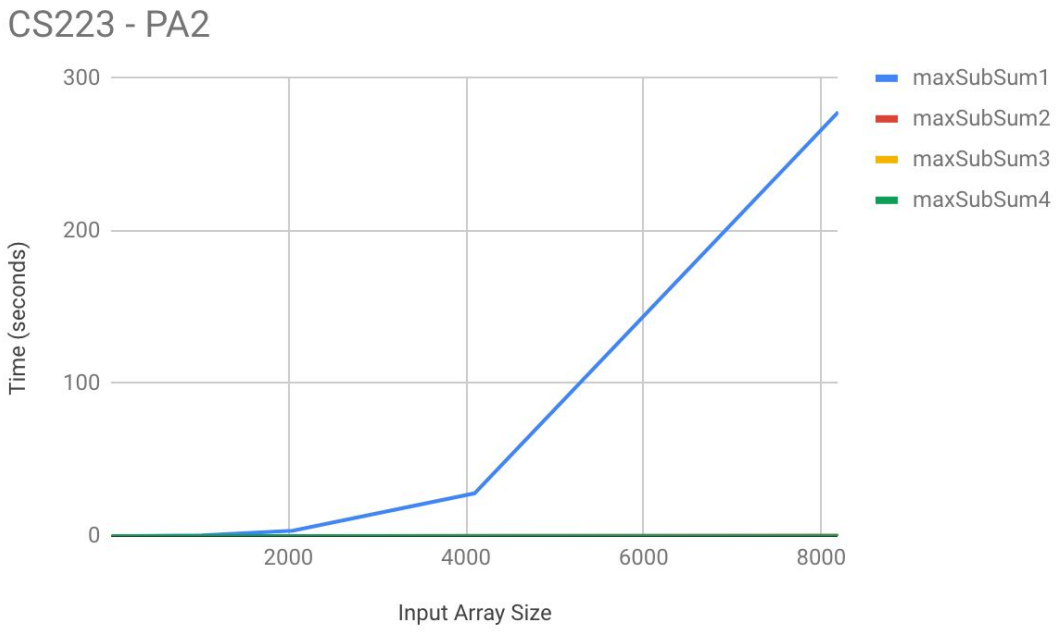
Benjamin Poile
11565739
CS 223 - PA2
PA2 Report

A. Problem Statement
    a. For this assignment we compared the performance of the four different algorithms we discussed in class for the maximum subsequence sum problem.
B. Experimental Setup
    a. Machine Specs: MacBook (Retina, 12-inch, 2017); 1.4 GHz Intel i7; 16GB RAM
    b. OS and environment used when testing: MacOS Mojave 10.14 Beta (18A353d); C++ 11
    `gcc -lstdc++ -std=c++11 -w -o out test_driver.cpp functions.cpp`
C. Experimental Results
    a. Results:

	8	16	32	64	128	256	512	1024	2048	4096	8192
maxSubSum1	0.000003	0.000007	0.000025	0.000121	0.0008	0.00835	0.055578	0.449843	3.39742	27.9395	277.902
maxSubSum2	0.000001	0.000002	0.000004	0.00001	0.000029	0.000126	0.000407	0.001742	0.007341	0.051172	0.175815
maxSubSum3	0.000001	0.000003	0.000005	0.000007	0.000012	0.000026	0.000042	0.00008	0.000157	0.000538	0.000858
maxSubSum4	0	0.000002	0.000002	0.000001	0.000002	0.000003	0.000004	0.000004	0.00001	0.000035	0.000042



The observations made in the above plots are per my expectations. I fully expected each function to take longer to run as more data was input by the input file. The maxSubSum1 consistently took the longest to run because of it's runtime efficiency is less efficient than the rest of the functions. maxSubSum2 took longer than 3 or 4, but consistently much less time than 1 to run.