CS331 Project #1 (120 Points)
Winter - 2018
Instructor: Tannaz Rezaei
Due Date: Mon - 02/19/2018

Task #1 - Sorting Algorithms

Program **Exchange Sort**, **Merge Sort** and **Quick Sort** on your computer to sort a list of n elements. Carry out a complete test of your algorithms with n =10,000, 20,000, 50,000, 100, 000, … (up to the largest size of n that your computer can handle – You should stop the program for any method if it takes more than 10 minutes to run). Report your results. (60 Pts.)

Task #2- Matrix Multiplication

Program both **Classical** and **Strassen's Matrix Multiplication** that are covered in the class. Let the matrix size be n x n. Carry out a complete test of your algorithms with n = 2, 4, 8, 16, 32, 64, 128, 256, … (up to the largest size of n that your computer can handle - You should stop the program for any method if it takes more than 10 minutes to run). Report our results. (60 Pts.)

What to Submit?

1. Java or Python source codes for each task (**Please comment each line**)
2. A detailed report and explanation together with graphs comparing your algorithms for both tasks.
4. Readme.txt (Please describe how to run your code)
5. Please zip all documents as yourname_project1.zip and submit it on blackboard.

Discussion among students is encouraged, but I expect each student to hand in original work.