Faculty of Engineering

Department of Engineering Management

Emp5117 Foundation of Software Engineering Final Project

Banking System

Submitted By:

Chakshu Sharma

30002628

Submitted To:

Prof. Guy Vince Jourdan

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Banking System:

The Banking System project is developed where the customer can explore its account information. Below are the transactions customers can perform using different inputs :

1. Check the Account Balance
2. Deposit the Amount
3. Withdrawal
4. Check the Last Transaction
5. Exit.

How the system works?

We have defined a single class with individual functions performing different tasks like storing the account balance, depositing the money, making note of all the transactions, withdrawal etc. The functions defined within the class are:

deposit()
withdraw()
getLastTransaction()
showmenu()

1. Deposit: In Deposit, the customer can deposit the money they want.
2. Withdraw: In Withdraw, the customer can withdraw the money from their account.
3. Last Transaction: In “getLastTransaction”, the customer can check the last transaction they have done.
4. Showmenu: This function contains do-while statement with switch case functions. The different cases call the above mentioned functions according to the user input.

Data Types Used:

Different Data types are being used in this Code like int, char, string.

1. **Integer**: Integer commonly used as int is used to define the integer which holds the numbers such as 123 and -96. The Range of the values that can be stored in the byte data type is -128 to 127.
2. **Character**: It stores the constants in the memory. It takes a size of 2 bytes, but

basically it can hold only a single character because char stores Unicode character sets.

3. **String**: A String is a sequence of characters that exist as an object of the class JAVA. Using string class, Java string is created and manipulated. One this string class is created, no changes can be made.

Scanner Class: JAVA scanner class is widely used to parse the text for string and primitive types using regular expression. Java scanner is used for the customer input. The Scanner will get the input for all the customers and will perform the functions like withdraw, deposit, check balance, last transactions and exit.

Loops: In our code, we have used if-else and do-while loops.

1. **Do-while loop**: do while loop is used to execute a block of statements continuously until the given condition is true. do while loop is similar to while loop except that the condition is checked after the statements are executed, so do while loop guarantees the loop execution at least once.

   In this code, we have used switch cases inside do statement where

   Case M: case m is used to display the account balance.

   Case N: case n will execute the deposit part.

   Case O: case o is used to withdraw the money.

   Case P: case p will execute the last transaction in the account.

   Case Q: case q will do the exit part .

   The above cases will be executed once, after which the while statement will check that option chosen by the customer is not equal to exit statement which is case q. Below are the screenshots:

```
do
{
    System.out.println("*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-**-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-");
    System.out.println("Enter the above mentioned options");
    System.out.println("*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-*-");
    option= scanner.next().charAt(0);
    System.out.println("\n");

   switch(option)
   {
       case 'M':
           System.out.println("--------------");
    {

        System.out.println("AccountBalance = "+accountBalance);
    }
           System.out.println("---------------");
           System.out.println("\n");
           break;

       case 'N':
           System.out.println("-------------");
           System.out.println("Enter the amount to Deposit");
           System.out.println("--------------");
           int amount = scanner.nextInt();
           deposit(amount);
           System.out.println("\n");
           break;

        case 'O':
            System.out.println("-------------");
            System.out.println("Enter the amount to Withdraw");
            System.out.println("---------------");
            int amount1 = scanner.nextInt();
            withdraw(amount1);
            System.out.println("\n");
            break;

            case 'P':
            System.out.println("-------------");
            getLastTransaction();
            System.out.println("---------------");
            System.out.println("\n");
            break;

            case 'Q':
                System.out.println("----------------");
                break;

            default:
            System.out.println("Not in the list.Check your option again");
            break;
    }

}while(option !='Q');
            System.out.println("Thankyou for using the services");
```

2. **If-else**: As the name suggests, if a condition is true, a set of statement will be executed; else the negation will be executed.

   For example: one set of statement we have used in the program are:

```
{
if(lastTransaction > 0)
{
    System.out.println("Deposit: "+lastTransaction);
}
else if(lastTransaction < 0)
{
    System.out.println("Withdrawn:"+Math.abs(lastTransaction));
}
else
{
     System.out.println("No transaction occured");
}
```

Output:

```
Welcome Chakshu
Your Id is 300039268


M. Check Balance
N.Deposit
O.Withdraw
P.Last Transaction
Q.Exit
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
M


---------------
AccountBalance = 0
----------------


*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
N


--------------
Enter the amount to Deposit
---------------
5000

*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
M
```

```
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
M


---------------
AccountBalance = 5000
----------------


*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
O


--------------
Enter the amount to Withdraw
---------------
2000

*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
M


---------------
AccountBalance = 3000
----------------
```

```
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
P


--------------
Withdrawn:2000
---------------


*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_**_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Enter the above mentioned options
*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_*_
Q


----------------
Thankyou for using the services
```