

# 1 Sorting

## 1.1 Practice

Sort the following data using different sorting algorithm.

62 7 29 31 67 18 93

1. Insertion Sort
2. Selection Sort
3. Heap Sort (show both heapify and sorting)
4. Merge Sort
5. Quick Sort (always choose the first element as pivot)

## 1.2 Scenarios

Sort the following data under different scenario using the **most appropriate sort**, and give your reasoning and runtime. There may be more than one correct answer.

1. (1, 2, 3, 4, 5, 6, 7)
2. A random generated integer data set with arbitrary size (could be really large).  
Ex. (65, 97, 85, 31, 72, 5, 98)
3. Kevin collects your QuickCheck worksheet and tries to sort it by names. What kind of sort would he use?  
Ex. (Erik, Louis, Velocity, Erika, Alieen, Brain)