Lab Exercise 3

```java
package P1;
abstract public class Shape{
    public String shape;
    public String getShape(){
        return "";
    }
    abstract protected double getArea();
}
```

```java
package P2;
import P1.Shape;
public class Rectangle extends Shape{
    int length;
    int breadth;

    public Rectangle(){
        length=0;
        breadth=0;
        shape="Rectangle";
    }
    public Rectangle(int length,int breadth){
        this.length=length;
        this.breadth=breadth;
        shape="Rectangle";
    }
    public String getShape(){
        return shape;
    }
    public double getArea(){
        return length*breadth;
    }
}
package P3;


import P1.Shape;
```

```java
public class Circle extends Shape{
    double radius;
    public Circle(){
        radius=0;
    }
    public Circle(double radius){
        this.radius=radius;
    }
    public double getArea(){
        return (3.14159*radius*radius);
    }
     public String getShape(){
        return shape;
    }
}


}
```

```java
import P1.Shape;
import P2.Rectangle;
import P3.Circle;
import java.util.Scanner;
public class Driver1{
    public static void main(String [] args){
        Shape s1;

        Scanner scan=new Scanner(System.in);
        System.out.println("1: Rectangle , 2 Circle");
        int op= scan.nextInt();
        choice:{
            switch (op){
                case 1:{
                    s1=new Rectangle();
                    System.out.println(s1.getArea());
                    break;
                }
                case 2:{
                    s1=new Circle();
                    System.out.println(s1.getArea());
                    break;
                }
            }
```

```
        }

    }
}
```

OUTPUT

```
PS D:\ANDC\Sem-2\Java\Lab6\Program1> cd "d:\ANDC\Sem-2\Java\
Lab6\Program1\" ; if ($?) { javac Driver1.java } ; if ($?) {
 java Driver1 }
1: Rectangle , 2 Circle
1
Enter Length
12
Enter Breadth
13
156.0
PS D:\ANDC\Sem-2\Java\Lab6\Program1> cd "d:\ANDC\Sem-2\Java\
Lab6\Program1\" ; if ($?) { javac Driver1.java } ; if ($?) {
 java Driver1 }
1: Rectangle , 2 Circle
2
Enter Radius of circle
10
314.159
```