



CS 149

Professor: Kevin Molloy

(adapted from slides originally developed by Alvin Chao)

Methods Model 1

```
public class Model1 {  
  
    public static void main(String[] args) {  
        System.out.println("First line.");  
        threeLine();  
        System.out.println("Second line.");  
    }  
  
    public static void newLine() {  
        System.out.println();  
    }  
  
    public static void threeLine() {  
        newLine();  
        newLine();  
        newLine();  
    }  
  
}
```

CALL println
RETURN to main
CALL threeLine
 CALL newLine
 CALL println
 RETURN to newLine
RETURN to threeLine
CALL newLine
 CALL println
 RETURN to newLine
RETURN to threeLine
CALL newLine
 CALL println
 RETURN to newLine
RETURN to threeLine
RETURN to main
CALL println
RETURN to main



Methods Model 1

1. How many lines of code call the `System.out.println` method?
2. How many times is `println` actually called when the program runs?
3. For each `CALL` in the program trace on the right, draw an arrow to the corresponding method call on the left.
4. What is the output of the program? Please write `\n` to show each newline.
5. In your own words, describe what methods are for. Why not just write everything in `main`?
6. What is the difference between a method and a variable? What do they have in common?
7. When Java sees a name like `x`, `count`, or `newLine`, how can it tell whether it's a variable or a method? (Hint: syntax)



Methods Model 2

```
public class Model2 {  
  
    public static void baffle() {  
        System.out.print("wug");  
        ping();  
    }  
  
    public static void main(String[] args) {  
        System.out.print("No, I ");  
        zoop();  
        System.out.print("I ");  
        baffle();  
    }  
  
    public static void ping() {  
        System.out.println(".");  
    }  
  
    public static void zoop() {  
        baffle();  
        System.out.print("You wugga ");  
        baffle();  
    }  
  
}
```



Methods odel 2

1. How many method call statements are in this program?
2. In what order are the methods declared in the class?
3. Based on Model 1, describe the order in which methods actually run. What does that order have to do with your answer to #2?
4. What is the output of the program? Be precise about where there are spaces and where there are newlines.

- **Acknowledgements**

Parts of this activity are based on materials developed by Chris Mayfield and Nathan Sprague.

</end>