import java.util.\*;

class Shape {

double dimension;

Shape() {

System.out.print("Enter Dimension : ");

Scanner sc = new Scanner(System.in);

this.dimension = sc.nextInt();

}

}

class Circle extends Shape {

public void calc\_area(){

double area = 3.14\*this.dimension\*this.dimension;

System.out.println("The Area of Circle is : " + area);

}

public void calc\_circ() {

double circ = 2\*3.14\*this.dimension;

System.out.println("The Circumference is : " + circ);

}

}

class Square extends Shape {

public void calc\_area() {

double area = this.dimension\*this.dimension;

System.out.println("The Area is of square : " + area);

}

public void diag\_len() {

double diag = this.dimension \* 0.414;

System.out.println("The length of the diagonal is : " + diag);

}

}

class Sphere extends Shape {

public void calc\_vol() {

System.out.println("the radius val taken here is " + this.dimension);

double vol = 4\*3.14\*(this.dimension\*this.dimension\*this.dimension)/3;

System.out.println("The volume of the sphere is : " + vol);

}

public void calc\_sa() {

double sa = 4\*3.14\*this.dimension\*this.dimension;

System.out.println("The surface area of the sphere is : " + sa);

}

}

public class QBprob {

public static void main(String []args) {

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

Circle c1 = new Circle();

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

Square sq1 = new Square();

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

Sphere sp1 = new Sphere();

c1.calc\_area();

c1.calc\_circ();

sq1.calc\_area();

sq1.diag\_len();

sp1.calc\_vol();

sp1.calc\_sa();

}

}

2nd program

class A\_class {

A\_class() {

System.out.println("Constructor of class A");

}

}

class B\_class extends A\_class {

B\_class() {

System.out.println("Constructor of class B");

}

}

class C\_class extends B\_class {

C\_class() {

System.out.println("Constructor of class C");

}

}

public class Inheritance {

public static void main(String []args) {

C\_class c\_object = new C\_class();

}

}