Name: _____

AP Computer Science A (Java)
More Array Practice

Place the answer to 1. as a comment in your .java program.

1. What is the output of the following program?

```
public class ReferenceMystery {
    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));
    }
}
```

Output:

_____
_____
_____
_____

**Note:** Complete the problems in one program file named LastnameMoreArrays.java and call any requested method from the main method.
**Note:** For each problem in your program, add a comment at the beginning stating the number of the problem.

1. Write a piece of code that computes the average String length of the elements of an array of Strings. For example, if the array contains {"belt", "hat", "jelly", "bubble gum"}, the average length is 5.5. Print the array contents and average length from main.

2. Write a method that accepts an array of Strings as its parameter and indicates whether that array is a palindrome – that is, whether it reads the same forwards as backwards. For example, the array {"alpha", "beta", "gamma", "delta", "gamma", "beta", "alpha"} is a palindrome. Print the array contents from main and print whether it is a palindrome.

3. Write a method called isSorted that accepts an array of real numbers as a parameter and returns true if the list is in sorted (nondecreasing) order and false otherwise. For example, if arrays named list1 and list2 store {16.1, 12.3, 22.2, 14.4} and {1.5, 4.3, 7.0, 19.5, 25.1, 46.2} respectively, the calls isSorted(list1) and isSorted(list2) should return false and true respectively. Assume that the array has at least one element. A one-element array is considered sorted. From main, print the array contents and print whether the array is sorted.

4. Write a method called isUnique that accepts an array of integers as a parameter and returns a boolean value indicating whether or not the values in the array are unique (true for yes, false for no). The values in the list are considered unique if there is no pair of values that are equal. For example, if passed an array containing [3, 8, 12, 2, 9, 17, 43, -8, 46], your method should return true, but if passed [4, 7, 3, 9, 12, -47, 3, 74], your method should return false because the value 3 appears true.

5. Write a method of your choosing which uses at least one array. Within the method also use at least one of the following structures: if / else, for, for-each, while. Provide a comment stating what your method does.