4) 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.

```
abstract class Shape
{
int num1;
int num2;
abstract void printarea();
Shape(int num1,int num2)
{
this.num1=num1;
this.num2=num2;
}
}
class rectangle extends Shape
{
rectangle(int x, int y)
{
super(x,y);
}
void printarea(){
int result=num1*num2;
System.out.println("The area is:"+result);
}
}
class triangle extends Shape
{
triangle(int x, int y)
{
super(x,y);
}
```

```
void printarea(){
double result=num1*num2*0.5;
System.out.println("The area is:"+result);
}
}
class circle extends Shape
{
circle(int x)
{
super(x,x);
}
void printarea(){
double result=num1*num2*Math.PI;
System.out.println("The area is:"+result);
}
}
class areacalculation
{
public static void main(String xx[])
{
rectangle r1=new rectangle(10,20);
r1.printarea();
triangle t1=new triangle(2,4);
t1.printarea();
circle c1=new circle(2);
c1.printarea();
}
}
```

Output:

```
C:\Users\Lakshitha.L\Desktop\java lab>javac areacalculation.java

C:\Users\Lakshitha.L\Desktop\java lab>java areacalculation
The area is:200
The area is:4.0
The area is:12.566370614359172
```