package semesterproject;

import java.util.\*;

import java.io.\*;

public class SemesterProject

{

private static File file = new File("BankAccountDetails.txt");

private static Scanner input = new Scanner(System.in);

private static String[][] data\_array = new String[100][8];

//private static String unique\_id;

private static String username;

private static String fathername;

private static String age;

private static String password;

private static String cnic;

private static String address;

private static String amount;

private static int user\_idx;

public static void main(String[] args) throws IOException

{

if (!file.exists())

{

file.createNewFile();

}

showoptions();

System.out.println("===================================================="

+"\n Thank you for choosing CIIT Bank.ltd"

+"\n====================================================");

}

public static void showoptions()

{

while(true)

{

System.out.println("===================================================="

+"\n Welcome to CIIT Bank.ltd"

+"\n===================================================="

+"\nWhat would you want to do."

+"\nPress,"

+"\n1 for Manager Login."

+"\n2 for Banking."

+"\n3 for ATM."

+"\n4 for Exit.");

int op = 0;

try

{

op = input.nextInt();

}

catch(Exception e)

{

System.out.println("An interger is required.");

}

if(op==1)//new acoount

{

input.nextLine();

Managerlogin();

System.out.println("====================================================\n");

}

else if(op==2)//banking

{

Banking();

System.out.println("====================================================\n");

}

else if(op==3)//atm

{

input.nextLine();

ATM();

System.out.println("====================================================\n");

}

else if(op==4)

{

break;

}

else

{

System.out.println("Invalid input.");

}

}

}

public static void Managerlogin()

{

while(true)

{

System.out.println("===================================================="

+"\n Enter Manager Login"

+"\n====================================================");

System.out.print("\nManager Name:\t");

String manager\_name = input.nextLine();

System.out.print("\nPassword:\t");

String manager\_password = input.nextLine();

if((manager\_name.equalsIgnoreCase(data\_array[0][0])) && (manager\_password.equalsIgnoreCase(data\_array[0][3])))

{

System.out.println("\nManager Login Successful.");

ManagerOptions();

break;

}

}

}

public static void ManagerOptions()

{

while(true)

{

System.out.println("===================================================="

+"\n Manager Option"

+"\n===================================================="

+"\nWhat would you want to do."

+"\nPress,"

+"\n1 for Account Searching."

+"\n2 for New Account."

+"\n3 for Deleting Account."

+"\n4 for Manager Logout.");

int op = 0;

try

{

op = input.nextInt();

}

catch(Exception e)

{

System.out.println("An interger is required.");

}

if(op==1)

{

input.nextLine();

AccountSearch();

}

else if(op==2)

{

input.nextLine();

NewAccount();

System.out.println("====================================================\n");

}

else if(op==3)

{

DeleteAccount();

System.out.println("====================================================\n");

}

else if(op==4)

{

username = null;

fathername = null;

age = null;

password = null;

cnic = null;

address = null;

amount = null;

user\_idx = 0;

break;

}

else

{

input.nextLine();

System.out.println("Invalid input.");

}

}

}

public static void AccountSearch()

{

boolean check = true;

while(check)

{

System.out.println("\nEnter the Name of Account Holder.");

String Acc\_name = input.nextLine();

System.out.println("\nEnter the CNIC of Account Holder.");

String Acc\_cnic = input.nextLine();

for(int i = 0 ; i < 100 ; i++)

{

if(data\_array[i][0] == null)

{

System.out.println("\nData not found,\n"

+ "Please re-Enter payee detailes.");

break;

}

else if((data\_array[i][0].equalsIgnoreCase(Acc\_name)) && ((data\_array[i][4].equalsIgnoreCase(Acc\_cnic))))

{

showdetailes(i);

check = false;

break;

}

}

}

}

public static void NewAccount()

{

System.out.println("===================================================="

+"\n Enter New User's Detailes"

+"\n====================================================");

System.out.print("\nEnter UserName:\t");

username = input.nextLine();

System.out.print("\nEnter Father's Name:\t");

fathername = input.nextLine();

System.out.print("\nEnter User Age:\t");

age = input.nextLine();

System.out.print("\nEnter CNIC:\t");

cnic = input.nextLine();

System.out.print("\nEnter Address:\t");

address = input.nextLine();

while(true)

{

try

{

System.out.print("\nEnter Balance:\t");

double amount1 = input.nextInt();

amount = Double.toString(amount1);

break;

}

catch(Exception e)

{

System.out.println("\nAn integer is required.");

}

}

input.nextLine();

System.out.print("\nEnter Password:\t");

password = input.nextLine();

while(true)

{

System.out.print("\nPlease re-enter your password:\t");

String tempConfirmationPassword = input.nextLine();

if(password.equals(tempConfirmationPassword))

{

if(verification())

{

System.out.println("\nRecord with same Username and Password already exists.");

System.out.println("Please Enter New Details.");

NewAccount();

break;

}

else if(addSignUpInfo())

{

System.out.println("\nSignup Successful.");

DataEntryFileTo2DArray();

System.out.println();

break;

}

}

}

}

public static boolean verification()

{

DataEntryFileTo2DArray();

try

{

for(int i = 0; i < 100; i++)

{

if(data\_array[i][0] == null)

{

break;

}

else if((data\_array[i][0].equalsIgnoreCase(username)) && (data\_array[i][3].equalsIgnoreCase(password)))

{

user\_idx = i;

return true;

}

}

}

catch(Exception e)

{

System.out.println(e.getMessage());

}

return false;

}

public static boolean addSignUpInfo()

{

try{

if (!file.exists())

{

file.createNewFile();

}

FileWriter fw = new FileWriter(file.getAbsoluteFile(), true);

BufferedWriter bw = new BufferedWriter(fw);

{

bw.write(username + "\t\t" + fathername + "\t\t" + age + "\t\t"

+ password + "\t\t" + cnic + "\t\t" + amount + "\t\t" + address );

bw.newLine();

bw.close();

}

}

catch(IOException e)

{

System.out.println(e.getMessage());

}

return true;

}

public static void DeleteAccount()

{

input.nextLine();

boolean check = true;

while(check)

{

System.out.println("===================================================="

+"\n Enter Account Detailes To Delete"

+"\n====================================================");

System.out.println("\nName.");

String Acc\_name = input.nextLine();

System.out.println("\nCNIC.");

String Acc\_cnic = input.nextLine();

for(int i = 0 ; i < 100 ; i++)

{

if(data\_array[i][0] == null)

{

System.out.println("\nData not found,\n"

+ "Please re-Enter payee detailes.");

break;

}

else if((data\_array[i][0].equalsIgnoreCase(Acc\_name)) && ((data\_array[i][4].equalsIgnoreCase(Acc\_cnic))))

{

showdetailes(i);

System.out.println("\nUser Data found."

+"\nPress Y for confirmation of Account Deletion."

+"\nPress N to Cancel.");

String temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

deletenswaping(i);

System.out.println("\nAccount deleted Successfully.");

}

check = false;

break;

}

}

}

}

public static void deletenswaping(int i)

{

for(int j = 0; j<8 ; j++)

{

data\_array[i][j] = null;

}

for(int k = 0; k<100; k++)

{

System.out.println(data\_array[k][0] + data\_array[k+1][0]);

if((data\_array[k][0] == null) && (data\_array[k+1][0] == null))

{

break;

}

if(data\_array[k][0] == null)

{

if(data\_array[k+1][0] != null)

{

for(int l = 0; l<8; l++)

{

data\_array[k][l] = data\_array[k+1][l];

data\_array[k+1][l] = null;

}

}

}

}

arraytofilewriting();

}

public static void DataEntryFileTo2DArray()

{

try

{

FileReader fr = new FileReader(file);

BufferedReader br = new BufferedReader(fr);

String line;

int i = 0;

while (((line = br.readLine()) != null) && (i<100))

{

String[] splitted = line.split("\t\t");

for(int j = 0 ; j < 7 ; j++)

{

data\_array[i][j] = splitted[j];

}

i++;

}

br.close();

}

catch(IOException e)

{

System.out.println(e.getMessage());

}

}

public static void Banking()

{

while(true)

{

System.out.println("===================================================="

+ "\n Welcome to the Banking Option"

+"\n===================================================="

+ "\nWhat you want to do...\n"

+ "Press,"

+ "\n1 for Deposite."

+ "\n2 for withdraw By check."

+ "\n3 for Exit.");

int op = 0;

try

{

op = input.nextInt();

}

catch(Exception e)

{

System.out.println("4" + e.getMessage());

}

if(op==1)

{

input.nextLine();

deposite();

}

else if(op==2)

{

input.nextLine();

withdraw();

}

else if(op==3)

{

username = null;

fathername = null;

age = null;

password = null;

cnic = null;

address = null;

amount = null;

user\_idx = 0;

break;

}

else

{

System.out.println("Invalid input.");

}

}

}

public static void deposite()

{

boolean check = true;

try

{

while(check)

{

DataEntryFileTo2DArray();

System.out.println("\nEnter User Name.");

username = input.nextLine();

System.out.println("\nEnter the CNIC.");

cnic = input.nextLine();

for(int i = 0 ; i < 100 ; i++)

{

if(data\_array[i][0] == null)

{

break;

}

else if((data\_array[i][0].equalsIgnoreCase(username)) && ((data\_array[i][4].equalsIgnoreCase(cnic))))

{

while(true)

{

user\_idx = i;

try

{

System.out.println("\nEnter the Amount you want to deposite.");

double amount1 = input.nextInt();

amount = Double.toString(amount1);

break;

}

catch(Exception e)

{

System.out.println("\nAn integer is required.");

}

}

showdetailes(i);

input.nextLine();

System.out.println("\nPress Y for the confirmation of your deposite."

+ "\nPress N to Cancel.");

String temp = input.nextLine();

check = false;

if(temp.equalsIgnoreCase("y"))

{

confirmed(i , '+');

System.out.println("Deposite Successful.");

System.out.println("\nDo you want to see ATM slip.(Y/N)");

temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

DisplayBalance("Deposite Slip");

}

}

break;

}

}

if(check)

{

System.out.println("\nData not found.Kindly enter new detailes.\n"

+ "Do you want to continue(Y/N)");

String temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

check = true;

}

}

}

}

catch(Exception e)

{

System.out.println(e);

}

}

public static void withdraw()

{

boolean check = true;

try{

while(check)

{

DataEntryFileTo2DArray();

System.out.println("\nEnter User Name.");

username = input.nextLine();

System.out.println("\nEnter the CNIC.");

cnic = input.nextLine();

for(int i = 0 ; i < 100 ; i++)

{

if(data\_array[i][0] == null)

{

break;

}

else if((data\_array[i][0].equalsIgnoreCase(username)) && ((data\_array[i][4].equalsIgnoreCase(cnic))))

{

while(true)

{

user\_idx = i;

try

{

System.out.println("\nEnter the Amount you want to Withdraw.");

double amount1 = input.nextInt();

amount = Double.toString(amount1);

break;

}

catch(Exception e)

{

System.out.println("\nAn integer is required.");

}

}

showdetailes(i);

input.nextLine();

System.out.println("\nPress Y for the confirmation of your Withdrawal."

+"\nPress N to Cancel.");

String temp = input.nextLine();

check = false;

if(temp.equalsIgnoreCase("y"))

{

confirmed(i , '-');

System.out.println("Withdrawal Successful.");

System.out.println("\nDo you want to see ATM slip.(Y/N)");

temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

DisplayBalance("Withdrawal Slip");

}

}

break;

}

}

if(check)

{

System.out.println("\nData not found.Kindly enter new detailes.\n"

+ "Do you want to continue(Y/N)");

String temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

check = false;

}

}

}

}

catch(Exception e)

{

System.out.println(e);

}

}

public static void confirmed(int i , char a)

{

String temp = data\_array[i][5];

double value1 = Double.parseDouble(temp);

double value2 = Double.parseDouble(amount);

if(a=='+')

{

data\_array[i][7] = ("+" + value2);

value1 = value1 + value2;

}

else if(a=='-')

{

data\_array[i][7] = ("-" + value2);

value1 = value1 - value2;

}

String temp1 = Double.toString(value1);

data\_array[i][5] = temp1;

arraytofilewriting();

}

public static void arraytofilewriting()

{

try{

PrintWriter writer;

writer = new PrintWriter(file);

for(int i = 0; i<100 ; i++)

{

if(data\_array[i][0] == null)

{

break;

}

for(int j = 0 ; j<8 ; j++)

{

writer.print(data\_array[i][j] + "\t\t");

}

writer.println();

}

writer.close();

}

catch(FileNotFoundException e)

{

System.out.println(e.getMessage());

}

catch(Exception e)

{

System.out.println(e.getMessage());

}

}

public static void showdetailes(int i)

{

try

{

System.out.println("===================================================="

+"\n Account Holder Detailes"

+"\n===================================================="

+"\n\t\*Name of User" + "\t\t" + data\_array[i][0]

+"\n\t\*Father's Name" + "\t\t" + data\_array[i][1]

+"\n\t\*CNIC of User" + "\t\t" + data\_array[i][4]

+"\n\t\*Address " + "\t\t" + data\_array[i][6]

+"\n====================================================");

}

catch(Exception e)

{

System.out.println(e.getMessage());

}

}

public static void ATM()

{

DataEntryFileTo2DArray();

boolean check = true;

while(check)

{

System.out.println("\n===================================================="

+ "\n ATM login"

+ "\n====================================================");

System.out.println("\nEnter User Name.");

username = input.nextLine();

System.out.println("\nEnter Password.");

password = input.nextLine();

if(verification())

{

System.out.println("\nSuccessfully Loged in.");

check = false;

ATM\_options();

break;

}

else if(check)

{

System.out.println("\nData not found.Kindly enter new detailes.\n"

+ "Do you want to continue(Y/N)");

String temp = input.nextLine();

if(!(temp.equalsIgnoreCase("y")))

{

check = false;

}

}

}

}

public static void ATM\_options()

{

while(true)

{

System.out.println("\n===================================================="

+ "\n Welcome to the ATM Options"

+ "\n===================================================="

+ "\nWhat you want to do...\n"

+ "Press,"

+ "\n1 for Diplay Balance."

+ "\n2 for Transection."

+ "\n3 for withdraw."

+ "\n4 for logout.");

int op = 0;

try

{

op = input.nextInt();

}

catch(Exception e)

{

System.out.println("4" + e);

}

if(op==1)

{

DisplayBalance("ATM Slip");

}

else if(op==2)

{

Transection();

}

else if(op==3)

{

ATMwithdraw();

}

else if(op==4)

{

username = null;

fathername = null;

age = null;

password = null;

cnic = null;

address = null;

amount = null;

user\_idx = 0;

break;

}

else

{

System.out.println("Invalid input.");

}

}

}

public static void DisplayBalance(String head)

{

DataEntryFileTo2DArray();

try

{

System.out.println("===================================================="

+"\n \t\t\t" + head

+"\n===================================================="

+"\n\t\*Name of User" + "\t\t" + data\_array[user\_idx][0]

+"\n\t\*Father's Name" + "\t\t" + data\_array[user\_idx][1]

+"\n\n\t\*CNIC of User" + "\t\t" + data\_array[user\_idx][4]

+"\n\t\*Address " + "\t\t" + data\_array[user\_idx][6]

+"\n\n\t\*Last Transection " + data\_array[user\_idx][7]

+"\n\t\*Balance " + "\t\t" + data\_array[user\_idx][5]

+"\n====================================================");

}

catch(Exception e)

{

System.out.println(e);

}

}

public static void Transection()

{

input.nextLine();

boolean check = true;

while(check)

{

System.out.println("\nEnter the Name of Payee.");

String payee = input.nextLine();

System.out.println("\nEnter the CNIC of Payee.");

String payee\_cnic = input.nextLine();

for(int i = 0 ; i < 100 ; i++)

{

if(data\_array[i][0] == null)

{

System.out.println("\nData not found,\n"

+ "Please re-Enter payee detailes.");

break;

}

else if((data\_array[i][0].equalsIgnoreCase(payee)) && ((data\_array[i][4].equalsIgnoreCase(payee\_cnic))))

{

while(true)

{

try

{

System.out.println("\nEnter the Amount you want to send.");

double amount1 = input.nextInt();

amount = Double.toString(amount1);

break;

}

catch(Exception e)

{

System.out.println("\nAn integer is required.");

}

}

showdetailes(i);

input.nextLine();

System.out.println("\nPress Y for to confirmation of transection."

+"\nPress N to Cancel.");

String temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

confirmed(i , '+');

confirmed(user\_idx , '-');

System.out.println("\nTransection Successful.");

System.out.println("\nDo you want to see ATM slip.(Y/N)");

temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

DisplayBalance("ATM Slip");

}

}

check = false;

break;

}

}

}

}

public static void ATMwithdraw()

{

boolean check = true;

input.nextLine();

while(check)

{

while(true)

{

try

{

System.out.println("\nEnter the Amount you want to Withdraw, multiple of 500.");

double amount1 = input.nextInt();

amount = Double.toString(amount1);

break;

}

catch(Exception e)

{

System.out.println("\nAn integer is required.");

}

}

double value = Double.parseDouble(amount);

double balance = Double.parseDouble(data\_array[user\_idx][5]);

if(value%500 == 0.0)

{

if(value <= 25000.0)

{

if(balance >= value)

{

input.nextLine();

System.out.println("\nValid Withdrawal Amount given,"

+ "\nPress Y for the confirmation of your Withdrawal."

+ "\nPress N to Cancel.");

String temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

confirmed(user\_idx , '-');

System.out.println("Withdrawal Successful.");

System.out.println("\nDo you want to see ATM slip.(Y/N)");

temp = input.nextLine();

if(temp.equalsIgnoreCase("y"))

{

DisplayBalance("ATM Slip");

}

}

check = false;

}

else

{

System.out.println("\nThe Withdrawal Amount given is more than Balance.\n"

+ "Your Balance is " + data\_array[user\_idx][5]

+ "\nPlease give withdrawal amount less then your Balance.");

}

}

else

{

System.out.println("\nWithdrawal Amount exceeds the ATM limit.\n"

+ "ATM Limit is 25000.");

}

}

else

{

System.out.println("\nInvalid Withdrawal Amount given.\n"

+ "Please give withdrawal amount as multiple of 500.");

}

}

}

}