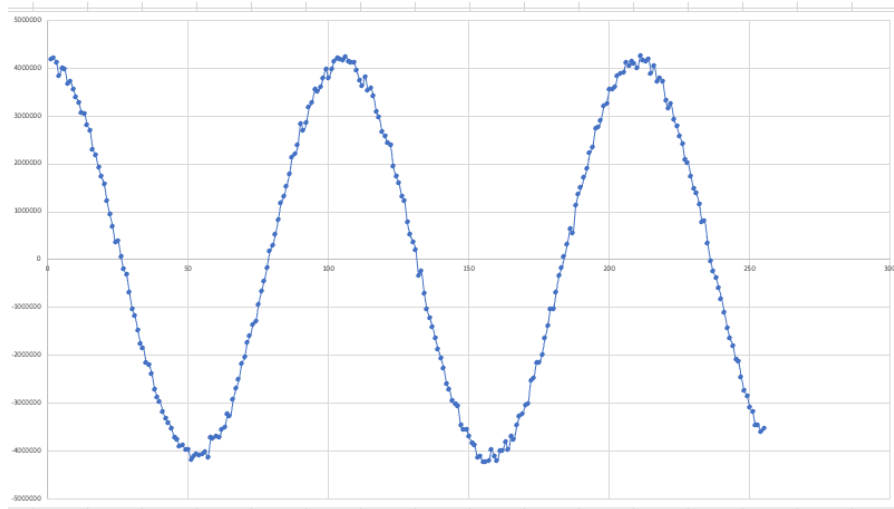


Project #7B: Autocorrelation using MPI

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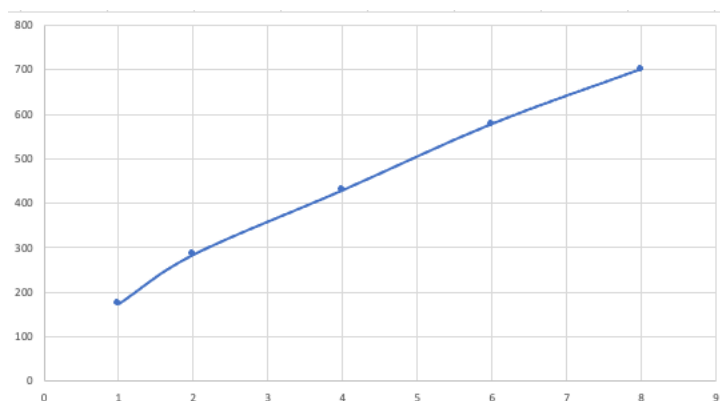
1. Show the Sums{1} ... Sums[255] vs. shift scatterplot.



2. State what the secret sine-wave period is, i.e., what *change in shift* gets you one complete sine wave?

This sine wave has a period of about 100, with three vertices in the data from 0-255, with a total of about 2.5 turns.

3. Show your graph of Performance vs. Number of Processors used.



4. What patterns are you seeing in the performance graph?

Performance gets better as the number of processors increases, but I think it will eventually converge to a steady state.

5. Why do you think the performances work this way?

Performance increases depending on the number of CPUs used until the CPU usage limit is reached. And as far as the processing speed of

the message queue is concerned, the CPU performs fast calculations in a time that is usually a small number above the transferred data.