Worksheet: Arrays Practice 2

1. Study the following code. Method `reverseArray` is supposed to reverse the elements of an array. The code does not work as expected and, in order to debug the code, we will create a trace table.

```
 1 public class ReverseArray {
 2    public static void main(String[] args) {
 3       int[] intArray = { 1, 3, 5, 7, 9  };
 4       reverseArray(intArray);
 5       System.out.println(Arrays.toString(intArray));
 6    }
 7    public static void swap(int[] arr, int i, int j) {
 8       int tmp = arr[i];
 9       arr[i] = arr[j];
10       arr[j] = tmp;
11    }
12    public static void reverseArray(int[] arr) {
13       for(int i = 0; i < arr.length; i++) {
14          int j = arr.length-i-1;
15          swap(arr, i, j);
16       }
17    }
18 }
```

a) Complete the trace table with the values at the end each iteration (after line 15).

		arr				
i	j	0	1	2	3	4
		1	3	5	7	9
0						
5	loop exited, code complete					

b) Explain why the code does not work as intended.

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c) Write the corrected loop condition in the box, below.

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2. Complete the following code.

a) Given an array, `arr`, write a statement that will declare an integer, `len`, and initialize that integer to the length of `arr`.

b) Write a statement that will declare an array of `String` named `arr`, that has space to store ten `String` elements.

c) Given an array named `original`, write a statement that will declare an array of `double` named `newArr`, that is the same length as `original`.

d) Write a method named `makeCopy` that will take a `double` array as a parameter, make a copy of the array in reverse order, and return the new array. The original array must not be modified.

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