-----+-----+-----+
|      2 | f11223 | 2023-03-19 |
|      2 | c11234 | 2023-03-19 |
+-----+-----+-----+
2 rows in set (0.00 sec)
```

INNOVATION



USE OF GRAPHICS



**MYSQL CONNECTED WITH
PYTHON**



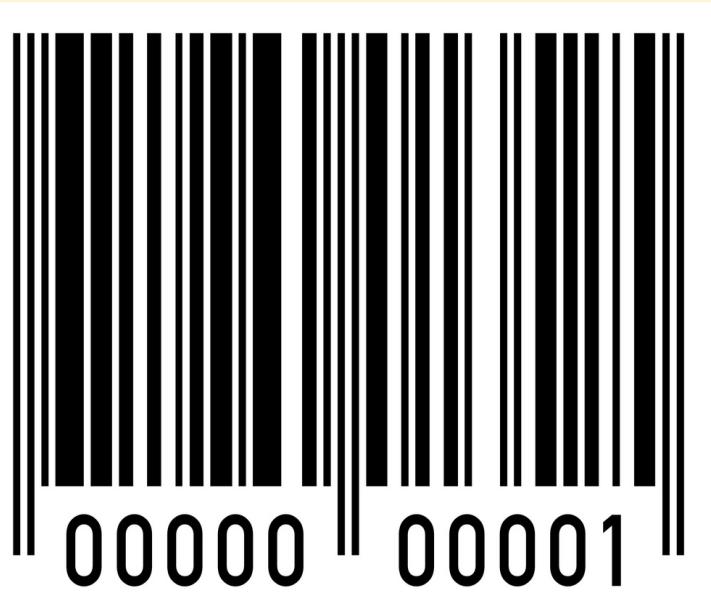
BUSINESS MODEL

We help students to issue book from library for a certain period of time and if the book is not returned on time a fine of ₹1 per day is to be submitted by the students and this will be the main source of our income and this is how we aim to generate profit.



FUTURE SCOPE

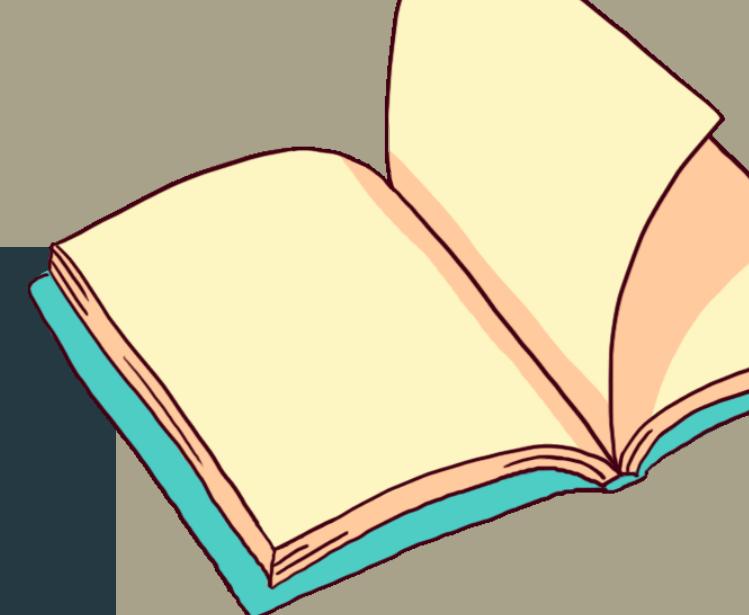
1. IN THE FUTURE, WE'LL START RENTING THE BOOK FOR MAXIMUM 3 MONTHS AT A MINIMAL PRICE
2. WE PLAN TO RELEASE THIS APP ON PLAYSTORE FOR BOTH ANDROID AND IOS USERS
3. WE AIM TO USE BARCODE SCANNING SUCH THAT DATABASE IS AUTOMATICALLY UPDATED WHEN BOOKS ARE SCANNED WHILE ISSUING OR RETURNING



OUR TEAM

**AARUSHI SINGH
BHAMINI KATYAL
JYOTIKA JAICHAND**

**CODE
THE
WARRIOR**



**ALL THE FUNCTIONALITIES AND GRAPHICS WERE
DIVIDED EQUALLY AMONGST ALL THREE OF US.**

DATABASE DIVISION

**AARUSHI SINGH
BOOK TABLE**

**BHAMINI KATYAL
STUDENT TABLE**

**JYOTIKA JAICHAND
ISSUE/RETURN TABLE**

NOTE FOR TEAM EQUINOX AT CB IGDTUW

We are highly grateful to team equinox for conducting our first ever coding hackathon very smoothly.

The mentors provided were very helpful.

Looking forward for more such hackathons .

Thank you

