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| 1. What is returned by the call mystery(4)? ```public static int mystery(int a) if(a>11) return 5; return a + mystery(a+3); }``` | 2. What is returned by the call mystery(6)? ```public static int mystery(int a) { if(a==3) return 1; return a * mystery(a-1); }``` |
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| 3. What is printed by the call mystery(4)? ```public static void mystery(int a) { System.out.print(a); if(a<7) } mystery(a+2);``` | 4. What is returned by the call mystery(4)? ```public static void mystery(int a) { if(a<7) mystery(a+2); System.out.print(a); }``` |
| 5. Write a recursive method evenFactorial which returns the even factorial of a number (that is, the product of all positive integers less than or equal to $\mathrm{n})$. The factorial of 0 is 1 . <br> public static int evenFactorial(int n) <br> \{ | 6. Write a recursive method spaceIt to print the digits of an integer on a single line with 2 spaces between each digit. So spaceIt(123) prints "1 23 3". <br> public static void spaceIt(int m) <br> \{ |
| 7. Given the following array how many times would a recursive binary search method be called when searching for the value 21 ? $\text { int [] array }=\{3,6,8,11,14,16,21,22\} \text {; }$ | 8. Given the following array how many times would a recursive binary search method be called when searching for the value 6 ? <br> int [] array $=\{0,1,2,3,4,5,7,8,9,9\} ;$ |

8. What are two features that must be found in every recursive method?
9. Write a non-recursive binary search method that accepts an int array nums and an int target and returns the index where target is located or -1 if target is not present in the array. Preconditions: int[] nums contains valid data that is sorted and contains at least one element.
