

```

package asoo;

public abstract class TwodShape {
    private double Width;
    private double height;
    private String name ;

    TwodShape(){
        Width=height=0;
        name ="null";
    }
    TwodShape(String n,double W,double h ){
        this.Width=W;
        this.height=h;
        name=n;
    }
    TwodShape(double x,String n){
        Width=height=x;
        name=n;
    }
    // using object _call by reference
    TwodShape(TwodShape obj){
        Width=obj.Width;
        height=obj.height;
        name=obj.name;
    }
    public double getWidth() {
        return Width;
    }
    public void setWidth(double width) {
        Width = width;
    }
    public double getHeight() {
        return height;
    }
    public void setHeight(double height) {
        this.height = height;
    }
    public String getName() {
        return name;
    }
    public void setName(String name) {
        this.name = name;
    }
}

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    void showDim() {
        System.out.println(" width and height "+ Width +" "+ height);
    }
    abstract double area();
}

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package asoo;

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public class Triangle extends TwodShape{
    private String styel;
    Triangle (){
        super();
        styel="null";
    }
    Triangle(String s ,double w,double h){
        super("tringle",w,h);
        this.styel=s;
    }
    Triangle(double x){
        super(x,"tringle");
        styel="isosceless";
    }
    Triangle(Triangle obj){
        super(obj);
        styel=obj.styel;
    }
    double area() {
        return getHeight() *getWidth()/2;
    }
    void showDim() {
        System.out.println(" in triangle style : "+styel );
    }
}

```

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package asoo;

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public class Rectangle extends TwodShape{
    Rectangle(){
        super();
    }
    Rectangle(double w,double h){
        super("rectangle",w, h );
    }
}

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    }

    Rectangle(double x){
        super(x, "rectangle");
    }
    Rectangle(Rectangle ob){
        super(ob);
    }
    boolean isequle() {
        if(getHeight() == getWidth()) {
            return true;
        }return false;
    }

    double area() {
        return getHeight()*getWidth();
    }
}

```

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```
package asoo;
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```
public class program {
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```
    public static void main(String[] args) {
        // TODO Auto-generated method stub

```

```
        TwodShape arryeshep[]=new TwodShape[4] ;

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        arryeshep[0]=new Triangle("righth",4.0,4.0);
        arryeshep[1]=new Rectangle(10);
        arryeshep[2]=new Rectangle(10,4);
        arryeshep[3]=new Triangle(7.0);

```

```
        for(int i=0; i<arryeshep.length; i++) {
            System.out.println("ob is
:"+arryeshep[i].getName());

            System.out.println("area is :"+arryeshep[i].area());
            System.out.println();
        }

    }
}

```

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Output is :-

ob is :tringle  
area is :8.0

ob is :rectiangle  
area is :100.0

ob is :rectangle  
area is :40.0

ob is :tringle  
area is :24.5