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SYNOPSIS OF THE PROJECT

BANK MANAGEMENT SYSTEM

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SUBJECT : COMPUTER SCIENCE
SUB CODE : 083

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C E R T I F I C A T E

This is to certify that _____ Roll No : ____ has successfully completed the project synopsis work entitled **Bank Management System** in the subject Computer Science (083) laid down in the regulations of CBSE for the purpose of Practical Examination (Term I) in Class XII to be held on _____.

External Examiner

Mrs. RENU BAHETI
PGT (Computer Science)

Signature

Signature

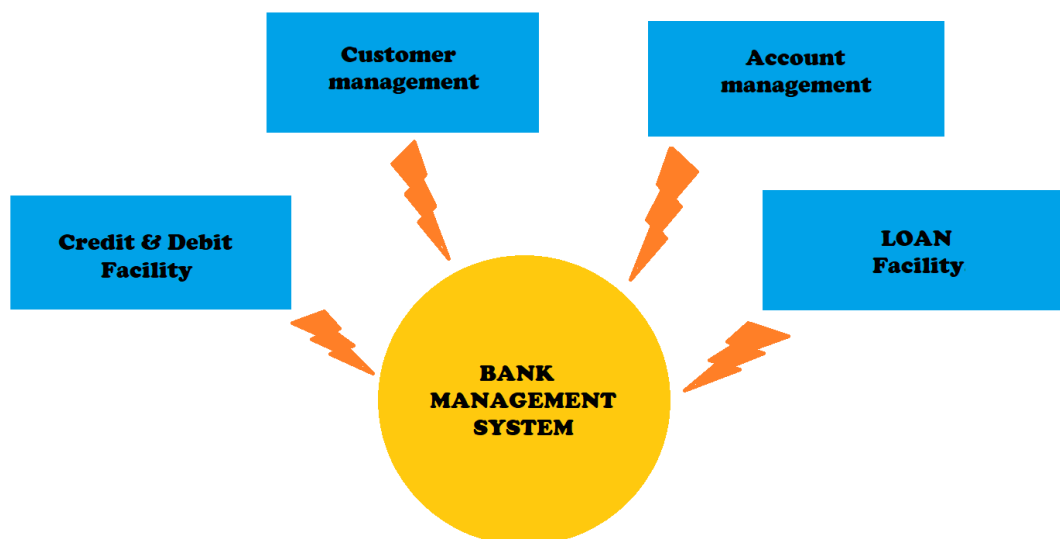
Principal's Signature

<u>TABLE OF CONTENTS [T O C]</u>		
<u>Sr. No</u>	<u>DESCRIPTION</u>	<u>PAGE NO</u>
1	INTRODUCTION OF THE PROJECT	4
2	OBJECTIVES OF THE PROJECT	5
3	SCOPE OF THE PROJECT	6
4	PROPOSED SYSTEM	7
5	HARDWARE AND SOFTWARE REQUIREMENTS	9
6	SYSTEM DESIGN	10
7	DATABASE DICTIONARY	13
8	REFERENCES AND BIBLIOGRAPHY	15

INTRODUCTION

The Bank Management System is basically a database-based project done with help of the Python language. Bank Management System is a computer system that helps manage the information related to Banking and aids in the job completion of the bank effectively. They manage the data related to all departments of Bank such as Account details, Personal INFO, Customer care, Loans, etc.

Bank Management System provides the ability to manage all the paperwork in one place, reducing the work of staff in arranging and analysing the paperwork of the customers.



OBJECTIVES OF THE PROJECT

The objectives of the system are:

- Maintain the financial records of the customer
- Maintain the personal details of the customer
- Tracking the bill payments
- Reduces the work of documentation
- Reduced operational time
- Increased accuracy and reliability
- Increased operational efficiency
- Data security
- Cost effective and easily manageable

This software package can be readily used by non-programming personal avoiding human handled chance of error.

SCOPE OF THE PROJECT

This project has a large scope as it has the following features which help in making it easy to use, understand and modify it:

- Easy to online drafting.
- No Need to do Paper Work.
- To save the environment by using paper free work.
- To increase the accuracy and efficiency of the placement procedure.
- Management of Market Data.

Main Points are:

- Simplified Management of User Profiles
- Booking Details
- Bank Information

PROPOSED SYSTEM

In order to compete with other nations in the fight for superiority, the only method to prevail, is by strengthening the nation by in several ways including its financial stability. Banking activities are considered to be the life line of any nation's economy.

Without banking services, trading and business activities cannot be carried out smoothly. Banks are the distributors and protectors of liquid capital which is of vital significance to a developing country.

An efficient administration of the banking system foster in the economic growth of the nation.

Today one cannot afford to rely on the fallible human beings. It is now become outdated to rationalize your mistake. So, in order to keep pace with time, to bring about the best result without malfunctioning and greater efficiency so as to replace the un-ending heaps of paper files with a much sophisticated hard disk of the computer.

This prevents a lot of wastage of time and money. The work becomes fully automated and any information regarding the organization can be obtained by clicking the button.

Softwares have been an ascent in atomization in various organisations. Many software products working are now in markets which have helped in making the organizations work easier and efficiently. Data management initially had to maintain a lot of ledgers and a lot of paper work has to be done but gradually software product on this organization has made their work faster and easier. Now only this software has to be loaded on the computer and work can be done.

Moreover, now it's an age of computers and updating and upgradation is the best method to sustain and develop in order to compete with the increasing pace of this generation.

HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirements:

I. OPERATING SYSTEM: WINDOWS 8 AND ABOVE

II. PROCESSOR: PENTIUM (ANY) OR AMD ATHALON (3800+- 4200+ DUAL CORE)

III. MOTHERBOARD: 1.845 OR 915,995 FOR PENTIUM OR MSI K9MM-V VIA K8M800+8237R PLUS CHIPSET FOR AMD ATHALON

IV. RAM: 512MB+

V. Hard Disk: SATA 40 GB OR ABOVE

VI. CD/DVD r/w multi drive combo: (If Backup required)

VII. PEN DRIVE 32 GB: (If Backup required)

VIII. MONITOR 14.1 or 15 -17 inch

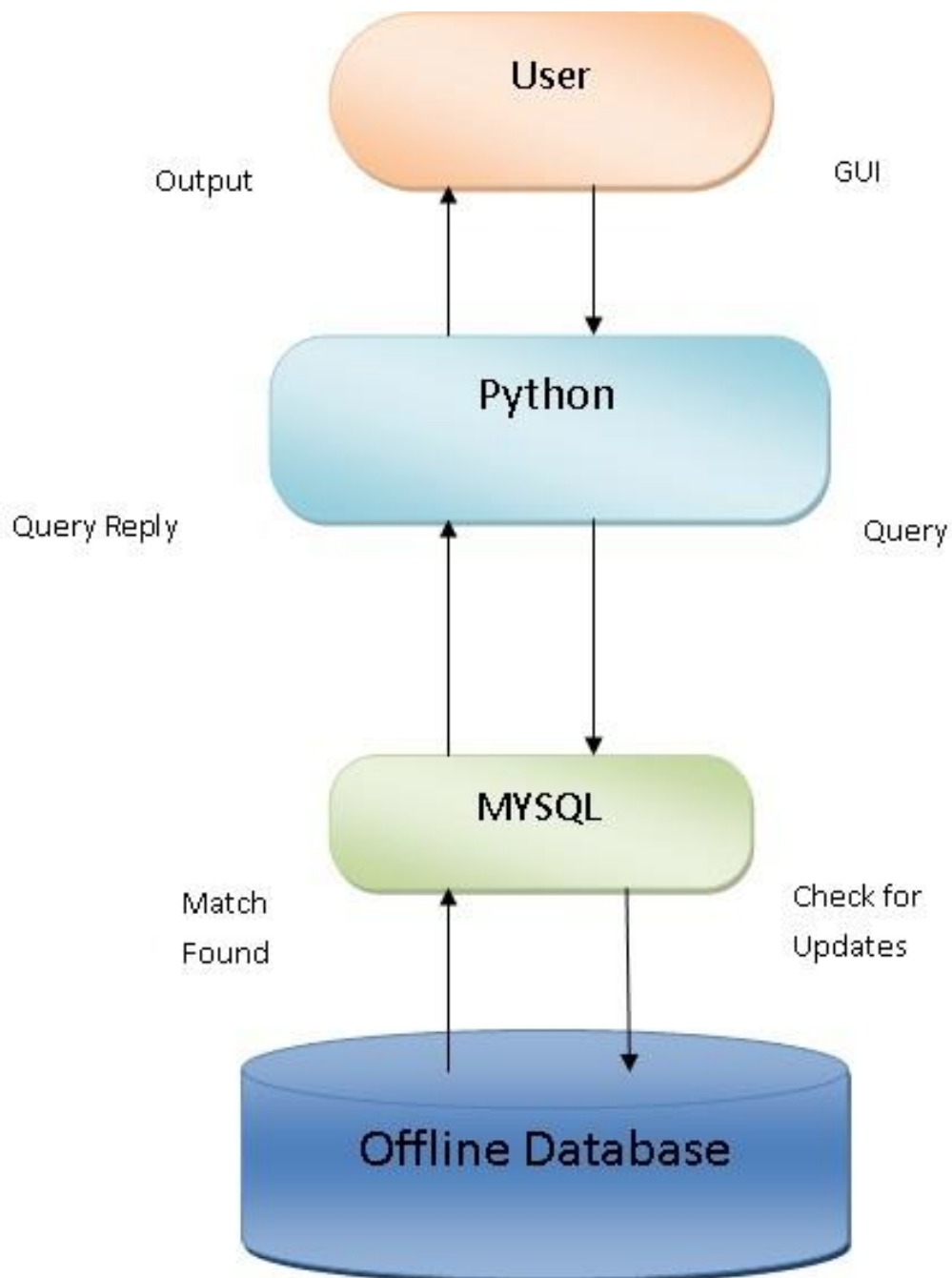
IX. Key board and mouse

X. Printer: (if print is required - [Hard copy])

Software Requirements:

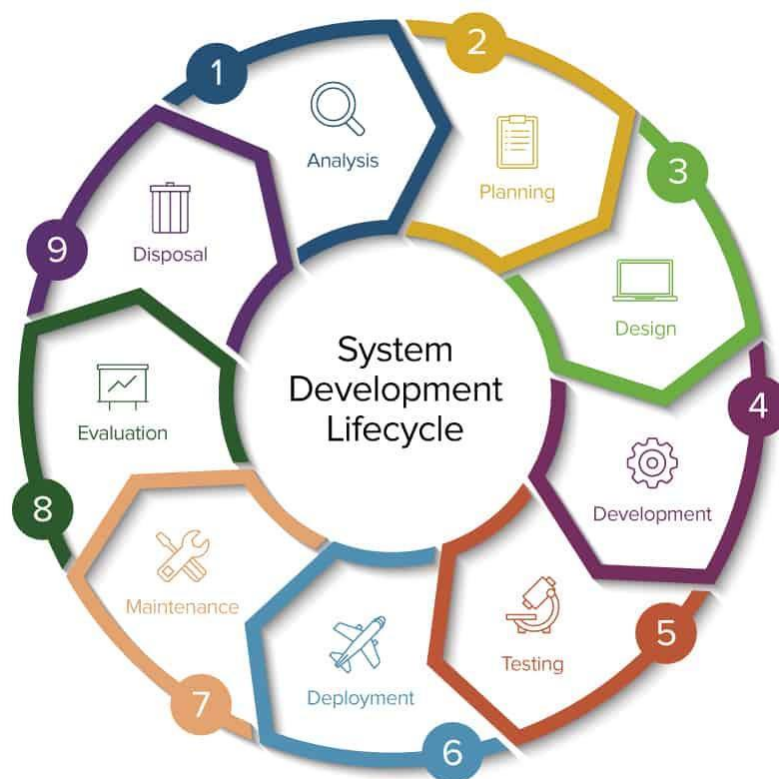
- Windows OS
- Python 3.7. x
- MySQL connector module

SYSTEM DESIGN



SYSTEM DEVELOPMENT LIFE CYCLE (SDLC)

The systems development life cycle (SDLC), also referred to as the application development life-cycle, is a term used in systems engineering, information systems and software engineering to describe a process for planning, creating, testing, and deploying an information system. The systems development life-cycle concept applies to a range of hardware and software configurations, as a system can be composed of hardware only, software only, or a combination of both.



PLANNING AND REQUIREMENT ANALYSIS

Requirement analysis is the most important and fundamental stage in SDLC. It is performed by the senior members of the team with inputs from the customer, the sales department, market surveys and domain experts in the industry. This information is then used to plan the basic project approach and to conduct product feasibility study in the economical, operational, and technical areas.

Defining Requirements

Once the requirement analysis is done the next step is to clearly define and document the product requirements and get them approved from the customer or the market analysts. This is done through .SRS. . Software Requirement Specification document which consists of all the product requirements to be designed and developed during the project life cycle.

The systems development life cycle is a project management technique that divides complex projects into smaller, more easily managed segments or phases.

DATABASE DICTIONARY

Table Name:

Schema: **bank_007**

Charset/Collation:

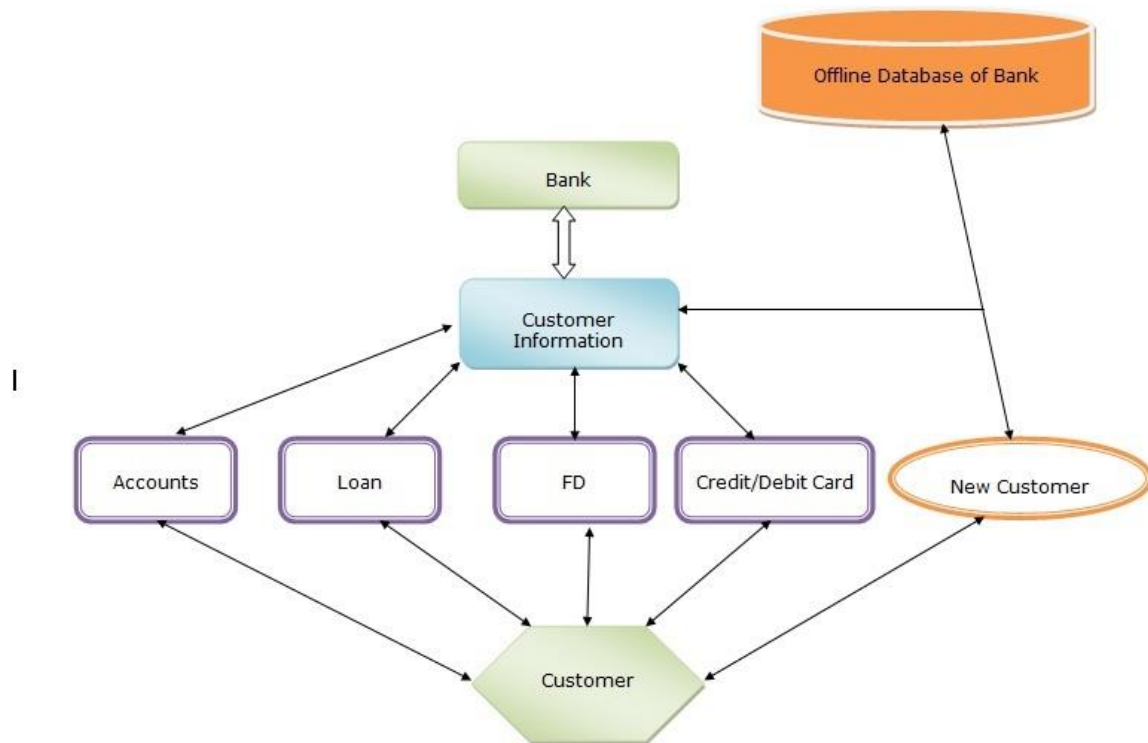
Engine:

Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
Acc_no	INT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Adhar_no	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Full_name	VARCHAR(30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Age	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Address	BLOB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Phone_no	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
Password	VARCHAR(10)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Balance	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
loan_amount	INT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
DOB	DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	NULL
status	VARCHAR(10)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	'Active'

QUERY/FEEDBACK/RESPONSE TABLE

Relationship between Customer and Query



SOURCE CODE

I have divided the database management system in 5 different python files for frontend and the backend is MySQL 8.0.

User Defined Module named M_db.py is the module to create a database on the computer and just needs to be ran once.

```
1 import mysql.connector
2
3 db = mysql.connector.connect(host="localhost", user="root", password="Shashwat28102004")
4
5 mycr = db.cursor()
6 mycr.execute("CREATE DATABASE BANK_007")
7
8 db.commit()
9 |
```

User Defined Module named M_st.py is the module to create a table structure in MySQL and just needs to be ran once.

```
1 import mysql.connector
2
3 db = mysql.connector.connect(host="localhost", user="root", password="Shashwat28102004", database="bank_007")
4
5
6 mycr = db.cursor()
7
8 tb = "CREATE TABLE Accounts(Acc_no int(12) PRIMARY KEY, Adhar_no int(12) UNIQUE , Full_name varchar(30) , Age int(3) , \
9      Address BLOB , Phone_no int(12) , Password varchar(10) NOT NULL , Balance int(12) , loan_amount int(12) , \
10     DOB date , status varchar(10) DEFAULT \"Active\" )"
11
12 mycr.execute(tb)
13
14 db.commit()
15 |
```

User Defined Module named M_st.py is the main module that contains all the functions of the project like adding data, updating, deleting etc.

```

1  import mysql.connector
2
3
4  def default():
5      db = mysql.connector.connect(host="localhost", user="root", password="Shashwat28102004", database="bank_007")
6      mycr = db.cursor()
7      return db, mycr
8
9
10 def add():
11     db, mycr = default()
12     insert = "INSERT INTO Accounts(Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance,\
13         loan_amount, DOB) VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s, %s)"
14
15     p = True
16     while p:
17         try:
18             acc = int(input("enter your Acc_no to be added :"))
19             adh = int(input("enter your Adhar_no :"))
20             f = input("enter your Full name :")
21             age = int(input("enter your age:"))
22             address = input("enter your Address:")
23             ph_no = int(input("enter your Phone_no(last 6 digits):"))
24             pass_ = input("enter your password :")
25             bal = int(input("enter your Balance:"))
26             lone = int(input("enter your loan_amount:"))
27             dob = int(input("enter your DOB(YYYY-MM-DD) :"))
28
29             if len(str(acc)) >= 10 or len(str(adh)) >= 10 or len(str(ph_no)) > 6:
30                 p = False
31             if not p:
32                 print("run again , INVALID INPUT!!!!")
33                 break
34             val = (acc, adh, f, age, address, ph_no, pass_, bal, lone, dob)
35             mycr.execute(insert, val)
36             db.commit()
37             print("Data added successfully .")
38             p = False
39         except:
40             print("Invalid input")
41
42 def show():
43     db, mycr = default()
44     dis = "SHOW TABLES"
45     mycr.execute(dis)
46     print("the tables are :")
47     for a in mycr:
48         print(a)
49
50
51 def data():
52     db, mycr = default()
53     select = "SELECT * FROM Accounts"
54     mycr.execute(select)

```



```

55     print("Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan_amount, DOB, status")
56     for a in mycr:
57         print(a)
58
59
60     def search():
61         db, mycr = default()
62         acc = input("Enter your Acc_no :")
63         password = input("Enter your Password :")
64         select = "SELECT * FROM Accounts WHERE Acc_no = "+acc+" AND Password = '"+password+"'"
65         mycr.execute(select)
66         print("Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan_amount, DOB, status")
67         for a in mycr:
68             print(a)
69
70
71     def update():
72         db, mycr = default()
73         acc = input("Enter your acc_no :")
74         password = input("Enter your Password :")
75         field = input("Which field do you want to update :")
76         new = input("enter the updated value :")
77         up = "UPDATE accounts SET "+field+" = '"+new+"'" WHERE Acc_no = "+acc+" AND Password = '"+password+"'"
78         mycr.execute(up)
79         db.commit()
80
81     print("Data updated successfully .")
82
83     def delete():
84         db, mycr = default()
85         acc = input("Enter your acc_no :")
86         password = input("Enter your Password :")
87         de = "DELETE FROM accounts WHERE Acc_no = "+acc+" AND Password = '"+password+"'"
88         mycr.execute(de)
89         db.commit()
90     print("Data deleted successfully .")
91

```

User Defined Module named del_db.py is the program to delete the whole database if wanted.

```

1     import mysql.connector
2
3     db = mysql.connector.connect(host="localhost", user="root", password="Shashwat28102004")
4
5     mycr = db.cursor()
6     mycr.execute("DROP DATABASE BANK_007")
7
8     db.commit()
9

```

The program named terminal.py is the frontend interactive program, which is a Menu Driven

And it has all the functions that can be performed.

```
1
2     from functions import *
3
4     W = """
5     *****
6     *      1 Show tables      *
7     *      2 Show data       *
8     *      3 Create new account *
9     *      4 Search your data *
10    *      5 Update existing account *
11    *      6 Delete existing account *
12    *      7 Exit             *
13    *****
14    """
15    T = True
16
17    while T:
18        print(W)
19        chc = int(input("Enter your choice :"))
20        if chc == 1:
21            print("Showing you All tables .")
22            show()
23        elif chc == 2:
24            print("Showing data in tables .")
25            data()
26        elif chc == 3:
27            print("Enter your data to make your account .")
28            add()
29
30        elif chc == 4:
31            print("Search your data .")
32            search()
33        elif chc == 5:
34            print("Update your existing account")
35            update()
36        elif chc == 6:
37            print("Delete existing account")
38            delete()
39        elif chc == 7:
40            print("Exited")
41            T = False
42        else:
43            loop = input("Do you want to continue [Y or y] :")
44            if loop == 'y' or loop == 'Y':
45                T = False
46            else:
47                pass
```

OUTPUT

Before the execution of M_db.py

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql      |
| performance_schema |
| school     |
| shashwat   |
| sys        |
+-----+
6 rows in set (0.34 sec)

mysql>
```

After executing M_db.py

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql      |
| performance_schema |
| school     |
| shashwat   |
| sys        |
+-----+
6 rows in set (0.34 sec)

mysql> show databases;
+-----+
| Database |
+-----+
| bank_007   |
| information_schema |
| mysql      |
| performance_schema |
| school     |
| shashwat   |
| sys        |
+-----+
7 rows in set (0.85 sec)
```

Before the execution of M_st.py

```
mysql> use bank_007
Database changed
mysql> show tables;
Empty set (1.18 sec)

mysql>
```

After executing M_st.py

```
mysql> use bank_007
Database changed
mysql> show tables;
Empty set (1.18 sec)

mysql> show tables;
+-----+
| Tables_in_bank_007 |
+-----+
| accounts            |
+-----+
1 row in set (0.12 sec)

mysql> desc accounts;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Acc_no     | int           | NO   | PRI | NULL    |       |
| Adhar_no   | int           | YES  | UNI | NULL    |       |
| Full_name  | varchar(30)   | YES  |     | NULL    |       |
| Age        | int           | YES  |     | NULL    |       |
| Address    | blob          | YES  |     | NULL    |       |
| Phone_no   | int           | YES  |     | NULL    |       |
| Password   | varchar(10)   | NO   |     | NULL    |       |
| Balance    | int           | YES  |     | NULL    |       |
| loan_amount | int           | YES  |     | NULL    |       |
| DOB        | date          | YES  |     | NULL    |       |
| status     | varchar(10)   | YES  |     | Active  |       |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.36 sec)
```

Before the execution of treminal.py

```
mysql> select * from accounts;
Empty set (0.09 sec)

mysql>
```

All types of quires were executed in treminal.py

```
IDLE Shell 3.9.1
File Edit Shell Debug Options Window Help
Python 3.9.1 (tags/v3.9.1:1e5d33e, Dec 7 2020, 17:08:21) [MSC v.1927 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:\practical\DBMS\terminal.py =====

*****
*      1 Show tables                                *
*      2 Show data                                  *
*      3 Create new account                         *
*      4 Search your data                          *
*      5 Update existing account                   *
*      6 Delete existing account                   *
*      7 Exit                                       *
*****

Enter your choice :1
Showing you All tables .
the tables are :
('accounts',)

*****
*      1 Show tables                                *
*      2 Show data                                  *
*      3 Create new account                         *
*      4 Search your data                          *
*      5 Update existing account                   *
*      6 Delete existing account                   *
*      7 Exit                                       *
*****

Enter your choice :2
Showing data in tables .
Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan_amount, DOB, status

*****
*      1 Show tables                                *
*      2 Show data                                  *
*      3 Create new account                         *
*      4 Search your data                          *
*      5 Update existing account                   *
*      6 Delete existing account                   *
*      7 Exit                                       *
*****
```

```
Enter your choice :3
Enter your data to make your account .
enter your Acc_no to be added :101
enter your Adhar_no :123456
enter your Full_name :Shashwat G. Patil
enter your age:17
enter your Address:dkjbadc vjbdc
enter your Phone_no(last 6 digits):987465
enter your password :SGP
enter your Balance:100000
enter your loan_amount:0
enter your DOB(YYYY-MM-DD) :20041028
Data added successfully .
```

```
*****
*      1 Show tables                                     *
*      2 Show data                                       *
*      3 Create new account                             *
*      4 Search your data                               *
*      5 Update existing account                       *
*      6 Delete existing account                       *
*      7 Exit                                           *
*****
```

```
Enter your choice :3
Enter your data to make your account .
enter your Acc_no to be added :102
enter your Adhar_no :987456
enter your Full_name :Aarav Saxena
enter your age:17
enter your Address:dbvad cmnkjbad
enter your Phone_no(last 6 digits):698523
enter your password :AS
enter your Balance:100000
enter your loan_amount:0
enter your DOB(YYYY-MM-DD) :20040516
Data added successfully .
```

```

*****
*   1 Show tables                               *
*   2 Show data                               *
*   3 Create new account                       *
*   4 Search your data                         *
*   5 Update existing account                 *
*   6 Delete existing account                 *
*   7 Exit                                    *
*****

Enter your choice :3
Enter your data to make your account .
enter your Acc_no to be added :103
enter your Adhar_no :852147
enter your Full Name :Avyay Mishra
enter your age:17
enter your Address:kjvbd cmnbskcb
enter your Phone_no(last 6 digits):852123
enter your password :AM
enter your Balance:100000
enter your loan_amount:0
enter your DOB(YYYY-MM-DD) :20040913
Data added successfully .

*****
*   1 Show tables                               *
*   2 Show data                               *
*   3 Create new account                       *
*   4 Search your data                         *
*   5 Update existing account                 *
*   6 Delete existing account                 *
*   7 Exit                                    *
*****

Enter your choice :2
Showing data in tables .
Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan_amount, DOB, status
(101, 123456, 'Shashwat G. Patil', 17, b'dkjbadc vjbdc ', 987465, 'SGP', 100000, 0, datetime.date(2004, 10, 28), 'Active')
(102, 987456, 'Aarav Saxena', 17, b'dbvad cmnkjbad ', 698523, 'AS', 100000, 0, datetime.date(2004, 5, 16), 'Active')
(103, 852147, 'Avyay Mishra', 17, b'kjvbd cmnbskcb', 852123, 'AM', 100000, 0, datetime.date(2004, 9, 13), 'Active')

*****
*   1 Show tables                               *
*   2 Show data                               *
*   3 Create new account                       *
*   4 Search your data                         *
*   5 Update existing account                 *
*   6 Delete existing account                 *
*   7 Exit                                    *
*****

Enter your choice :4
Search your data .
Enter your Acc_no :101
Enter your Password :SGP
Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan_amount, DOB, status
(101, 123456, 'Shashwat G. Patil', 17, b'dkjbadc vjbdc ', 987465, 'SGP', 100000, 0, datetime.date(2004, 10, 28), 'Active')

*****
*   1 Show tables                               *
*   2 Show data                               *
*   3 Create new account                       *
*   4 Search your data                         *
*   5 Update existing account                 *
*   6 Delete existing account                 *
*   7 Exit                                    *
*****

Enter your choice :5
Update your existing account
Enter your acc_no :102
Enter your Password :AS
Which field do you want to update :Phone_no
enter the updated value :785419
Data updated successfully .

*****
*   1 Show tables                               *
*   2 Show data                               *
*   3 Create new account                       *
*   4 Search your data                         *
*   5 Update existing account                 *
*   6 Delete existing account                 *
*   7 Exit                                    *
*****

```

```

Enter your choice :2
Showing data in tables .
Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan amount, DOB, status
(101, 123456, 'Shashwat G. Patil', 17, b'dkjbadc_vjbdc ', 987465, 'SGP', 100000, 0, datetime.date(2004, 10, 28), 'Active')
(102, 987456, 'Aarav Saxena', 17, b'dbvad cmnkjbad ', 785419, 'AS', 100000, 0, datetime.date(2004, 5, 16), 'Active')
(103, 852147, 'Avyay Mishra', 17, b'kjvbd cmnbskcb', 852123, 'AM', 100000, 0, datetime.date(2004, 9, 13), 'Active')

*****
*      1 Show tables      *
*      2 Show data       *
*      3 Create new account *
*      4 Search your data *
*      5 Update existing account *
*      6 Delete existing account *
*      7 Exit            *
*****

Enter your choice :6
Delete existing account
Enter your acc_no :103
Enter your Password :AM
Data deleted successfully .

*****
*      1 Show tables      *
*      2 Show data       *
*      3 Create new account *
*      4 Search your data *
*      5 Update existing account *
*      6 Delete existing account *
*      7 Exit            *
*****

Enter your choice :2
Showing data in tables .
Acc_no, Adhar_no, Full_name, Age, Address, Phone_no, Password, Balance, loan amount, DOB, status
(101, 123456, 'Shashwat G. Patil', 17, b'dkjbadc_vjbdc ', 987465, 'SGP', 100000, 0, datetime.date(2004, 10, 28), 'Active')
(102, 987456, 'Aarav Saxena', 17, b'dbvad cmnkjbad ', 785419, 'AS', 100000, 0, datetime.date(2004, 5, 16), 'Active')

*****
*      1 Show tables      *
*      2 Show data       *
*      3 Create new account *
*      4 Search your data *
*      5 Update existing account *
*      6 Delete existing account *
*      7 Exit            *
*****

Enter your choice :7
Exited
>>> |

```

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