Java lab 08

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```
package com.mycompany.implementationcode;



public class Triangle implements Shape
{protected double base;
 protected double perpendicularheight;
 protected double sideA;
 protected double sideB;

    public Triangle(double base,double perpendicularheight,double sideA,double sideB)
   { this.base=base;
     this.perpendicularheight=perpendicularheight;
     this.sideA=sideA;
     this.sideB=sideB;
   }

  public double getbase()
  {
  return base;
  }
    public void setbase(double b)
   {base=b;
   }

    public double getperpendicularheight()
  {
```

```
 return perpendicularheight;
}
 public void setperpendicularheight(double ph)
 {perpendicularheight=ph;
 }
 public double getsideA()
{
 return sideA;
}
 public void setsideA(double A)
 {sideA=A;
 }
 public double getsideB()
{
 return sideB;
}
 public void setsideB(double B)
 {sideB=B;
 }

@Override
public void calculateArea()
 {System.out.println("The Area of the Triangle is:"+0.5f*getbase()*getperpendicularheight());
 }

 @Override
 public void calculatePerimeter()
 { double Perimeter;
   Perimeter=sideA+sideB+base;
```

```
        System.out.println("The Perimeter of the Triangle is:"+Perimeter);
    }

package com.mycompany.implementationcode;



public class Rectangle implements Shape
{protected double length;
 protected double width;

    public Rectangle(double length,double width)
    { this.length=length;
     this.width=width;
    }

   public double getlength()
   {
   return length;
   }
    public void setlength(double l)
    {length=l;
    }

    public double getwidth()
   {
   return width;
   }
    public void setwidth(double w)
    {width=w;
```

```
  }

 @Override
 public void calculateArea()
  {System.out.println("The Area of the Rectangle is:"+getlength()*getwidth());
  }

  @Override
  public void calculatePerimeter()
  { double Perimeter;
        Perimeter= 2*(length+width);
     System.out.println("The Perimeter of the Rectangle is:"+Perimeter);
  }

}
package com.mycompany.implementationcode;
public class ImplementationCode {

   public static void main(String[] args) {
      Circle c1=new Circle(3.5);
      c1.setradius(3.5);
      c1.calculateArea();
      c1.calculatePerimeter();

      Rectangle r1=new Rectangle(5,4);
      r1.setlength(5);
      r1.setwidth(4);
      r1.calculateArea();
      r1.calculatePerimeter();
```

```
      Triangle t1=new Triangle(6.5,7.5,2,4);
        t1.setbase(6.5);
        t1.setperpendicularheight(7.5);
        t1.setsideA(2);
        t1.setsideB(4);
        t1.calculateArea();
        t1.calculatePerimeter();



    }
}
package com.mycompany.implementationcode;



public class Circle implements Shape{
    protected double radius;

    public Circle(double radius)
    { this.radius=radius;
    }

   public double getradius()
   {
   return radius;
   }
    public void setradius(double r)
    {radius=r;
    }
```

```
 @Override
 public void calculateArea()
  {System.out.println("The Area of the Circle is:"+3.14f*getradius()*getradius());
  }

  @Override
  public void calculatePerimeter()
  {
     System.out.println("The Perimeter of the Circle is:"+2*3.14f*getradius());
  }

}

}

package com.mycompany.implementationcode;
public interface Shape
{ void calculateArea();

 void calculatePerimeter();

}
```