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```
import java.util.*;
abstract class shape{
int x;
Public shape(int x){
this.x = x;
}
Public abstract void printarea();
}
class Rectangle extends shape{
private int y;
Public Rectangle(){
this(1,1);
}
public Rectangle(int x, int y){
super(x)
this.y = y;
}
public int getwidth(){
return super.x;
}
Public void setwidth(){
Scanner s = new scanner(System.in);
int width;
System.out.println("Enter width.");
width = s.nextInt();
super.x = width;
}
```

NOTES

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```
public int getHeight(){
return this.y;
}
Public void setHeight(){
Scanner s = new Scanner(System.in);
int height;
System.Out.println("Enter height.");
height = s.nextInt();
this.y = height;
}
@override
public void printArea(){
setWidth();
setHeight();
System.out.println("Area=" + (getWidth() * getHeight()));
}
}
class circle extends shape{
private int y;
public Circle(){
this(1);
}
public circle(int x){
super(x);
}
public int getRadius(){
return super.x;
}
```

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```
public void setRadius(){
  Scanner s = new Scanner(System.in);
  int radius;
  System.out.println(" enter radius.");
  radius = s.nextInt();
  super.x = radius;
}
@Override
public void printArea(){
  setRadius();
  System.out.println("Area=" + (Math.PI * Math.pow(getradius(),2)));
}
}
class Triangle extends Shape{
  private int y;
  public Triangle(){
  this(1, 1);
}
  public Triangle(int x, int y){
  super(x);
  this.y=y;
}
  public int getBase(){
  return super.x;
}
  public void setBase(){
  Scanner s = new Scanner(System.in);
  int base;
```

```
System.out.println("enter base:");
  base = s.nextInt();
  super.x = base;
}
Public int getHeight(){
return this.y;
}
Public void setHeight(){
scanner s = new Scanner(System.in);
 int height;
 System.out.println("enter height:");
    height = s.nextInt();
    this.y = height;
 }
 @Override
 Public void PrintArea(){
  setBase();
  setHeight();
  System.out.println("Area:" + (0.5*getBase()*getHeight()));
 }
}

Class ShapeArea{
 public static void main(String[] args){
 Shape rect = new Rectangle();
 Shape circle = new Circle();
  Shape trangle = new Triangle();
  int opt = 0;
  Scanner s = new Scanner(System.in);
```

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```
while (opt != 4){
System.out.println(" Your option are; \n1. Rectangle \n2.
        Circle \n3. Triangle.");
    opt = s.nextInt();
   if (opt == 1)
    rect.printArea();
   else if (opt == 2)
    Circle.printArea();
     else if (opt == 3)
      Triangle.printArea();
    else if (opt == 4)
     System.out.println(" Terminating session.");
     else
      System.out.println(" Invalid value Passed.");
   }
  }
}
```

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