Week-5

2) Develop a Java program to create a class bank that maintains two kinds of account for its customers, one is savings account & the other current account. The savings account provides compound interest & 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 & if the balance falls below this level, a penalty is imposed.

1) Create a class account that stores customer name, account number & type of account. From this derive the classes cur-acct & sav-acct to make them more specific to their requirements

a) Accept deposit from customer & update the balance
b) Display the balance
c) Compute & deposit interest
d) Permit withdrawal & update the balance
e) Check for the minimum balance, impose penalty if necessary & update the balance

→
```
import java.util.Scanner;
class Account {
    String customerName;
    String accountnum;
    double balance;
    public Account(String customerName, String accountnum,
                   double balance){
        this.customername = customerName;
        this.accountnum = accountnum;
        this.balance, balance;
    }
    public void deposit(double amount){
        if(amount > 0){
            balance += amount;
            SOP("Deposited :" + amount);
        }else {
            SOP("Invalid amount");
        }
    }
```

```
    public void withdraw(double amount){
        if(amount>0 && amount <= balance){
            balance -= amount;
            SOP("Withdrawn : "+amount);
        }else{
            SOP("Invalid request or insufficient funds");
        }
    }
    public void display(){
        SOP("The balance is: "+balance);
    }
}
class SavAcc extends Account{
    double interestRate;
    public SavAcc(String customername, String accountnum,
                  double balance, double interestrate){
        super(customername, accountnum, balance);
        this.interestrate = interestrate;
    }
    public void compoundinterest(){
        double interest = balance*(interestrate/100);
        deposit(interest);
        SOP("Interest compounded: "+interest);
    }
}
class CurAcc extends Account{
    static final double Min_bal=1000;
    static final double Service_charge=100;
}
}
```

```
public class Bank {
    public static void main (String [] args) {
        Scanner scanner = new Scanner (System.in);
        SOP("Enter name: ");
        String SavName = Scanner.nextLine();
        SOP("Enter acc no: ");
        String savAccnum = scanner.nextLine();
        SOP("Enter initial balance for savings account: ");
        double savBalance = Scanner.nextDouble();
        SOP("Enter interest rate for savings account: ");
        double savInterestrate = Scanner.nextDouble();
        SavAcc savings = new SavAcc (savName, savAccnum,
            savBalance, savInterestrate);
        savings.display();
        SOP("Enter the amount to deposit: ");
        savings.deposit (Scanner.nextDouble());
        savings.display();
        SOP("Enter the amount to withdraw: ");
        savings.withdraw (scanner.nextDouble());
        savings.display();
        SOP("\n Enter customer name for current acc: ");
        String currname = scanner.nextLine();
        SOP("Enter account number for current acc: ");
        String currAccnum = scanner.nextLine();
        SOP("Enter initial balance for current account: ");
        double currBalance = Scanner.nextDouble();
        CurrAcc current = new CurrAcc (currname,
            currAccnum);
        current.display();
        SOP("\n Enter the amount to deposit in
            current account: ");
        current.deposit (scanner.nextDouble());
        current.display();
        scanner.close();
    }
}
```

output:

Enter customer name for savings account: Akshay
Enter acc number for savings account: 100
Enter initial balance for savings account: 10000
Enter interest rate for savings account: 2
the balance is: 10000
Enter the amount to withdraw from account: 10000
withdraw: 10000.0
The balance is 20000.0
Deposited 400.0
Interest compounded: 400.0
The balance is 20400.0
Enter name for current account: Akshay S
Enter Initial balance for current account: 10000
Deposited: 10000.0
The balance is: 30000.0
Enter the amount to withdraw from current account: 10000
Deposited: 10000
The balance is: 30000.0
Enter the amount to withdraw from current acc: 2000
The balance is: 28000.0

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