LAB PROGRAM 5

QUESTION: Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks: a) Accept deposit from customer and update the balance. b) Display the balance. c) Compute and deposit interest d) Permit withdrawal and update the balance Check for the minimum balance, impose penalty if necessary and update the balance

CODE:

```
import java.util.Scanner;


class Account
{
	String name;
	int type;
	long accno;
	double balance;
	void setA()
	{
		Scanner s=new Scanner(System.in);
```

```
            System.out.print("Enter customer name: ");
            name=s.nextLine();

            System.out.print("Enter account number: ");
            accno=s.nextLong();
            System.out.print("Enter bank balance: ");
            balance=s.nextDouble();
        }
        void display()
        {
            System.out.println("Customer name is: "+name);
            if(type==1) {
                System.out.println("Customer account type is:
Savings");
            }
            else {
                System.out.println("Customer account type is:
Current");
            }
            System.out.println("Customer account number is:
"+accno);
            System.out.println("Current balance is: "+balance);
        }
        void deposit()
        {
            System.out.print("Enter the amount to be deposited: ");
            Scanner x=new Scanner(System.in);
            double amt=x.nextDouble();
```

```
            balance+=amt;
        }
}


class Sav_acct extends Account
{
        double interest;
        Scanner s=new Scanner(System.in);

        Sav_acct() {
                type=1;
        }
        void cinterest()
        {
                int timey;
                float irate;
                System.out.println("Compound Interest details:");

                System.out.println("Enter time in years: ");
                timey=s.nextInt();
                System.out.println("Enter rate of interest: ");
                irate=s.nextFloat();
                System.out.println("Interest will be compunded 5 times
a year");
                interest=balance*(Math.pow((1+irate/5),(5*timey)));
                balance+=interest;
```

```
	}
	void withdraw()
	{
		System.out.println("Enter the amount to be withdrawn:
");
		double amt=s.nextDouble();
		if(balance>amt)
		{balance-=amt;}
		else
		{System.out.println("Amount to be withdrawn greater
than balance!!!");}
	}

}

class Curr_acct extends Account
{
	double check_amt;

	Curr_acct() {
		type=2;
	}

	void cheque()
	{
		System.out.print("Enter the cheque amount: ");
		Scanner s=new Scanner(System.in);
```

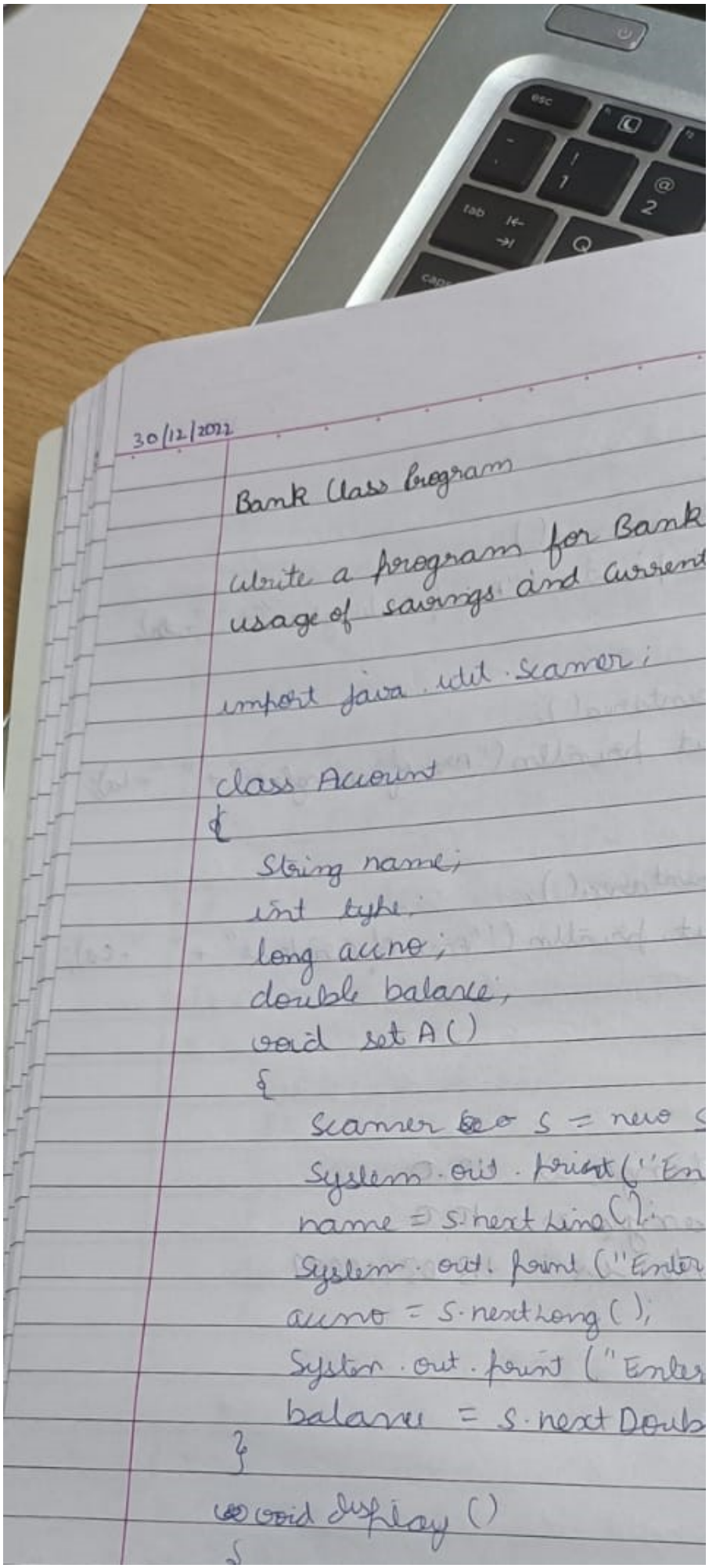
```
            check_amt = s.nextDouble();
            if(check_amt>balance-5000)
            {
                System.out.println("Rs. 500 penalty imposed...Is it
ok to proceed? Enter y for yes and n for no");
                String option=s.next();
                if(option.equals("y")) {balance=balance-
check_amt-500;}
                else {System.out.println("no check debited");}
            }
            else
            {
                System.out.println("Rupees "+check_amt+"
debited"); balance-=check_amt;
            }
        }
        void withdraw()
        {
            System.out.println("Enter the amount to be withdrawn:
"); Scanner s=new Scanner(System.in);
            double amt=s.nextDouble();
            if(balance>amt)
            {balance-=amt;}
            else
            {System.out.println("Amount to be withdrawn greater
than balance!!!");}
        }
}
```

```
class Bank {
	public static void main(String ss[]) {
		String op1,op2;
		Scanner s=new Scanner(System.in);
		System.out.println("1. Savings or   2. Current?");
		int q;
		q=s.nextInt();
		if(q==1) {
			Sav_acct s1 = new Sav_acct();
			while(true) {
			System.out.print("Enter the choice: \n1 .Set the values for savings acc\n2. display\n3. deposit\n4. Interest\n5. Withdraw\n6. exit\n");
			op1=s.next();
			switch(op1)
			{
			case "1":s1.setA();
				break;
			case "2":s1.display();
				break;
			case "3":s1.deposit();
				break;
			case "4":s1.cinterest();
				break;
			case "5":s1.withdraw();
				break;
```

```
                case "6":System.exit(0);
                }
                }
        }
        else if(q==2) {
                Curr_acct c1 = new Curr_acct();
                while(true) {
                System.out.print("Enter the choice: \n1.Set the
values for current account\n2. display\n3. deposit\n4.
transferCheck\n5. Withdraw\n6. exit\n");
                op2=s.next();
                switch(op2)
                {
                case "1":c1.setA();
                        break;
                case "2":c1.display();
                        break;
                case "3":c1.deposit();
                        break;
                case "4":c1.cheque();
                        break;
                case "5":c1.withdraw();
                        break;
                case "6":System.exit(0);
                }
                }
        }
```

```
        }
}
```

WRITTEN CODE



30/12/2022

Bank Class Program

Write a program for Bank
usage of savings and current

import java.util.Scanner;

class Account
{
String name;
int type;
long acno;
double balance;
void setA()
{
Scanner sc = new S
System.out.println("En
name = S.nextLine();
System.out.println("Enter
acno = S.nextLong();
System.out.println("Enter
balance = S.nextDoub
}

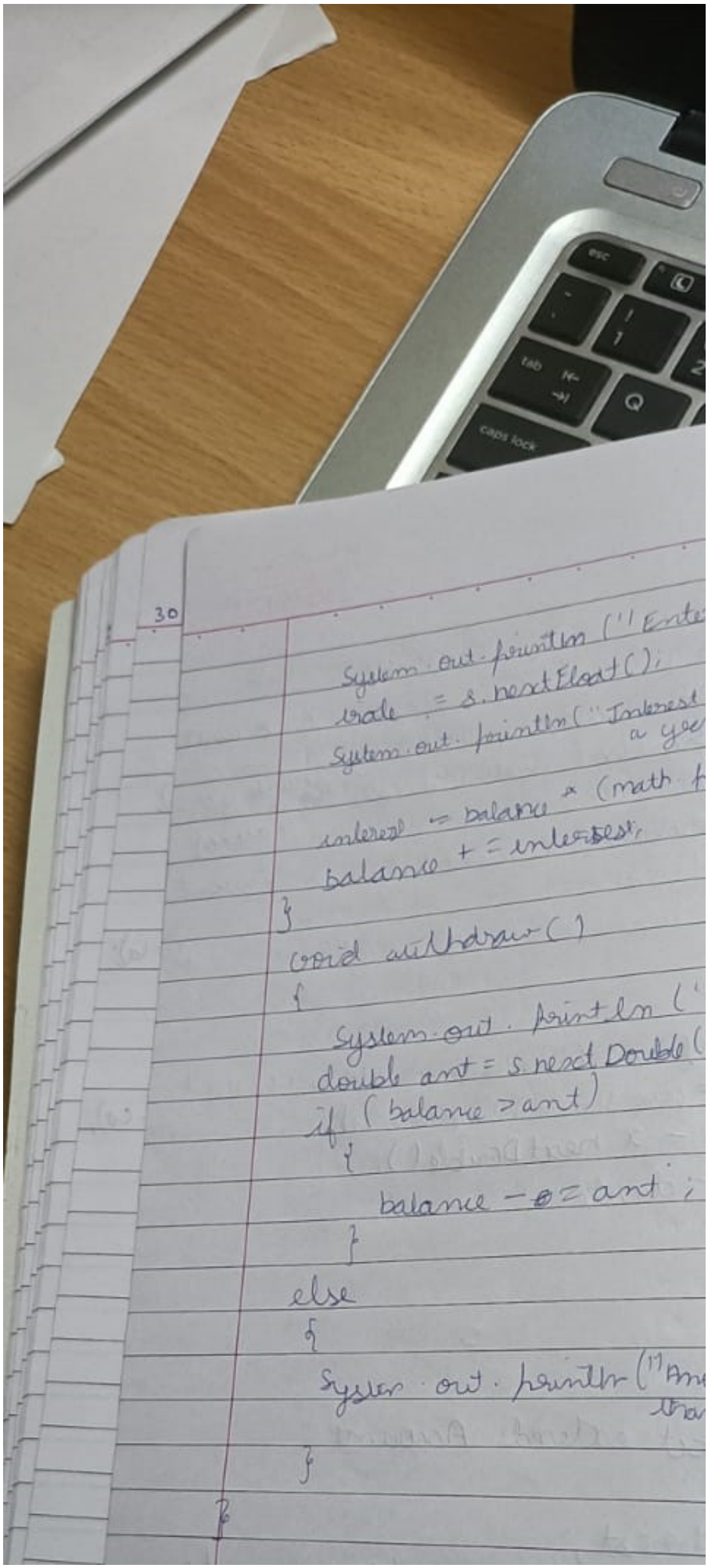
void display()
{

```
        else
        {
            System.out.println("Custo
        }
        System.out.println("Custom
        System.out.println("Curren
    }

    void deposit()
    {
        System.out.print("Enter a
        Scanner sc = new Scanner(Sys
        double amt = sc.nextDouble
        balance += amt;
    }
}

class Sav_acct extends Acc
{
    double interest;
    Scanner s = new Scanner

    Sav_acct(){
        type = 1;
```



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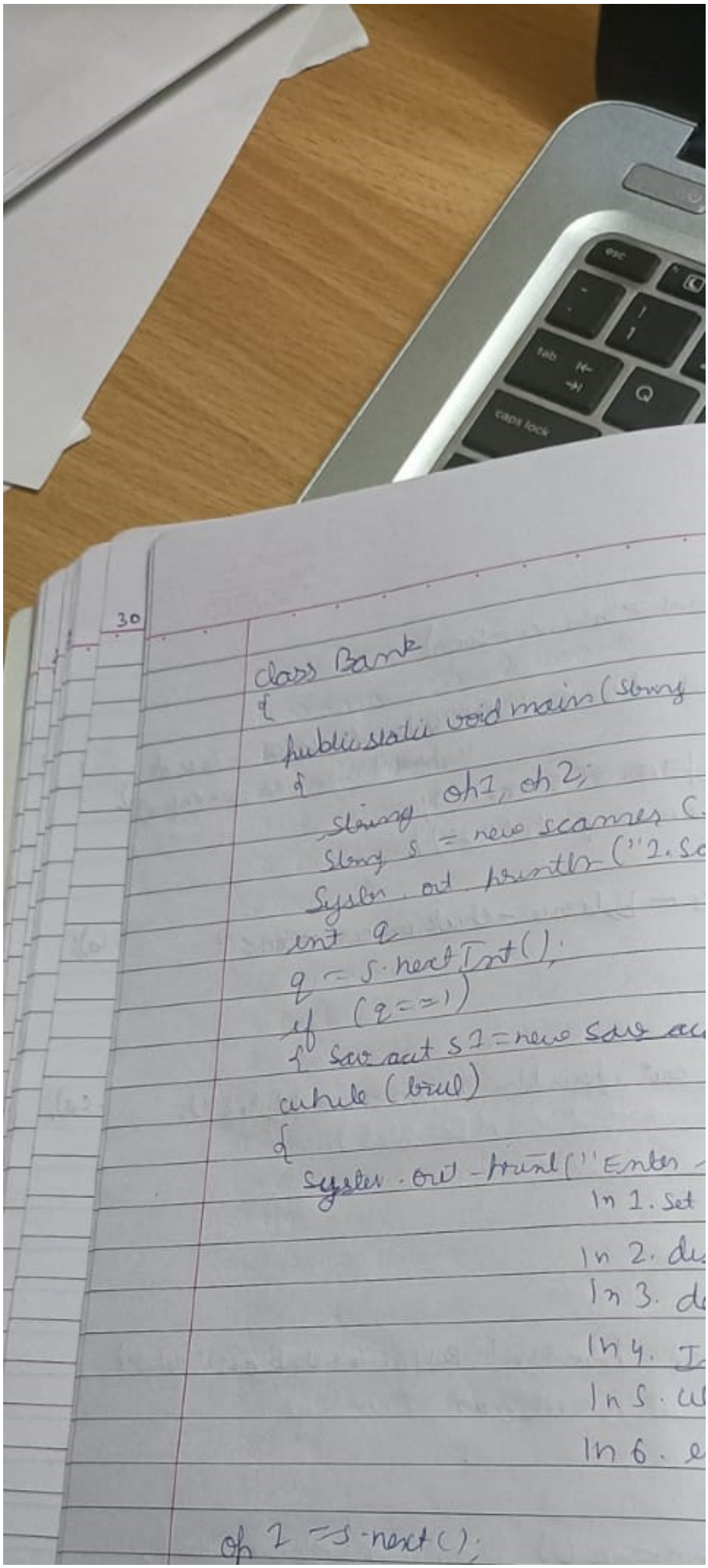
```
System.out.println("Ente
rate = s.nextFloat();
System.out.println("Interest
                    a ye
interest = balance * (rate
balance += interest;
}
void withdraw()
{
System.out.println("
double amt = s.nextDouble(
if (balance > amt)
  {
    balance -= amt;
  }
else
{
System.out.println("Am
                    wa
}
}
```

```
if (check amt > balance - 5000)
{
  System.out.println("Rs 500
                      to
  String option = s.next();
  if (option.equals("y"))
  {
    balance = balance - check a
  }
  else
  {
  System.out.println("no
  }

}

else
{
 system.out.println("Rupees
  balance -= check amt;
}

}
void withdraw()
{
```



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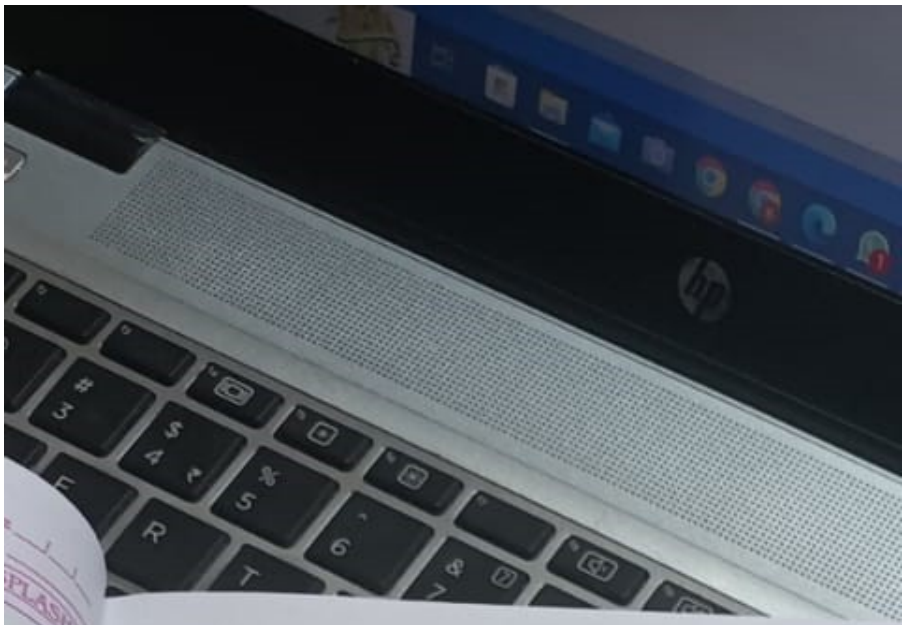
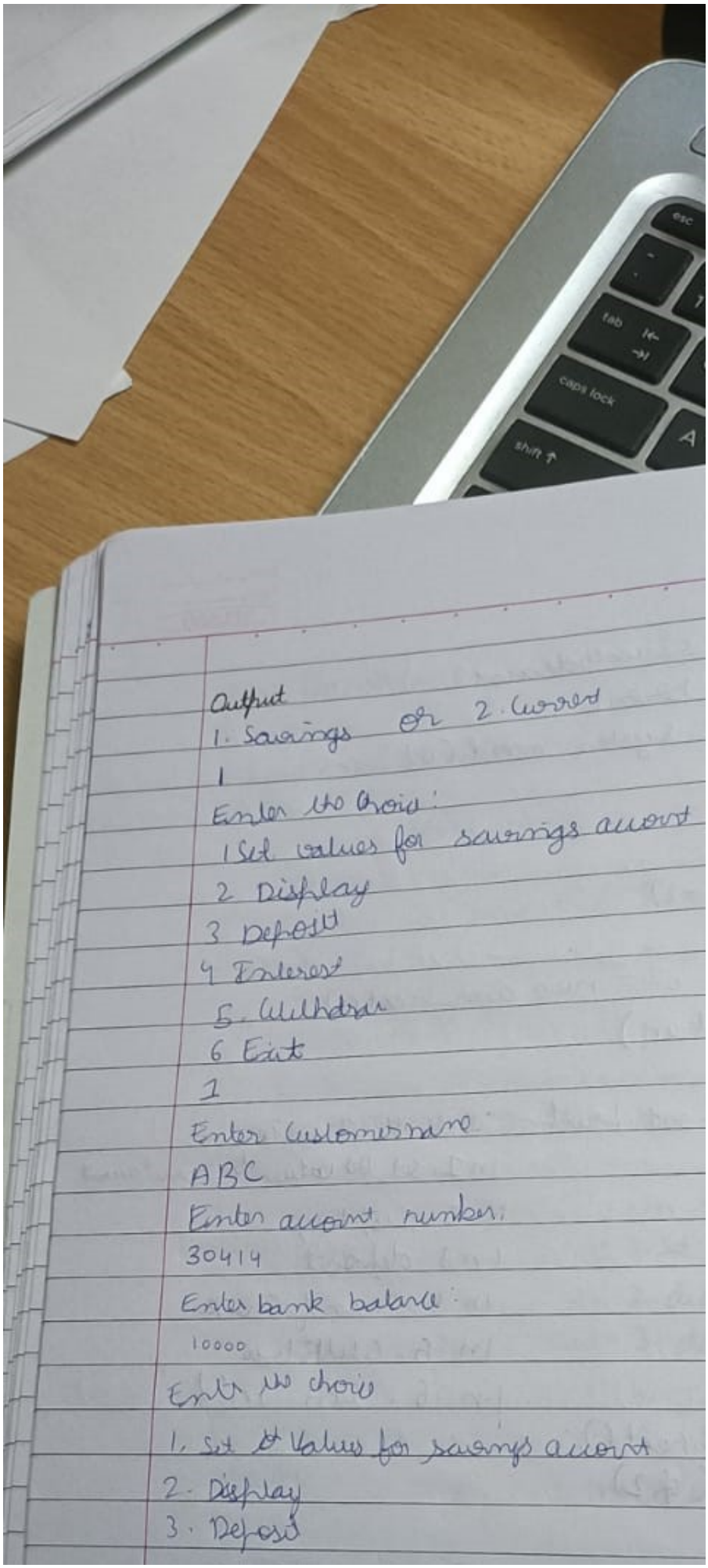
```
class Bank
{
public static void main(String
{
String ch1, ch2;
String s = new scanner (
System.out.println("1.Sa
int q
q = s.nextInt();
if (q==1)
{ Sav acct s1 = new Sav ac
while (true)
{
System.out.println("Enter
In 1. Set
In 2. de
In 3. d
In 4. I
In 5. w
In 6. e

ch 1 = s.next();
```

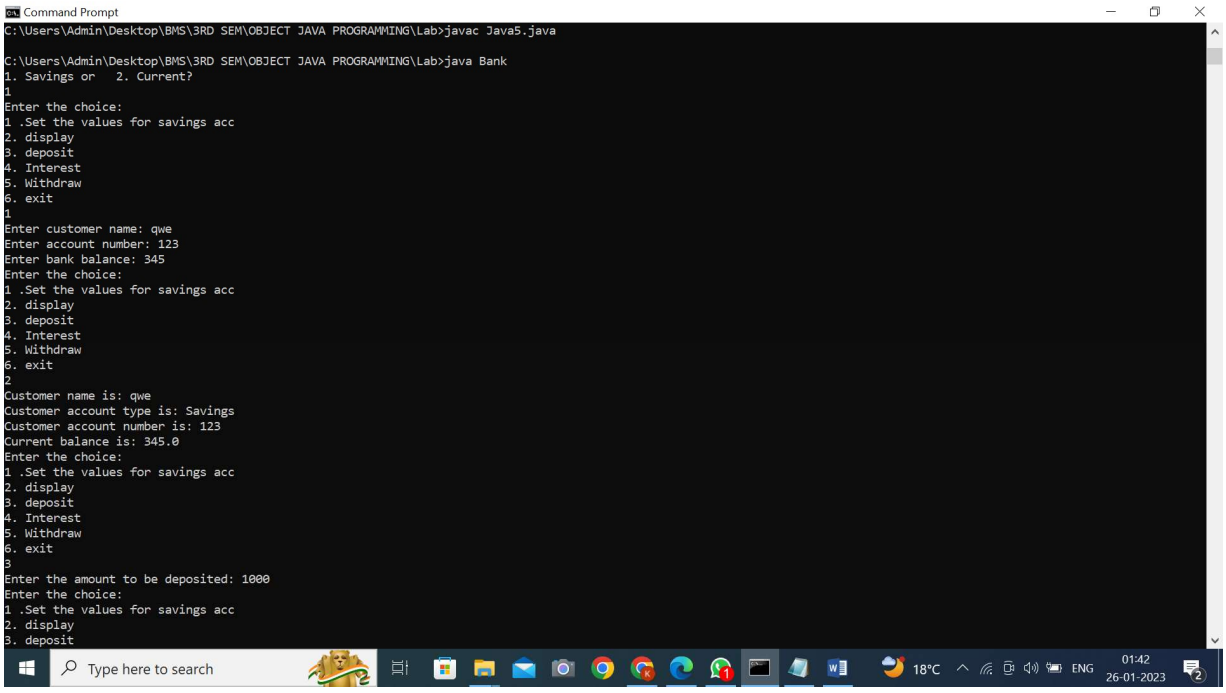


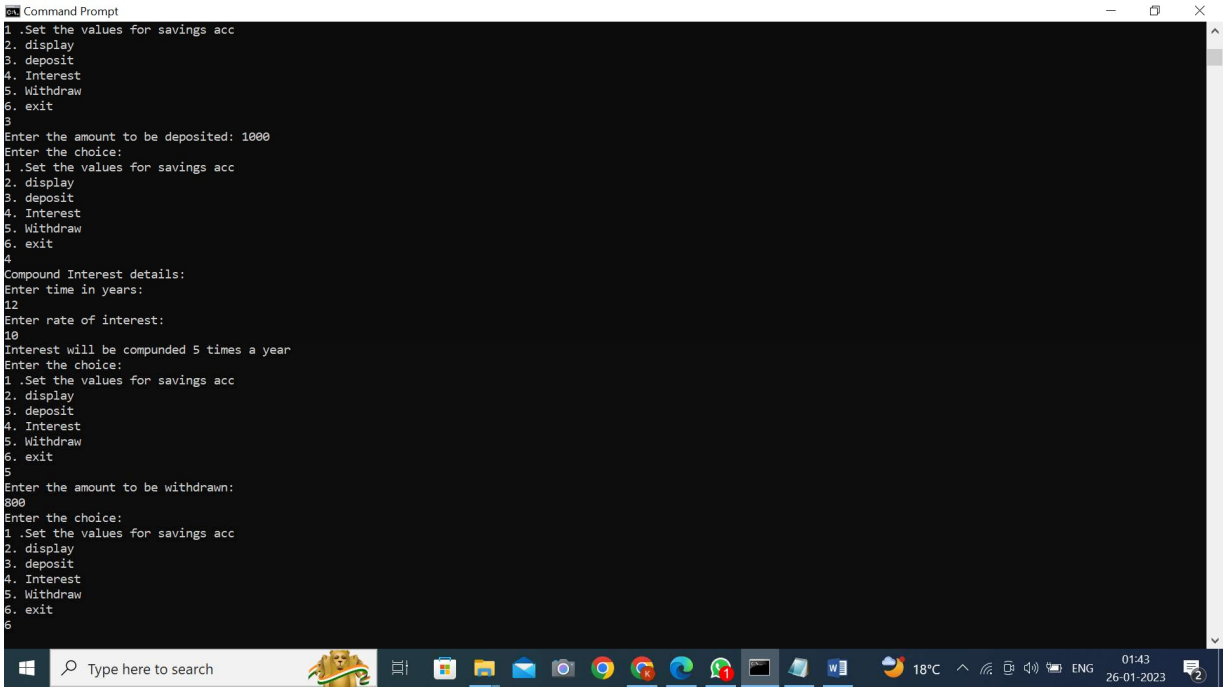
```
case "5": s1.withdraw();
          break;
case "6": System.exit(0);
}
}
}
else if (q==2)
{
current c1 = new curr_acct();
while(true)
{
System.out.println("Enter the choi
                   In 1. set the ba
                   In 2. display
                   In 3. deposit
                   In 4. transf
                   In 5. withd
                   In 6. exit
ch2 = s.next();
switch(ch2)
{
case "1": c1.setA();
          break;
```



Output
1. Savings or 2. Current
1
Enter the choice:
1 Set values for savings account
2 Display
3 Deposit
4 Interest
5. Withdraw
6 Exit
1
Enter Customer name
ABC
Enter account number.
30414
Enter bank balance:
10000
Enter the choice
1. Set of Values for savings account
2. Display
3. Deposit

OUTPUT


Command Prompt
C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab>javac Java5.java
C:\Users\Admin\Desktop\BMS\3RD SEM\OBJECT JAVA PROGRAMMING\Lab>java Bank
1. Savings or 2. Current?
1
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
1
Enter customer name: qwe
Enter account number: 123
Enter bank balance: 345
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
2
Customer name is: qwe
Customer account type is: Savings
Customer account number is: 123
Current balance is: 345.0
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
3
Enter the amount to be deposited: 1000
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
Type here to search
18°C
ENG
01:42
26-01-2023


Command Prompt
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
3
Enter the amount to be deposited: 1000
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
4
Compound Interest details:
Enter time in years:
12
Enter rate of interest:
10
Interest will be compunded 5 times a year
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
5
Enter the amount to be withdrawn:
800
Enter the choice:
1 .Set the values for savings acc
2. display
3. deposit
4. Interest
5. Withdraw
6. exit
6
Type here to search
18°C
ENG
01:43
26-01-2023