

# **SORTING**

## RECALL: SELECTION SORT

- go through list to find smallest value
- swap that value with value in first spot
- scan rest of list to find next smallest value
- swap that value with value in second spot
- continue with remaining spots for each position in the list

# INSERTION SORT

- Breaks list into two parts (sorted and not sorted)
- Goes through values
- For each value, inserts into the right spot in the sorted list
- Move onto next value, repeating process

# INSERTION SORT - COMPLEXITY

- How many times do we go look at a value?
- For each value, how much work does it take (how many spots do we consider) to find the right spot?

# BUBBLE SORT

- Make passes through list
- On each pass, swap out of order elements

# BUBBLE SORT - COMPLEXITY

- How many passes through list are made?
- How much work does each pass take?
- Can we stop early if not all passes needed?