

Exercise 1 - pre03 (program in file Baffle.java)

Exercise 1 The point of this exercise is to practice reading code and to make sure that you understand the flow of execution through a program with multiple methods.

1. What is the output of the following program? Be precise about where there are spaces and where there are newlines.

When you compile and run the program, the result is:

Starts at line 12: public static void main, prints "No. I" (following line 13), moves on to line 14, which calls zoop() on line 6. Method zoop, starts on line 7 calling baffle() on line 19 and moves to line 20 - printing "wug" continuing the first line of output, zoop then calls ping (line 24) which moves to line 25 - println "." [both adding a period after wug and "ln" invoking a new line between strings], completing the zoop call to baffle and baffles call to ping.

So far the output is: **No, I wug.** (On line 1. space after " , " space after "I" line ends at ".")

Next, the program goes to line 9 of zoop, and prints "You wugga" starting line 2 of output [as the first "print" after the "println" from ping]. Moving to line 10 of zoop, which calls baffle() again, which prints "wug" and calls ping (line 24-25) with "println" adding the "." and completing line 2 of the output [signaling a line break between strings].

Line 2 of the output is: **You wugga wug.** (Space after "You" space after "wugga" line ends at ".") Having completed main's call to zoop (line 14), the program moves to line 15 which prints "I" starting line 3 of the output (following the println output from ping). Now, moving on to line 16 of main which calls baffle(), it once again returns to line 19-20, continuing line 3 of output, printing "wug" then goes to line 21 - calling ping, which adds "." to the end of the third line of output.

Line 3 of the output is: **I wug.** (Space after "I" line ends at ".")

Having completed line 16 the last line of main, the program ends there.

The final output is: (See image below)

(Start) Prints: **No, I wug.** (Space after " , " space after "I" line ends at ".")

(New line)Prints: **You wugga wug.** (Space after "You" space after "wugga" line ends at ".")

(New line)Prints: **I wug.** (Space after "I" line ends at ".")

```
pre03/Baffle.java ×
1 import java.io.*;
2 import java.util.*;
3
4 public class Baffle {
5
6     public static void zoop() {
7         baffle();
8         System.out.print("You wugga ");
9         baffle();
10    }
11
12    public static void main(String[] args) {
13        System.out.print("No, I ");
14        zoop();
15        System.out.print("I ");
16        baffle();
17    }
18
19    public static void baffle() {
20        System.out.print("wug");
21        ping();
22    }
23
24    public static void ping() {
25        System.out.println(".");
26    }
27 }
28
29
30 /*Ch4 Exercise 1
31 The point of this exercise is to practice reading code and to make sure that
32 you understand the flow of execution through a program with multiple methods.
33
34 What is the output of the following program? Be precise about where there
35 are spaces and where there are newlines.
36 Hint: Start by describing in words what ping and baffle do when they are
37 invoked.
38
39 Draw a stack diagram that shows the state of the program the first time ping
40 is invoked.
41
42 What happens if you invoke baffle(); at the end of the ping method? (We will
43 see why in the next chapter.)*/
```

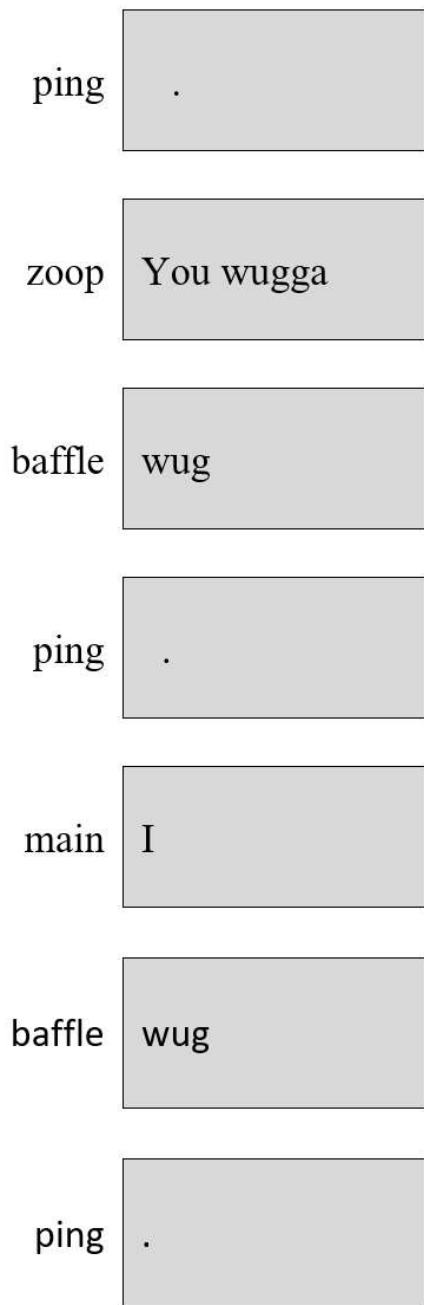
Console Shell Markdown

```
~/cohort-3-prework-A-Ufret/pre03$ javac Baffle.java
~/cohort-3-prework-A-Ufret/pre03$ java Baffle
No, I wug.
You wugga wug.
I wug.
~/cohort-3-prework-A-Ufret/pre03$
```

Image of Baffle.java program, compiled, run, and output. (Ch4 Exercise 1)

Ch 4 Exercise 1:

2. Draw a stack diagram that shows the state of the program the first time `ping` is invoked.



3. What happens if you invoke `baffle()` ; at the end of the `ping` method?

[illegible]