3/11/2020

WEEK 8 - OOJ PROGRAMS

1]

```
import java.util.*;
abstract class Shape
{
 int a,b;
 abstract void printArea();
}
 class Rectangle extends Shape
 {
  void printArea()
  {
   Scanner ss = new Scanner (System.in);
   System.out.println ("Enter length and breadth of the
                                          rectangle");

   a = ss.nextInt();
   b = ss.nextInt();
   double area;
   area = (double) a*b;
   System.out.println ("The area of Rectangle is "+area);
  }
 }
 class Triangle extends Shape
 {
 void printArea()
 {
  Scanner ss = new Scanner (System.in);
  System.out.println ("Enter base length and height of the
                                          triangle");

  a = ss.nextInt();
  b = ss.nextInt();
```

```
double area;
area = (double)0.5 * a * b;
System.out.println("The area of Triangle is " + area);
}
}
class Circle extends Shape
{
void printArea()
{
Scanner ss = new Scanner(System.in);
System.out.println("Enter radius of the circle");
a = ss.nextInt();
double area;
area = (double) 3.14 * a * a;
System.out.println("The area of Circle is "+area);
}
}
class ShapeMain
{
public static void main(String args[])
{
int ch;
Scanner ss= new Scanner(System.in);
Rectangle r = new Rectangle();
Triangle t = new Triangle();
Circle c = new Circle();
while(true){
System.out.println("Enter the choice of Shape whose area
has to be calculated");
System.out.println("1.Rectangle\n2.Triangle\n3.Circle\n4.Exit");
```

```
ch = ss.nextInt();
switch(ch)
{
case 1:
r.printArea();
break;
case 2:
t.printArea();
break;
case 3;
c.printArea();
break;
case 4:
System.exit(0);
break;
default;
System.out.println("Invalid choice");
}
}
}
}
```

2]

```
import java.util.Scanner;
abstract class Account {
String cName, accType;
long accNo;
double bal;
 final double minBal = 1000.0;
Account (String cName, long AccNo, double bal, String accType){
    this.accNo = accNo;
    this.cName = cName;
    this.bal = bal;
    this.accType = accType;
}
 abstract void addBal (double amt);
 abstract void dispBal();
 abstract void withBal (double amt);
}
class Curr_acct extends Account{
 Curr_acct (String cName, long accNo, double Bal){
 Super(cName, accNo, bal, "current");
 System.out.println("Name:"+cName+"\taccno:"+accNo
                                +"\tbal:"+bal+"\ttype:
                                "+acctype);
}
void addBal (double amt){
 this.bal += amt;
}
void dispBal(){
    System.out.println("your balance is:"+this.bal);
}
```

```
void checkBal(){
 if(this.bal<minBal){
    System.out.println("Insufficient balance, penalty imposed");
    this.bal = this.bal *0.02;
  }
 }
 void withBal(double amt){
   this.Bal = -amt;
   checkBal();
  }
}
class Sav-acct extends Accounts{
  Sav-acct(String cName, long accNo, double bal){
   Super(cName, accNo, bal, "Savings");
  System.out.println("name: "+cName+"|taccno: "
                  +"|tbal: "+bal+"|type: "+accType);
}
void addBal(double amt){
   this.bal+=amt;
   addIntr();
}
void addIntr(){
   this.bal += this.bal * 0.07;
}
 void dispBal(){
   System.out.println("your balance is: "+this.balance);
}
```

```
void withBal(double amt){
    this.bal=amt;
}
}
class Bank{
    public static void main(String[]args){
        Scanner sc=new Scanner(System.in);
        Double amt;
            System.out.println("Enter your details:");
            System.out.println("Name");
            String x=sc.next();
            System.out.println("Account Number:");
            long y=sc.nextLong();
            for(;;)
            {
            System.out.println("Type of account:\n1.Current account
                                \n2.Savings account \n3.Exit");
            int t=sc.nextInt();
            if(t==1){
                System.out.println("The current account provides
                  cheque book facility but no interest:");
                curr_acct c=new curr_acct(x,y,50000);
                for(;;)
                System.out.println("1:Deposit\n2.Display Balance\n3:
                                    withdraw\n4:Exit");
                int ch=sc.nextInt();
                switch(ch){
```

```
case 1:
System.out.println("Enter the amount to be added:");
amt = sc.nextDouble();
c.addBal(amt);
break;

case 2:
c.dispBal();
break;

case 3:
System.out.println("Enter the amount to be withdrawn:");
amt = sc.nextDouble();
c.withBal(amt);
break;

case 4: System.exit(0);
default: System.out.println("Invalid choice! Try again");
}
}
}
else if (t==2){
System.out.println("The savings account provides compound
interest and withdrawal facilities but no
cheque book facility.");
Sav_acct s = new Sav_acct(x,y,5000);
for(;;){
System.out.println("1.Deposit\n2. Display Balance
\n3: withdraw \n4: Exit");
```

```
int ch = sc.nextInt();
switch(ch){

case 1:
System.out.println("Enter the ambunt to be added:");
 amt = sc.nextDouble();
 s.addBal(amt);
 break;

case 2;
 s.display
 s.dispBal();
 break;

 case 3:
 System.out.println("Enter the amount to be withdrawn:");
  amt = sc.nextDouble();
  s.withBal(amt);
  break;
case 4: System.exit(0);
   default: System.out.println("Invalid choice! Try again");
}
}
 }
  elseif(ch==3)
 System.out exit(0);
 else
 System.out.println("Invalid choice! Try again");
}
}
}
```