1.Test Inheritance

import java.util.Scanner;

class person

{

private int aadhaar;

private String name,address;

private char gender;

person(int a,String b,String c,char d)

{

aadhaar=a;

name=b;

address=c;

gender=d;

}

public String getName()

{

return name;

}

public String getAddress()

{

return address;

}

public void setAddress(String addr)

{

address=addr;

}

public char getGender()

{

return gender;

}

}

class Student extends person

{

private String program;

private int year;

private double totalmark;

Student(int a,String b,String c,char d,String e,int f,double g)

{

super(a,b,c,d);

program=e;

year=f;

totalmark=g;

}

public String getprogram()

{

return program;

}

public int getyear()

{

return year;

}

public double gettotal()

{

return totalmark;

}

public void setyear(int a)

{

year =a;

}

public void settotal(double d)

{

totalmark=d;

}

public double calGPA()

{

return totalmark/10;

}

}

class faculty extends person

{

private String desig,dept;

private double bp;

faculty(int a,String b,String c,char d,String e,String f,double g)

{

super(a,b,c,d);

desig=e;

dept=f;

bp=g;

}

public String getdesig()

{

return desig;

}

public void setdesig(String d)

{

desig=d;

}

public void setbasic(double d)

{

bp=d;

}

public double getbasic()

{

return bp;

}

public double calsalary()

{

double gross,deduc,net;

gross=bp\*1.7;

deduc=bp\*0.165;

net=gross-deduc;

return net;

}

}

public class TestInheritance

{

public static void main(String Args[])

{

int a;

String b;

String c;

char d;

String e,t;

int f;

double g;

Scanner obj=new Scanner(System.in);

System.out.println("Enter student details");

System.out.print("aadhaar no : ");

a=obj.nextInt();

System.out.print("Name : ");

b=obj.next();

System.out.print("Address : ");

c=obj.next();

System.out.print("Gender : ");

d=obj.next().charAt(0);

System.out.print("Program : ");

e=obj.next();

System.out.print("Year : ");

f=obj.nextInt();

System.out.print("Total : ");

g=obj.nextDouble();

Student s=new Student(a,b,c,d,e,f,g);

System.out.println("Enter faculty details");

System.out.print("aadhaar no : ");

a=obj.nextInt();

System.out.print("Name : ");

b=obj.next();

System.out.print("Address : ");

c=obj.next();

System.out.print("Gender : ");

d=obj.next().charAt(0);

System.out.print("Designation : ");

e=obj.next();

System.out.print("Department : ");

t=obj.next();

System.out.print("Basic Pay : ");

g=obj.nextDouble();

faculty F=new faculty(a,b,c,d,e,t,g);

System.out.println(" TRYING ALL FUNCTIONS");

System.out.println("1.ALL SET FUNCTION OF STUDENT");

System.out.println("enter total : ");

g=obj.nextDouble();

s.settotal(g);

System.out.println("enter year : ");

f=obj.nextInt();

s.setyear(f);

System.out.println("2.ALL GET FUNCTIONS OF STUDENT");

System.out.println("name : "+s.getName());

System.out.println("address : "+s.getAddress());

System.out.println("gender : "+s.getGender());

System.out.println("Program : "+s.getprogram());

System.out.println("year : "+s.getyear());

System.out.println("total : "+s.gettotal());

System.out.println("3.gpa calculation ");

System.out.println("CGPA : "+s.calGPA());

System.out.println("1.ALL SET FUNCTION OF FACULTY");

System.out.println("enter basic : ");

g=obj.nextDouble();

F.setbasic(g);

System.out.println("enter designation : ");

b=obj.next();

F.setdesig(b);

System.out.println("2.ALL GET FUNCTIONS OF FACULTY");

System.out.println("name : "+F.getName());

System.out.println("address : "+F.getAddress());

System.out.println("gender : "+F.getGender());

System.out.println("Designation : "+F.getdesig());

System.out.println("Basic Pay : "+F.getbasic());

System.out.println("3.salary calculation ");

System.out.println("Net salary : "+F.calsalary());

}

}

/\*

cs1174@u11:~/Desktop/assignment3$ javac TestInheritance.java

cs1174@u11:~/Desktop/assignment3$ java TestInheritance

Enter student details

aadhaar no : 345

Name : ram

Address : abcdefg

Gender : m

Program : cse

Year : 2

Total : 98

Enter faculty details

aadhaar no : 123

Name : ravi

Address : qwerty

Gender : m

Designation : professor

Department : mechanical

Basic Pay : 40000

TRYING ALL FUNCTIONS

1.ALL SET FUNCTION OF STUDENT

enter total :

95

enter year :

3

2.ALL GET FUNCTIONS OF STUDENT

name : ram

address : abcdefg

gender : m

Program : cse

year : 3

total : 95.0

3.gpa calculation

CGPA : 9.5

1.ALL SET FUNCTION OF FACULTY

enter basic :

80000

enter designation :

HOD

2.ALL GET FUNCTIONS OF FACULTY

name : ravi

address : qwerty

gender : m

Designation : HOD

Basic Pay : 80000.0

3.salary calculation

Net salary : 122800.0

\*/

2.Test Shape

import java.util.\*;

class Shape

{

protected String colour="RED";

Shape()

{

colour="BLUE";

}

Shape(String c)

{

colour=c;

}

String getColour()

{

return colour;

}

void setColour(String c)

{

colour=c;

}

}

class Circle extends Shape

{

protected double radius=1.0;

Circle()

{

radius =1.0;

}

Circle(double r)

{

radius=r;

}

Circle(double r,String c)

{

super(c);

radius=r;

}

double getRadius()

{

return radius;

}

void setRadius(double r)

{

radius=r;

}

double getArea()

{

return (3.14\*radius\*radius);

}

double getPerimeter()

{

return (6.28\*radius);

}

}

class Rectangle extends Shape

{

protected double width=1.0,length=1.0;

Rectangle()

{

length =1.0;width=2.0;

}

Rectangle(double l,double w)

{

length=l;

width=w;

}

Rectangle(double l,double w,String c)

{

super(c);

length=l;

width=w;

}

double getWidth()

{

return width;

}

double getLength()

{

return length;

}

void setWidth(double r)

{

width=r;

}

void setLength(double r)

{

length=r;

}

double getArea()

{

return (length\*width);

}

double getPerimeter()

{

return (2\*(length+width));

}

}

class Square extends Rectangle

{

Square()

{

super(1.0,1.0);

}

Square(double s)

{

super(s,s);

}

Square(double s,String c)

{

super(s,s,c);

}

double getSide()

{

return getLength();

}

void setSide(double s)

{

setLength(s);

setWidth(s);

}

}

public class TestShape

{

public static void main(String args[])

{

Circle C;

Rectangle R;

Square S;

Scanner s=new Scanner(System.in);

int ch,ch1;

double x,y;

String c;

do

{

System.out.print("\nMenu:\n1.Circle\n2.Rectangle\n3.Square\n4.Exit\n\nChoice: ");

ch=s.nextInt();

switch(ch)

{

case 1:

System.out.print("\nCircle: 1.Default 2.Change radius 3. Change Radius and Colour \nChoice: ");ch1=s.nextInt();

if(ch1==1)

{

C=new Circle();

}

else if(ch1==2)

{

System.out.print("Radius: ");x=s.nextDouble();

C=new Circle(x);

}

else

{

s.nextLine();System.out.print("Colour: ");c=s.nextLine();

System.out.print("Radius: ");x=s.nextDouble();

C=new Circle(x,c);

}

System.out.println("Area of the circle is: "+C.getArea()+"\nPerimeter of the circle is: "+C.getPerimeter());

break;

case 2:

System.out.print("\nRectangle: 1.Default 2.Change dimensions 3. Change dimensions and Colour \nChoice: ");ch1=s.nextInt();

if(ch1==1)

{

R=new Rectangle();

}

else if(ch1==2)

{

System.out.print("Length: ");x=s.nextDouble();

System.out.print("Width: ");y=s.nextDouble();

R=new Rectangle(x,y);

}

else

{

s.nextLine();System.out.print("Colour: ");c=s.nextLine();

System.out.print("Length: ");x=s.nextDouble();

System.out.print("Width: ");y=s.nextDouble();

R=new Rectangle(x,y,c);

}

System.out.println("Area of the Rectangle is: "+R.getArea()+"\nPerimeter of the Rectangle is: "+R.getPerimeter());

break;

case 3:

System.out.print("\nCircle: 1.Default 2.Change side 3. Change side and Colour \nChoice: ");ch1=s.nextInt();

if(ch1==1)

{

S=new Square();

}

else if(ch1==2)

{

System.out.print("Side: ");x=s.nextDouble();

S=new Square(x);

}

else

{

s.nextLine();System.out.print("Colour: ");c=s.nextLine();

System.out.print("Side: ");x=s.nextDouble();

S=new Square(x,c);

}

System.out.println("Area of the Square is: "+S.getArea()+"\nPerimeter of the Square is: "+S.getPerimeter());

break;

}

}while(ch!=4);

}

}

/\*

PS G:\Downloadssss> java TestShape

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 1

Circle: 1.Default 2.Change radius 3. Change Radius and Colour

Choice: 1

Area of the circle is: 3.14

Perimeter of the circle is: 6.28

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 1

Circle: 1.Default 2.Change radius 3. Change Radius and Colour

Choice: 2

Radius: 3

Area of the circle is: 28.259999999999998

Perimeter of the circle is: 18.84

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 1

Circle: 1.Default 2.Change radius 3. Change Radius and Colour

Choice: 3

Colour: red

Radius: 2

Area of the circle is: 12.56

Perimeter of the circle is: 12.56

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 2

Rectangle: 1.Default 2.Change dimensions 3. Change dimensions and Colour

Choice: 1

Area of the Rectangle is: 2.0

Perimeter of the Rectangle is: 6.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 2

Rectangle: 1.Default 2.Change dimensions 3. Change dimensions and Colour

Choice: 2

Length: 4

Width: 2

Area of the Rectangle is: 8.0

Perimeter of the Rectangle is: 12.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 2

Rectangle: 1.Default 2.Change dimensions 3. Change dimensions and Colour

Choice: 3

Colour: blue

Length: 3

Width: 4

Area of the Rectangle is: 12.0

Perimeter of the Rectangle is: 14.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 3

Circle: 1.Default 2.Change side 3. Change side and Colour

Choice: 1

Area of the Square is: 1.0

Perimeter of the Square is: 4.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 3

Circle: 1.Default 2.Change side 3. Change side and Colour

Choice: 2

Side: 2

Area of the Square is: 4.0

Perimeter of the Square is: 8.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 3

Circle: 1.Default 2.Change side 3. Change side and Colour

Choice: 3

Colour: black

Side: 4

Area of the Square is: 16.0

Perimeter of the Square is: 16.0

Menu:

1.Circle

2.Rectangle

3.Square

4.Exit

Choice: 4

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