Assignment 3
Due: Wednesday, Sept. 18
5.5 pts

1. (1.5 pt) Write a Python function that implements **insertion sort**. It should take a list of numbers and order the list in ascending order. Don't forget to comment your code. Submit your function in a file named YOURLASTNAME_3.1.py.

2. (1.5 pt) Write a Python function that implements **bubble sort**. It should take a list of numbers and order the list in ascending order. Don't forget to comment your code. Submit your function in a file named YOURLASTNAME_3.2.py.

3. (1.5 pt) Write a Python function that implements **selection sort**. It should take a list of numbers and order the list in ascending order. Don't forget to comment your code. Submit your function in a file named YOURLASTNAME_3.3.py.

4. (1 pt) In class you tested MergeSort & TimSort and here you've implemented insertion, bubble and selection sort. Using timeit, compare the following for the best case scenario (a sorted array of 10,000 integers) and the worst case scenario (an array of 10,000 integers sorted in the opposite order). Test each algorithm 3 times and list each runs performance. Remember that each trial should have the same ordered data.

	Best Case Scenario			Worst Case Scenario		
Algorithms	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2	Trial 3
MergeSort	0.046485 22700000 16	0.0477321 679999996	0.0491059 919999977	0.04980029	0.04941480	0.05386753
TimSort	5.553899 99999933 E-05	9.7271000 0000099E- 05	0.00011027	0.00011658	0.00012581	0.00011475
Insertion Sort	0.0030994	0.0024067	0.0024539	7.06546337	6.98292671	6.9918318
Bubble Sort	4.4281924	4.4133867	4.3925617	12.2663216	12.2745516	12.1403753
Selection Sort	3.4485275	3.4188663	3.4174153	3.46133016	3.45316665	3.45198048