Program 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.

```java
abstract class Shape{
        int one,two;
        void initial(int o,int t)
        {
                one=o;
                two=t;
        }
        abstract void printArea();
}
class Triangle extends Shape{
        void printArea()
        {
                System.out.println("Area of triangle="+(0.5*one*two));
        }
}
class Rectangle extends Shape{
        void printArea()
        {
                System.out.println("Area of rectangle="+(one*two));
        }
}
```

```java
class Circle extends Shape{

        void printArea()

        {

                System.out.println("Area of triangle="+(3.1415*one*two));

        }

}
class prog4{

        public static void main(String args[]){

                Triangle t1=new Triangle();

                Rectangle r1=new Rectangle();

                Circle c1=new Circle();

                t1.initial(20,30);

                r1.initial(40,60);

                c1.initial(20,20);

                t1.printArea();

                r1.printArea();

                c1.printArea();}

}
```

Output:

```
C:\Users\Admin\Desktop\1BM21CS225\Java Files>javac prog4.java

C:\Users\Admin\Desktop\1BM21CS225\Java Files>java prog4
Area of triangle=300.0
Area of rectangle=2400
Area of circle=1256.6000000000001
```