Names:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_\_

**Computer Science 2 AP – Salute to Sorts**

Use the following sort algorithms to sort the original array in **ascending** order to determine total # of passes, swaps, comparisons, and Order of Magnitude (“Big O”). The **contents** of the array after the 2nd pass will be displayed in **both** ascending and descending order.

The original array will always be the same: **{75, -3, 99, 25, 52, 83, 12, 7, 38}**

**Monte Carlo sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*NOTE: Contents of the array after the 2nd pass not applicable to this algorithm.*

**Linear sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*What are the contents of the array after the 2nd pass?*

Ascending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Descending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Bubble sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*What are the contents of the array after the 2nd pass?*

Ascending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Descending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Selection sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*What are the contents of the array after the 2nd pass?*

Ascending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Descending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Insertion sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*What are the contents of the array after the 2nd pass?*

Ascending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Descending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Merge sort**: Passes:\_\_\_\_\_ Swaps: \_\_\_\_\_ Comparisons:\_\_\_\_\_ Efficiency: O(\_\_\_\_\_)

*What are the contents of the array after the 2nd pass?*

Ascending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Descending: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_