MSiA 422 – Fall 2017

Homework # 1

DUE: 10/8/2017 (Sunday)

Sort Algorithms

Write a program (2 functions) that works **exactly** like the **sorted()** built-in function in python. Follow the following:

1. Function has 3 input parameters: iterable of objects, key, and reversed.
2. List can be numeric, string, or comparable user defined objects
3. The function returns a new sorted list
4. The function also returns:
   a. Number of comparisons
   b. Number of swaps
   c. Timer measure
5. Implement both **bubble** and **merge** sort.
6. Compare your functions on a randomly generated data
7. Compare your functions to the built-in **sorted()** function (time wise)
8. Present your findings thru plots and summary tables

* Document step-by-step how to use/run your code.