

21/84

Q) Develop a Java program to create an abstract class named shape that contains two integers and an empty method named `printArea()`.
 Provide three classes named Rectangle, Triangle and Circle such that each one of the classes extends the class shape. Each one of the classes contain only the method `printArea()` that prints the area of the given shape.

=> import java.util.Scanner;

abstract class shape {

int length;

int breadth;

abstract void printArea();

}

~~class rectangle extends shape {~~

~~void printArea () {~~

~~Scanner sc = new Scanner (System.in);~~

~~System.out.println ("Enter the dimensions
of the rectangle (length and breadth): ");~~

~~length = sc.nextInt();~~

~~breadth = sc.nextInt();~~

~~System.out.println ("Area of rectangle is "
+ (length * breadth));~~

}

}

~~class triangle extends shape {~~

~~void printArea () {~~

~~Scanner sc = new Scanner (System.in);~~

~~System.out.println ("Enter base
height of triangle : ");~~

~~length = sc.nextInt();~~

breadth = sc. next. d();
System.out.println ("Area of Triangle
is " + (0.5 * length * breadth));
}
}

class Circle extends Shape {
void printArea () {
Scanner sc = new Scanner (System.in);
System.out.print ("Enter radius of
circle : ");
length = sc.nextInt ();
System.out.println ("Area of Circle is " +
(3.14 * length * length));
}
}

public class Main {
public static void main (String [] args) {
shape = shape;
shape = new Rectangle ();
shape.printArea ();
shape = new Triangle ();
shape.printArea ();
shape = new Circle ();
shape.printArea ();
}
}

Output

Enter the dimensions of the rectangle
(length and breadth):

2 3

Enter the dimensions of the triangle
(base and height):

2 4

Enter radius of circle:

3

Area of Rectangle : 5 6.0

Area of triangle : 4.0

Area of Circle : 28. 259999

~~20/01/24~~