1. Area of different shapes using overloaded functions.

import java.util.\*;

class Area

{

void calculateArea(float x)

{

System.out.println("Area of the square: "+ x\*x+ " sq units" );

}

void calculateArea(float x, float y)

{

System.out.println("Area of the rectangle: "+x\*y+" sq units" );

}

void calculateArea(double r)

{

double area = 3.14\*r\*r;

System.out.println("Area of the circle: "+area+" sq units");

}

public static void main(String args[])

{

int s;

float l,b;

double r;

Area obj = new Area();

Scanner sc = new Scanner(System.in);

System.out.println("Enter side of square ");

s=sc.nextInt();

System.out.println(" Enter length and breadth of a rectangle ");

l=sc.nextFloat();

b=sc.nextFloat();

System.out.println(" Enter radius of the circle ");

r=sc.nextDouble();

obj.calculateArea(s);

obj.calculateArea(l,b);

obj.calculateArea(r);

}

}

1. Create a class ‘Employee’ with data members Empid, Name, Salary, Address and constructors to initialize the data members. Create another class ‘Teacher’ that inherits the properties of class employees and contains its own data members department, Subjects taught and constructors to initialize these data members and also include a display function to display all the data members. Use an array of objects to display details of N teachers

import java.util.\*;

class Employee

{

int empid;

String name;

double salary;

String address;

Employee()

{

Scanner sc2=new Scanner(System.in);

System.out.println("enter employee id:");

empid= sc2.nextInt();

System.out.println("enter employee name:");

name= sc2.next();

System.out.println("enter employee salary:");

salary= sc2.nextDouble();

System.out.println("enter employee address:");

address= sc2.next();

}

}

class Teacher extends Employee

{

String department;

String subject;

Teacher()

{

Scanner sc3=new Scanner(System.in);

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

department= sc3.next();

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

subject= sc3.next();

}

void display()

{

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

System.out.println("id:" +empid);

System.out.println("NAME :" +name);

System.out.println("SALARY :" +salary);

System.out.println("ADDRESS :" +address);

System.out.println("DEPARTMENT:" +department);

System.out.println("SUBJECT :" +subject);

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

}

}

class multilevelInheritance

{

public static void main(String args[])

{

int n;

Scanner sc1=new Scanner(System.in);

System.out.println("enter number of employees:");

n=sc1.nextInt();

Teacher t[]= new Teacher[n];

for(int i=0;i<n;i++)

{

t[i]=new Teacher();

}

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

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

System.out.println("THE DETAILS ARE...:");

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

for(int i=0;i<n;i++)

{

t[i].display();

}

}

}

1. Create an interface having prototypes of functions area() and perimeter(). Create two classes Circle and Rectangle which implements the above interface. Create a menu driven program to find area and perimeter of objects.

import java.util.\*;

interface areaperi

{

void area();

void perimeter();

}

class rectangle implements areaperi

{

int l=10,b=20;

public void area()

{

System.out.println("area of Rectangle "+l\*b);

}

public void perimeter()

{

System.out.println("perimeter of Rectangle "+(2\*(l+b)));

}

}

class circle implements areaperi

{

int r=10;

public void area()

{

System.out.println("area of circle "+3.14\*r\*r);

}

public void perimeter()

{

System.out.println("perimeter of circle "+2\*3.14\*r);

}

}

class Main

{

public static void main(String[] args)

{

rectangle r=new rectangle();

circle c=new circle();

int ch=0;

Scanner sc=new Scanner(System.in);

System.out.println("Enter 1 for circle ,2 for rectangle");

ch=sc.nextInt();

switch(ch)

{

case 1 :

c.area();

c.perimeter();

break;

case 2 :

r.area();

r.perimeter();

break;

}

}

}