

Static Variables

Do now

What if you want to keep track of something
across an entire class?



What if you want to keep track of something across an entire class?

If a variable or method belongs to the **class** and not the **instance**, it is considered a class variable or class method.

These can also be called **static variables** or **static methods**.



Class Variables or Static Variables

A variable or attribute of a class that is common to all instances of a class


Class Methods or Static Methods

A method of a class that is common to all instances of a class, and is not called on an object instance.



Static variable example

```
public class Rectangle{  
    // This variable is the same for all instances.  
    // It tracks how many total rectangle objects have been created.  
    private static int totalRectangles = 0;  
    public Rectangle(int myWidth, int myHeight){  
        width = myWidth;  
        height = myHeight;  
        // every time we make a new rectangle, it will increment by 1  
        totalRectangles++;  
    }  
}
```



Static Method Example

```
class Rectangle{  
    // other code here .....  
    public static int getTotalRectangles(){  
        return totalRectangles;  
    }  
}
```



What is printed?

```
public class SomeClass{
    private int x = 0;
    private static int y = 0;
    public SomeClass(int pX){
        x = pX;
        y++;
    }
    public void incrementY(){
        y++; }
    public void incrementY(int inc){
        y += inc; }
    public int getY(){
        return y; }
}
```

The following code segment appears in a class other than SomeClass.

```
SomeClass first = new SomeClass(10);
SomeClass second = new SomeClass(20);
SomeClass third = new SomeClass(30);
first.incrementY();
second.incrementY(10);
System.out.println(third.getY());
```

A. 0

B. 1

C. 11

D. 14

E. 30