

- Q) Develop a Java program to create a class Bank that maintains two kinds of accounts for its customers, one as savings and other current bank account. Savings provides compound interest and withdrawal facilities, but no cheque book facility. The current account provides cheque book facility but no interest. Current ac should hold a minimum balance, if 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 Curr-acout, and Sav-acct to provide necessary methods -
- Accept deposit from customer and update the balance
  - Display balance
  - Compute and deposit interest
  - Permit withdrawal & update balance

```
import java.util.*;
```

```
import java.lang.Math;
```

```
class Account {
```

```
    String name;
    int accno;
    char type;
    double balance;
    double dep;
    boolean cheq;
```

```
    public void deposit(double amount) {
        balance += amount;
    }
```

```
    public void withdraw(double amount) {
        balance -= amount;
    }
```

```
    public void interest() {
        if (type == 'S') {
            balance *= Math.pow(1 + 0.05, 12);
        }
    }
```

```
    public void cheqbook() {
        if (balance < 1000) {
            System.out.println("Service charge imposed");
            balance -= 50;
        }
    }
}
```

```
void got (char c)
```

```
{  
    type c;
```

```
    if (c == 'e' || c == 'S')
```

```
        cheq = false;
```

```
    else
```

```
        cheq = true;
```

```
    Scanner sc = new Scanner (System.in);
```

```
    System.out.println ("Enter your name");
```

```
    name = sc.nextLine();
```

```
    System.out.println ("Enter account number");
```

```
    actno = sc.nextInt();
```

```
    System.out.println ("Enter current available balance  
in your account");
```

```
    balance = sc.nextDouble();
```

```
}
```

```
void putd()
```

```
{
```

```
    System.out.println ("Account details");
```

```
    System.out.println ("Name: " + name);
```

```
    System.out.println ("Account number: " + actno);
```

```
    System.out.println ("Account Type: " + type);
```

```
    System.out.println ("Balance: " + balance);
```

```
}
```

```
void dep()
```

```
{
```

```
    Scanner ss = new Scanner (System.in);
```

```
    System.out.println ("Enter amount to be deposited");
```

```
dep = 88. nextDouble();
```

```
balance = balance + dep;
```

```
System.out.println("Amount deposited and balance updated");
```

```
3. balance = balance + dep; // balance = 100.0 + 88.0 = 188.0
```

```
(1) deposit = 88.0
```

```
void display() { System.out.println("Balance available: " + balance); }
```

```
(1) balance = 188.0
```

```
System.out.println("Balance available: " + balance);
```

```
3 (1) balance = 188.0
```

```
2. balance = balance - dep; // balance = 188.0 - 88.0 = 100.0
```

```
void check() {
```

```
(2) (balance >= 0) ? (checkbook = true) : (checkbook = false);
```

```
if (check == false)
```

zero + & marked

```
System.out.println("Check book facility not available");
```

```
else
```

(\* budget is marked)

```
System.out.println("Check book available");
```

```
3 (1) check = true
```

```
class Savings extends Account
```

```
{
```

```
double interestRate; // zero until
```

```
double sWith;
```

```
int n;
```

```
int ch; // subbuff[10] until
```

```
double amt;
```

```
double term;
```

```
double pWith = amount = initial
```

```
amount with pen(10) until
```

void circ()

{

Scanner ss = new Scanner (System.in);

System.out.println ("Enter principle deposit amount");  
pr = ss.nextDouble();

System.out.println ("Enter rate of interest");  
rate = ss.nextDouble();

System.out.println ("Enter the term, for years");  
term = ss.nextDouble();

System.out.println ("Enter no of times interest compounded");  
n = ss.nextInt();

amt = pr \* Math.pow (1 + (rate / 100), (n + term));

balance += amt

System.out.println ("Interest is compounded and deposited;  
balance is updated");

}

void withdraw()

{

Scanner ss = new Scanner (System.in);

System.out.println ("Enter amt of money to be withdrawn");

s-withdraw = ss.nextDouble();

if ( s-withdraw > balance )

System.out.println ("Insufficient balance");

else

{

balance = balance - s-withdraw;

System.out.println ("Money has been  
withdrawn");

}

}

class Current extends Account

{  
double c-with; // opening balance, no. acc. number  
double pen; // a selected term. interest  
double min; // min. withdrawal amount

Current ()> c-with = 1000;

pen = 100; // interest rate %

min = 500; // min. withdrawal amount

3

void withdraw()

{

Scanner xx = new Scanner (System.in);

System.out.println ("Enter amount to be withdrawn");

c-with = xx.nextDouble();

if (c-with > balance) { // insufficient funds

{

System.out.println ("Insufficient Funds");

return -1; // amount not withdrawn

} else { // amount withdrawn

balance = balance - c-with; // update balance

System.out.println ("Amount withdrawn and");

balance updated");

3

if (balance < min)

{

System.out.println ("Balance is below minimum threshold.");

If (balance < pen)

System.out.println ("Insufficient funds, penalty charge deducted, current balance is " + balance);

else

{

balance = balance - pen;

System.out.println ("Penalty charge deducted, current balance is " + balance);

}

}

}

}

(cont'd) revised code = new savings

class LABB or savings class (using two methods)

{

public static void main (String args []);

{

int ch = chn.nextInt (); // asking user input

Scanner sr = new Scanner (System.in);

System.out.println ("--- \* \* WELCOME \* \* ---");

System.out.println ("Select your type of account 1-Savings,  
2-CURRENT");

int ch = sr.nextInt (); // selected

but switch (ch == 1); // user enters 1

{

Savings e = new Savings ();

e.get ("S");

do (user intended) {

{

System.out.println ("1. Deposit Money, 2. Calculate compound  
interest, 3. Withdraw money, 4. Display balance, 5. Cheque Book  
facility, 6. Quit");

System.out.println ("Enter choice:");

char ch = sc.nextInt();

switch (ch) {

}

case 1: s.dep();

break;

case 2: s.ci();

break;

case 3: s.withd();

break;

case 4: s.display();

break;

case 5: s.check();

break;

case 6:

break;

default: System.out.println ("Wrong Option");

break;

}

} while (ch != 6);

3

else if (ch == 2)

start again {  
    Current ac = new Current();  
    ac.get('c');  
    do {  
        if (current.next != null) value = current.next;  
        else  
            System.out.println ("1. Deposit money, 2. Checkbook  
                               facility, 3. withdraw money, 4. display balance  
                               5. EXIT");  
        cch = sc.nextInt();

        switch (cch) {

            case 1: ac.dept();  
                break;  
            case 2: ac.check();  
                break;  
            case 3: ac.withd();  
                break;  
            case 4: ac.display();  
                break;  
            case 5: break; // wrong input  
                break;

    } // do  
} // start again

while (cch != 5);

} else  
    System.out.println ("Wrong") ;

}