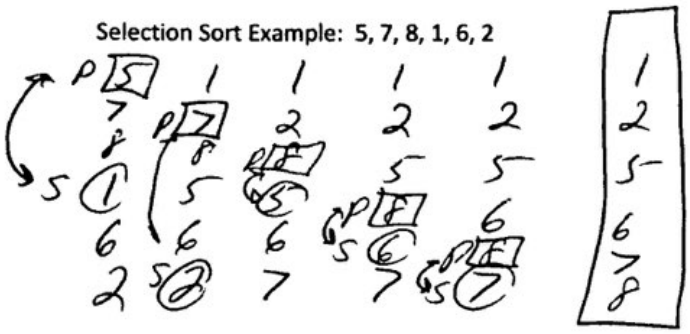
CPS 162 Sorting Algorithms of type O(n^2)

Selection Sort Example: 5, 7, 8, 1, 6, 2



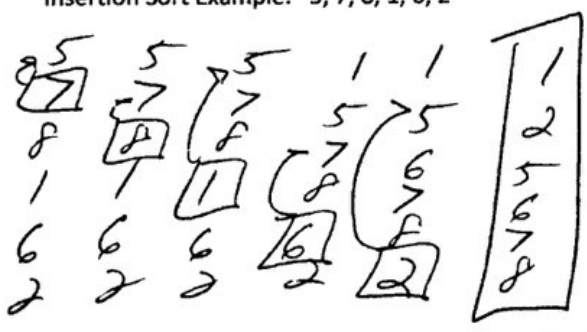
Computing time is $O(n^2)$ for best, worst, and average case

Bubble Sort Example: 5, 7, 8, 1, 6, 2

Computing time is $O(n)$ in best case and $O(n^2)$ in avg. and worst cases.

(sorted List; reversed order)

Insertion Sort Example: 5, 7, 8, 1, 6, 2

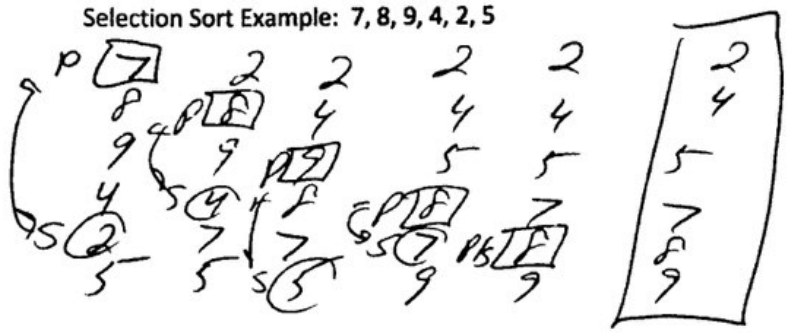


Computing time is $O(n)$ in best case and $O(n^2)$ in avg. and worst cases.

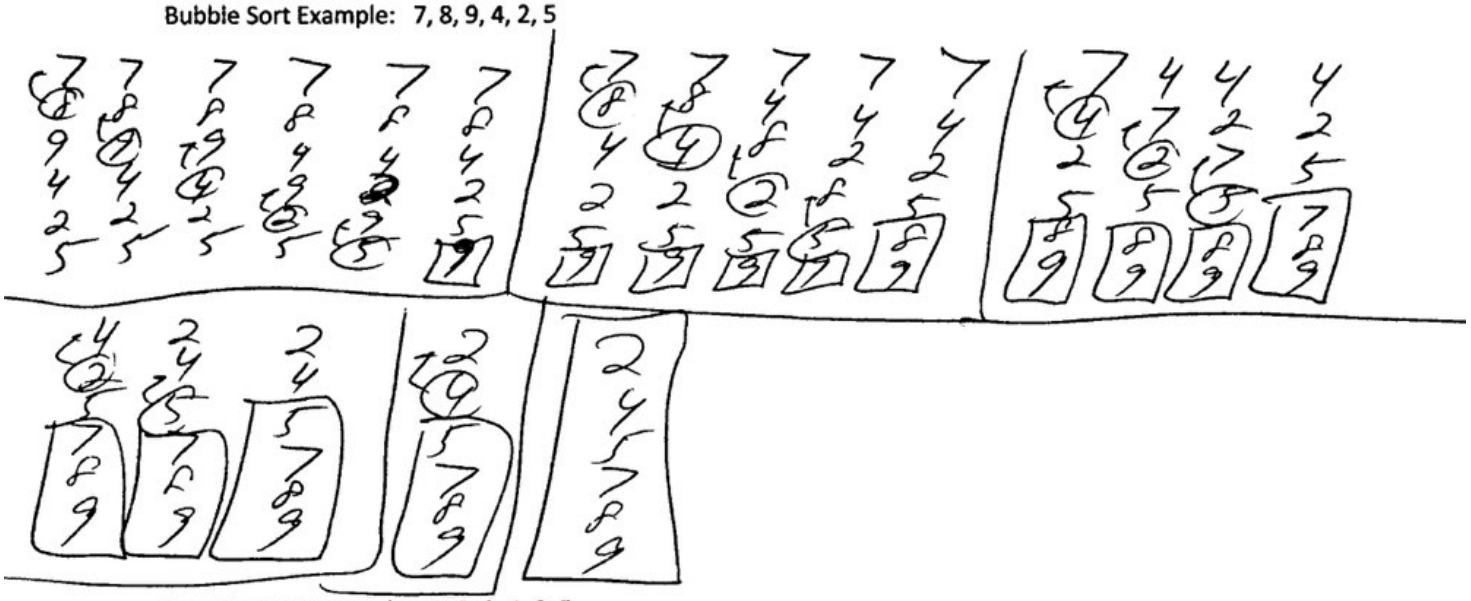
(sorted List; reversed order)

Practice CPS 162 Sorting Algorithms of type O(n^2)

Selection Sort Example: 7, 8, 9, 4, 2, 5



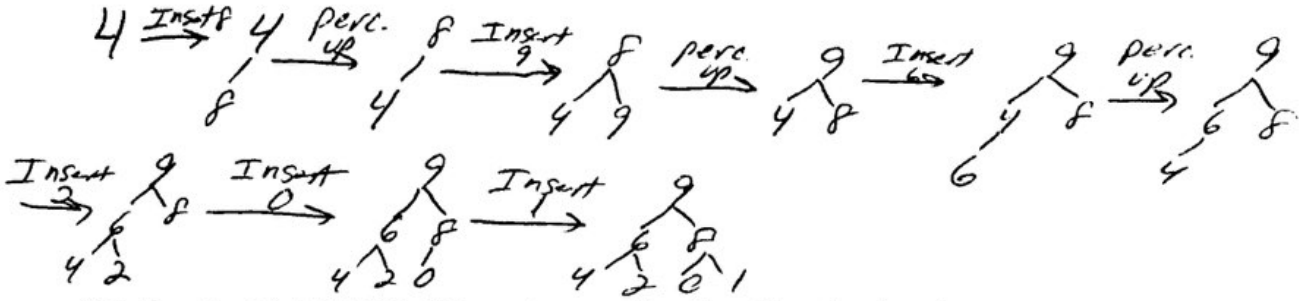
Bubble Sort Example: 7, 8, 9, 4, 2, 5



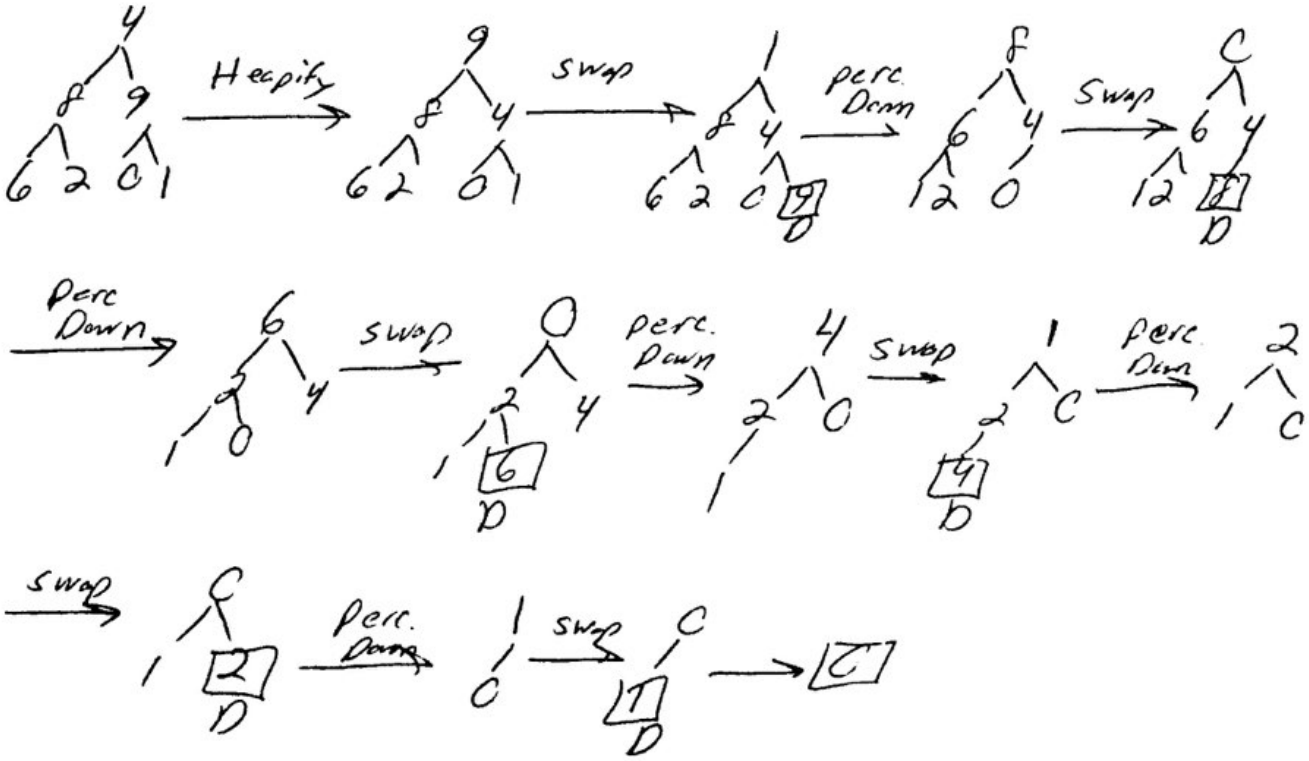
Insertion Sort Example: 7, 8, 9, 4, 2, 5

CPS 162 Sorting Algorithms for Heapsort

Insert 4, 8, 9, 6, 2, 0, 1 to make a heap (remember to percolate up)

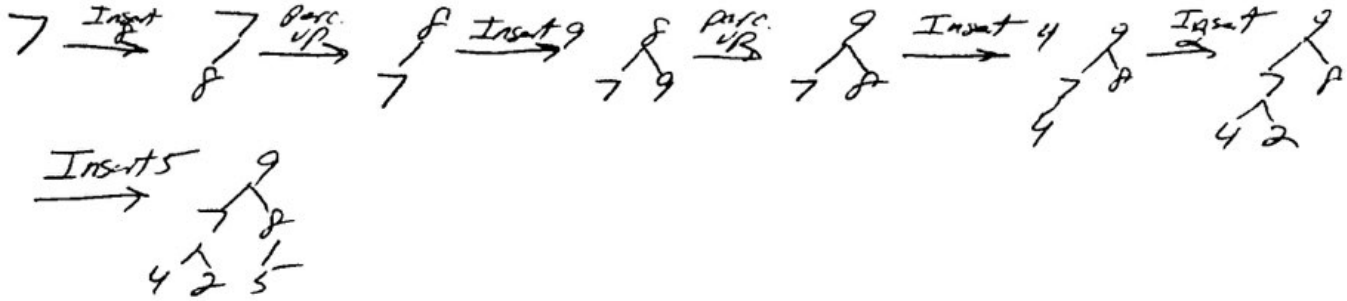


Heapify and sort 4, 8, 9, 6, 2, 0, 1 (Remember to use Heapify and Percolate Down)



Practice CPS 162 Sorting Algorithms for Heapsort

Insert 7, 8, 9, 4, 2, 5 to make a heap (remember to percolate up)



Heapify and sort 7, 8, 9, 4, 2, 5 (Remember to use Heapify and Percolate Down)