2) (10 pts) ALG (Sorting)

(a) (5 pts) Consider running an Insertion Sort on the array shown below. How many swaps will execute for the duration of the algorithm running on the array shown below? Explain how you got your answer.

35	25	15	29	39	22	19	6	21

Reasoning:

Number of Swaps: _____

(b) (5 pts) List the **average case** run time of each of the following sorting algorithms, in terms of n, the number of items being sorted. (Please provide Big-Oh bounds.)

      (i) Insertion Sort   _____

      (ii) Selection Sort   _____

      (iii) Heap Sort   _____

      (iv) Merge Sort   _____

      (v) Quick Sort   _____