**1. What is the output of the following program?**

import java.util.\*; // for Arrays class

public class ReferenceMystery2 {

public static void main(String[] args) {

int x = 1;

int[] a = new int[2];

mystery(x, a);

System.out.println(x + " " + Arrays.toString(a));

x--;

a[1] = a.length;

mystery(x, a);

System.out.println(x + " " + Arrays.toString(a));

}

public static void mystery(int x, int[] list) {

list[x]++;

x++;

System.out.println(x + " " + Arrays.toString(list));

}

}

|  |  |
| --- | --- |
| **line 1** |  |
| **line 2** |  |
| **line 3** |  |
| **line 4** |  |

**2. Write a method called percentOdd that accepts an array of integers as a parameter and returns the percentage of odd numbers in the array as a real number. For example, if the array stores the elements {6, 2, 9, 11, 3}, then your method should return 40.0%. If the array contains no even elements or no elements at all, return 0.0%.**

**3. Write a method closestLargerNumber that accepts an array of integers called numbers and an integer n as its parameters. The method returns the element in the numbers array that is closest in value to n without being smaller than n. For example, if numbers stores the elements {100, 150, 200, 999, 40}, then closestLargerNumber(numbers, 300) should return 999, since 999 is the element closest to n, without being smaller than n. If all numbers are smaller than n, then your method should return -1.**

**4. Write a method named oddLetters that accepts a string as its parameter and returns a string containing every odd character in the original string. For example, a call to oddLetters(“happyface”) should return “hpyae”. A call to oddLetters(“hxexlxlxox”) should return “hello”.**