

CS 575

Project #7B

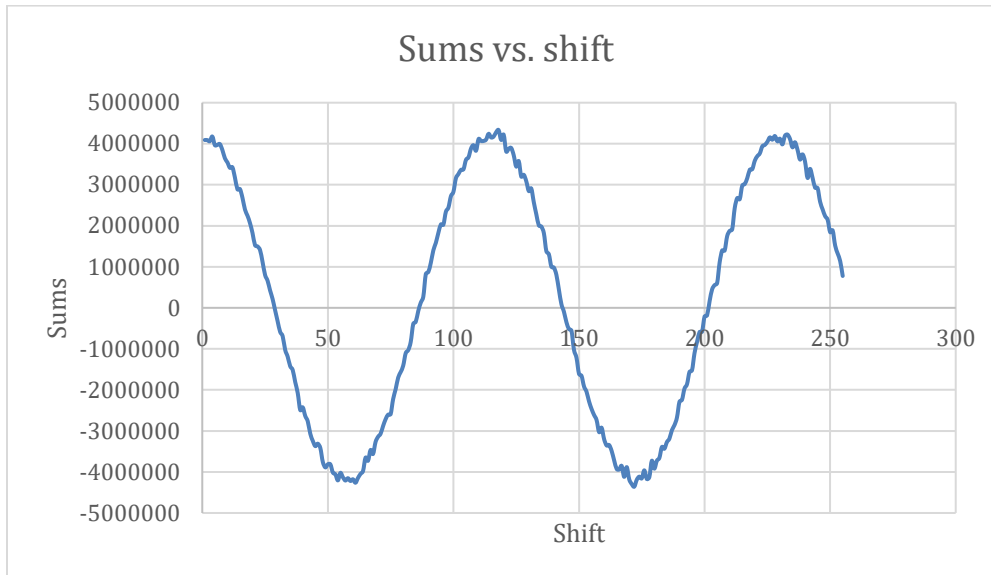
Autocorrelation using MPI

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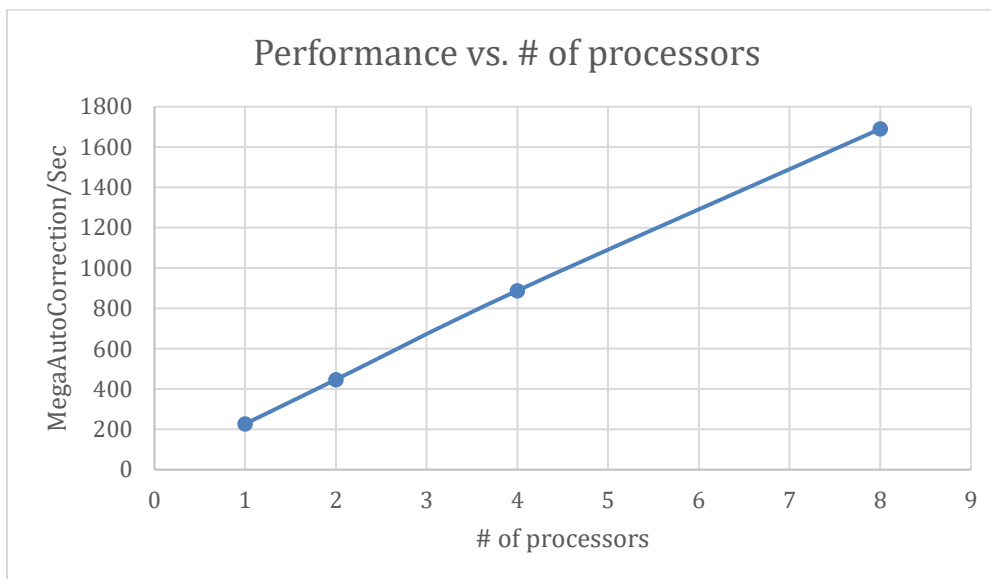
Code was run on the COE cluster. Got results as:

The Sums[1] ... Sums[255] vs. shift scatterplot:



Observed period of the wave is about 115 shifts.

Time performance vs. # of processors:



Commentary:

As observed in the scatterplot, the period of the wave is about 115 shifts. For the time performance, we can observe that the program runs faster as the growth of the number of

processors used. The reason is that the main part of this program, which is computing the sum value of each shift, was assigned to multiple processors using MPI parallelism. In this case, the increase of processor number speed up the whole computing process and hence improve the time performance.