A3 Report

#Process	Time(s)
1	56.1629
2	28.8649
3	23.9937
4	19.343
5	16.4779
6	15.6082
7	14.3304
8	12.6141
9	12.9965
10	12.8748

Based on the timing information from our program, the running time is continuously decreasing as the number of processes is increasing. With only one process, the program is working on the problem with a big chunk of data. I would expect the program run faster with more than one processes, since the problem can be divided into n different subsets. The program benefits from the fact these different processes are running in parallel, such that each one of them is only dealing with a smaller size of data. Therefore, the total running time will decrease.

In our program, the running time stops decreasing until it reaches 8. Beyond 8 processes, the running time of the program remains the same at 12 seconds. We are using a laptop with i7 processor to run the program, such that the speedup fades out at 8 processes, since it can only run at most 8 processes in parallel. Therefore, we should use 8 process in order to get the best performance out of our program.