Q2)

-- Inside package P1   
----------TwoDIm.java

package P1;

/\*\*

\* TwoDim

\*/

public class TwoDim {

private int x, y;

public TwoDim() {

x = 0;

y = 0;

}

public TwoDim(int x, int y) {

this.x = x;

this.y = y;

}

public int coordinates() {

return 2;

}

@Override

public String toString() {

String s = "";

s += x;

s += " , ";

s += y;

return s;

}

}

--Inside package P3  
----------ThreeDIm.java

package P2;

import P1.\*;

public class ThreeDim extends TwoDim {

private int z;

public ThreeDim() {

z = 0;

}

public ThreeDim(int x, int y, int z) {

super(x, y);

this.z = z;

}

public int coordinates() {

return 3;

}

@Override

public String toString() {

String s = super.toString();

s += " , ";

s += z;

return s;

}

}

--Inside package P  
------- q2.java (main program)

package P;

import P1.TwoDim;

import P2.\*;

public class q2 {

public static void main(String[] args) {

TwoDim t = new ThreeDim();

System.out.println(t.coordinates());

System.out.println(t);

}

}



Q3)

---Inside package P1

---Shape.java

package P1;

abstract public class Shape{

abstract public float area();

abstract public void display();

}

---Inside package P2  
------Circle.java

package P2;

import java.util.Scanner;

import P1.\*;

public class Circle extends Shape {

public float r;

public Circle(){

Scanner sc = new Scanner(System.in);

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

r = sc.nextFloat();

sc.close();

}

public float area(){

return 3.142f \* r \* r;

}

public void display(){

System.out.println("Radius of circle : " + r);

}

}

---- Inside P3  
--- Rectangle.java

package P3;

import java.util.Scanner;

import P1.\*;

public class Rectangle extends Shape {

public float l, b;

public Rectangle() {

Scanner sc = new Scanner(System.in);

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

l = sc.nextFloat();

b = sc.nextFloat();

sc.close();

}

public float area() {

return l \* b;

}

public void display() {

System.out.println("Length of rectangle : " + l);

System.out.println("Breadth of rectangle : " + b);

}

}

-- outside all packages

--q3.java

import java.util.Scanner;

import P1.\*;

import P2.\*;

import P3.\*;

public class q3 {

public static void main(String[] args) {

Shape shape;

int c;

Scanner sc = new Scanner(System.in);

System.out.println("Choose a shape");

System.out.println("1.Rectangle");

System.out.println("2.Circle");

c = sc.nextInt();

switch (c) {

case 1:

shape = new Rectangle();

shape.display();

System.out.println("Area : " + shape.area());

break;

case 2:

shape = new Circle();

shape.display();

System.out.println("Area : " + shape.area());

break;

default:

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

System.out.println("Exiting");

}

sc.close();

}

}

