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1BM19CS177

Book Program

```
public class Book {

    private String name, author;
    private int num-pages, price;

    Book(){
        this.name = null;
        this.author = null;
        this.num_pages = 0;
        this.price = 0;
    }
    Book (String name, String author, int
          price, int num- pages)
    {
        this.author = author;
        this.name = name;
        this.price = price;
        this.num-pages = num-pages;
    }
    @Override
    public String toString(){

        return String.format("Book Name:
        "+name+"\nAuthor name : "+author
        +"\n Price : "+price+"\n Number
        Pages : "+num-pages);
    }
```

```
public class Main

import java.util.Scanner;
public class Main {

  public static void main(String args[]) {

    Scanner in = new Scanner(System.in);
    System.out.print("Enter number of
    books : ");
    int n = in.nextInt();
    Book books[] = new Book[n];
    String name, authorName;
    int num_pages, price;
    int i;
    for(i=0;i<n;i++){

        System.out.print("\n\nEnter
        name of book "+(i+1)+" : ");
        name = in.next();
        System.out.print("Enter name of
        author of book "+(i+1)+" : ");
        authorName = in.next();
        System.out.print("Enter price of
        book "+(i+1)+" : ");
        price = in.nextInt();
        System.out.print("Enter number
        of pages in book "+(i+1)+" : ");
        num_pages = in.nextInt();
```

```
        books[i] = new Book (name, authorName,
                             price, numberOfPages);
    }
System.out.println("\n\n The details of
 books are; \n\n");
for (i=0; i<n; i++){
        System.out.println ("\n Book "+(i+1)
        System.out.println (books[i].
          toString());
    }
}
}
// --END--
```

Vallisha M
1BM19CS177

Bank Program

```
public class Bank {

    private String customerName;
    private String accountType
    private int accountNumber;
    Bank (){
        customerName = null;
        accountType = null;
        accountNumber = 0;
    }
    Bank(String customerName, int
            accountNumber, String accountType){
    this.customerName = customerName;
    this.accountNumber = accountNumber;
    this.accountType = accountType;
}
@Override
public String toString (){

    return String.format("Customer Name:
    " + customerName + "\n Account number:
    " + accountNumber + "\n Account Type: "
      + accountType);
}
```

```
public class CurrentAccount extends Bank{

    private double balance;

    CurrentAccount(){
        balance=0.0D;
    }
    public void credit(double amount){
            balance = balance+amount;
            this.minimumBalance();
    }
    public int debit(double amount){
        if(balance>100 && balance-amount>=0){
            this.balance = balance -amount;
            this.minimumBalance();
            return 0;
        }
        return -1;
}
public void minimumBalance(){
        int fine =0;
        if(balance<1000)
                fine=100;
        balance = balance-fine;
}
public double getBalance(){
        return this.balance;
}}}
```

```
public class SavingsAccount extends
Bank {

    private double balance, rate;
    SavingsAccount(){
        rate = 4.567;
        balance = 0.0D;
    }
    public double getBalance (){
        return balance;
    }
    public void credit (double amount){
        balance = balance + amount;
        this.printBalance();
    }
    public int debit (double amount){
        if(balance - amount >=0){
            balance = balance - amount;
            return 0;
        }
        return -1;
    }
    public void calculateInterest (double time)
    {
        rate = rate/100;
        if (time > 5)  rate = 4.9/100;
        if (time > 8)  rate = 5.00/100;
```

```
        balance = balance * Math.pow(
                (1+rate), time);

    }
}
import java.util.Scanner;
public class Main{

    public static void main(String args[]){

        Scanner in = new Scanner(System.in);
        Bank bank;
        String cn, ct;
        int ano, choice;
        double amt;
        System.out.print("Enter customer
        name : ");
        cn = in.next();
        System.out.print("Enter account
        number : ");
        ano = in.nextInt();
        CurrentAccount account = new
        CurrentAccount();
        SavingsAccount account1 = new
        SavingsAccount();
        System.out.print("Enter 0 for
        current account or 1 for
        savings account : ");
boolean flag = in.nextInt()==0)true:false;
```

```
if (flag)
    at = "current";
else
    at = "Savings"
bank = new Bank (n, ano, at);

while (true){

    System.out.println("Enter 1 to deposit");
    System.out.println("Enter 2 to withdraw");
    );
    System.out.println("Enter 3 to check
     balance");
    ~~if(at~~
    if(!flag)
        System.out.println("Enter 4 to
     calculate Interest");
     System.out.println("Enter -1 to quit");
     System.out.print("Enter your choice :");
     choice = in.nextInt();
     if(choice == -1)
         break;
     if(choice == 1){
        System.out.println("Enter amount to
         be credited : ");
        amt = Math.abs(in.nextDouble());
        if(flag)  account.credit(amt);
        else account1.credit(amt);
}
```

```
if (choice == 2){
  System.out.println("Enter amount to
  be debited : ");
  amt = Math.abs(in.nextDouble());
  int status = 0;
  if (flag) status = account.debit(amt);
  else status = account1.debit(amt);
  if (status == -1)
     System.out.println("Could not
     debit");
}
else if(choice == 3){
   System.out.println(bank.toString());
   if(flag)
   System.out.println("Balance : "
   +account.getBalance());
   else
     System.out.println("Balance : "
     +account1.getBalance());
}
else if(choice == 4 && flag){
  System.out.println("Enter number of
  years : ");
  amt = Math.abs(in.nextDouble());
  System.out.println("Balance before
  interest : "+account1.getBalance());
  account1.calculateInterest(amt);
  System.out.println("Balance after
  interest : "+account1.getBalance());
}
```

```
else if (choice > 5 || choice == 0 || choice < -1
    || (flag && choice == 4)
    System.out.println("Invalid input");
}
System.out.println("----- DONE -----");
sn.close();
}
}
```

Vallisha M, 1BM19CS177, printArea program

```
abstract class Area{

    int dim1, dim2;
    Area(int dim1, int dim2){
        this.dim1 = dim1;
        this.dim2 = dim2;
    }
    abstract void printArea();
}
public class Triangle extends Area{
    Triangle(int dim1, int dim2){
        super(dim1, dim2);
    }
    void printArea(){
        double area = dim1 * dim2 / 2;
        System.out.println("Area of
        triangle is " + area);
    }
```

```
public class Rectangle extends Area{
    Rectangle (int dim1, int dim2){
        super(dim1, dim2);
    }
    void printArea(){
    double area = dim1 * dim2;
    System.out.println("Area of rectangle
    is "+area);
    }
}
public class Circle extends Area{
    Circle (int dim){
        super(dim, dim);
    }
    void printArea(){
        double area = 3.142 * dim1 * dim2;
    System.out.println("Area of circle is
    "+area);
    }
}
import java.util.Scanner;
public class Main{
    public static void main(String args[])
    {
        Scanner sc = new Scanner(System
                                .in);
    System.out.println("Enter 1 for Triangle");
    System.out.println("Enter 2 for Rectangle");
```

```
System.out.println("Enter 3 for circle : ");
int choice = sc.nextInt();
switch(choice){
    case 1 :{
      System.out.println("Enter height of
      triangle : ");
      dim1 = in.nextInt();
      System.out.print("Enter base of
      triangle : ");
      dim2 = in.nextInt();
     Triangle triangle = new Triangle(dim1,
      dim2);
      triangle.printArea();
       break;
}
 case 2 :{
 System.out.println("Enter width of
 rectangle : ");
 dim1 = sc.nextInt();
  System.out.println("Enter length of
 rectangle : ");
 dim2 = sc.nextInt();
 Rectangle rectangle = new Rectangle
 (dim1, dim2);
 rectangle.printArea();
  break;
}
```

```
case 3:{
    System.out.println("Enter radius of
    circle :");
    dim1 = in.nextInt();
    Circle circle = new Circle(dim1);
    circle.printArea();
    break;
  }
default:{
    System.out.println("Wrong Input");
    break;
  }
}sc.close();
}
}
```