Date __/__/__ Lab program 4

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 Shape class. Each one of the class contain only the method printArea() that print the area of the given Shape.

```
import java.util.Scanner;
abstract class Shape
{
  int d1;
  int d2;
  Shape(int a, int b)
  {
    d1 = a;
    d2 = b;
  }
abstract void printarea();
}
class Rectangle extends Shape
{
  Rectangle(int a, int b)
  {
    super(a, b)
  }
  void printarea()
  {
    float area = (float) d1 * d2;
    System.out.println("Area of Rectangle :" +area);
  }
}
```

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```
class Triangle extends Shape
{
    Triangle ( int a, int b)
    {
    Super (a,b);
    }
    void printarea ()
    {
    float area = (float) d1 * d2 / 2;
    System. out. println ("Area of the Triangle :"
                                        + area);
    }
}
class Circle extends Shape
{
    Circle ( int a , int b)
    {
     super (a,b);
    }
    void printArea ()
    {
     float area =(float) 3.14 * d1 * d1;
    System. out. println ("Area of the Circle :",+area);
    }
}
class Main
{
  public static void main ( String args[])
  {
    int ch , flag = 0;
    Scanner ss = new Scanner ( System. in);
    while (flag == 0)
```

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```
{ {
System.out.println("Enter the choice whose
        area has to be calculated");
System.out.println("1.RECTANGLE \n
        2.TRIANGLE \n3.CIRCLE");
ch = ss.nextInt();
switch (ch)
 {
    case 1:
    System.out.println("Enter the dimensions
                        of rectangle");
    int x = ss.nextInt();
    int y = ss.nextInt();
    Rectangle r = new Rectangle(x,y);
    r.printarea();
    break;
    case 2:
    System.out.println("Enter the dimensions
                        of triangle");
    int s = ss.nextInt();
    int w = ss.nextInt();
    Triangle t = new Triangle(s,w);
    t.printarea();
    break;
    case 3:
    System.out.println("Enter the radius of circle");
    int f = ss.nextInt();
    Circle c = new Circle(f,f);
    c.printarea();
    break;
    default:
    fly = 1;
} } }
```