

CSE 143X: Accelerated Computer Programming I/II

Code Analysis Exercises

Name:

```
1 public static void mystery1(int[] a) {
2     for (int i = 0; i < a.length - 1; i++) {
3         if (a[i] > a[i + 1]) {
4             a[i + 1] = a[i + 1] * 2;
5         }
6     }
7 }
```

What are the results of the following calls to `mystery1`?

- `mystery1({1, 7, 5, 6, 4, 14, 11});`

- `mystery1({1, 2, 3, 4, 5});`

```
1 public static String mystery2(String s, int i, boolean[] arr) {
2     String result = i + s + i;
3     result += s.charAt(2);
4     result += s.substring(2, 4);
5
6     arr[0] = i == 0;
7     arr[3] = i == 3;
8
9     return result;
10 }
11 public static caller() {
12     boolean[] arr = {true, true, true, true};
13     String s = "hello";
14     System.out.println(mystery2(s, 3, arr));
15     System.out.println(Arrays.toString(arr) + "|" + s);
16     System.out.println(mystery2(s, 0, arr));
17     System.out.println(Arrays.toString(arr) + "|" + s);
18 }
```

What is printed out in a call to `caller()`?

```

1 public static int uhoh2(int[] arr) {
2     int left = 0;
3     int right = 0;
4     int i = 0;
5     while (arr[i] < arr[i + 1]) {
6         // Point A
7         if (Math.abs(arr[i] - arr[i + 1]) == 1) {
8             // Point B
9             if (arr[i] >= arr[i + 1]) {
10                right++;
11                // Point C
12            }
13            else {
14                left++;
15                // Point D
16            }
17        }
18        else {
19            left = 0;
20            right = 0;
21            // Point E
22        }
23        i++;
24    }
25    return left + right;
26 }

```

At each "point", how can we relate:

- arr[i] and arr[i + 1]?

- left and 0?

- right and 0?

- left and right?

At the end of the program, what is left + right?

```

1 public static int uhoh3(Scanner console) {
2     int prev = 0;
3     int count = 0;
4     int next = console.nextInt();
5     // Point A
6     while (next != 0) {
7         // Point B
8         if (next == prev) {
9             // Point C
10            count++;
11        }
12        prev = next;
13        next = console.nextInt();
14        // Point D
15    }
16    // Point E
17    return count;
18 }

```

	next == 0	prev == 0	next == prev
Point A			
Point B			
Point C			
Point D			
Point E			