

Name _____ Period _____

Skill 28.3 Exercise 1		
Complete the stack diagram for the code block shown, then indicate the output.		
<pre>class Main { public static void main(String[] args) { Recursion.reduceByOne(4); } } class Recursion{ public static void reduceByOne(int n){ if(n > 0) System.out.println(n); reduceByOne(n-1); System.out.println(n); } } }</pre>	Stack	Output

Skill 28.4 Exercise 1	
Complete the stack diagram for the code block below.	
Consider the following method. <pre>public static int calcMethod(int num) { if (num == 0) { return 10; } return num + calcMethod(num / 2); }</pre>	
Complete the stack diagram for the following call, then indicate what is returned. calcMethod(16)	
Stack	Output

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Skill 28.4 Exercise 2

Complete the stack diagram for the code block below.

Consider the following method.

```
public String goAgain(String str, int index)
{
    if (index >= str.length())
        return str;

    return str + goAgain(str.substring(index), index + 1);
}
```

Complete the stack diagram for the following call, then indicate what is printed.

```
System.out.println(goAgain("today", 1));
```

Stack	Output

Skill 28.4 Exercise 3

Complete the stack diagram for the code block shown, then indicate the output.

```
class Main {
    public static void main(String[] args) {
        System.out.println(Recursion.pls(4));
    }
}

class Recursion{

    public static int pls(int n)
    {
        if (n == 0)
            return 5;
        else if (n == 1)
            return 11;
        else
            return pls(n - 1) + 2 * pls(n - 2);
    }
}
```

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Stack	
Output	

Skill 28.4 Exercise 4

Complete the stack diagram for the code block shown, then indicate the output.

	Stack	Output
<pre>class Main { public static void main(String[] args) { Recursion.homer(9)); } } class Recursion{ public static void homer(int n) { if (n <= 1) System.out.print(n); else homer(n / 2); System.out.print(", " + n); } }</pre>		

AP Computer Science A
Ticket Out the Door
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