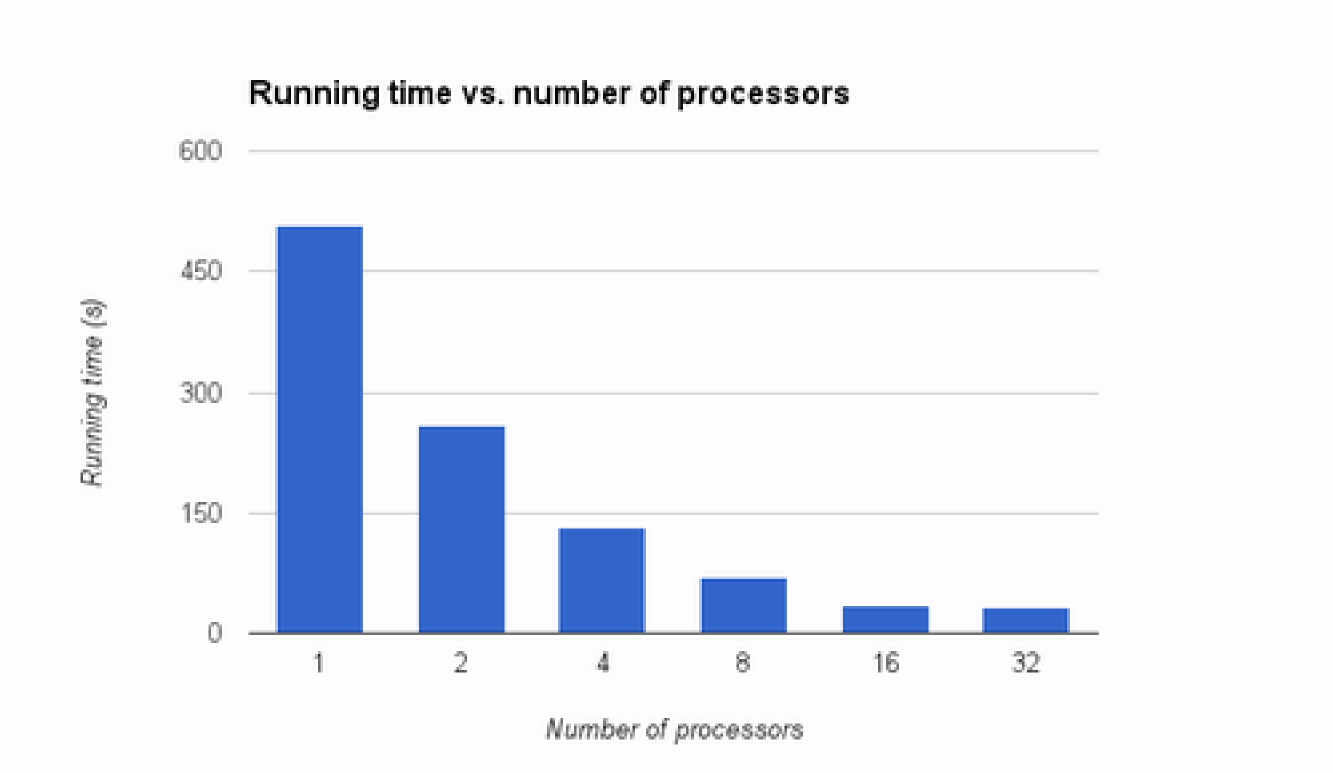
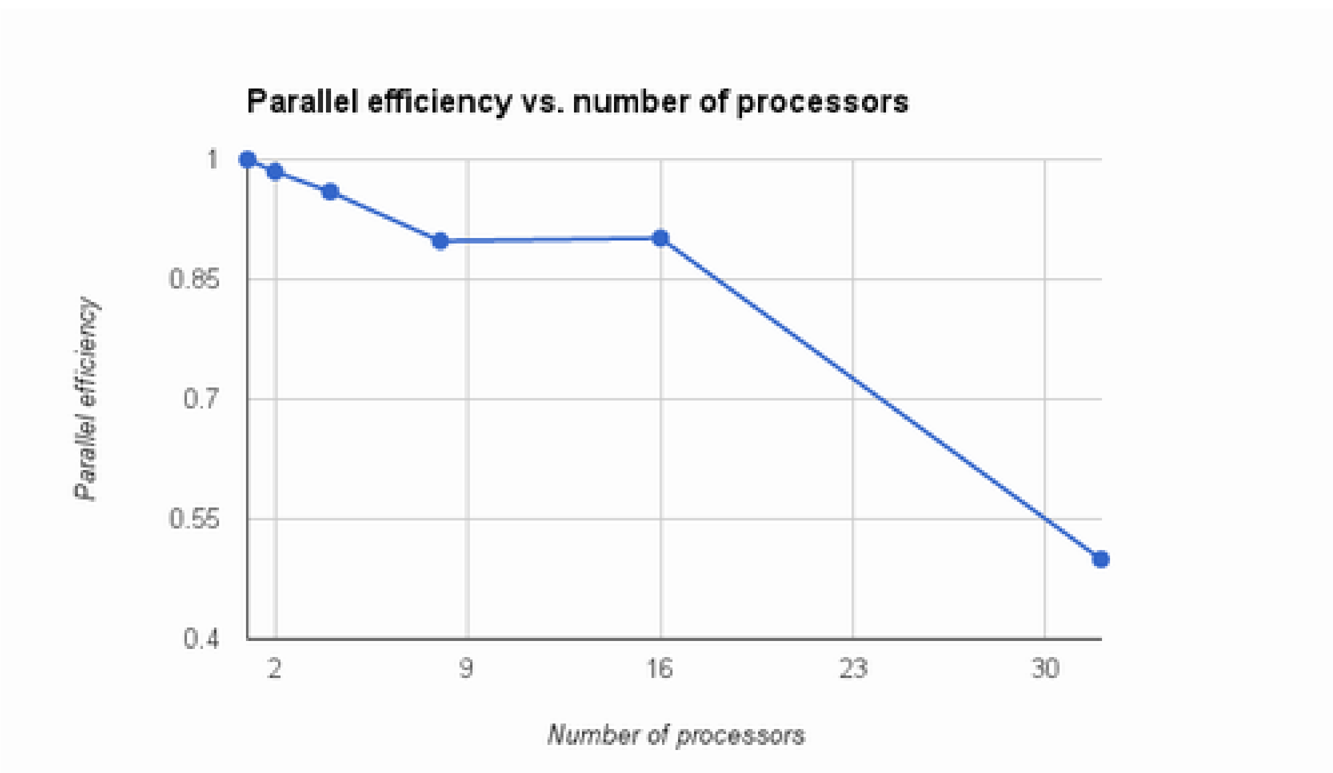
Andres Riofrio -- 5311907

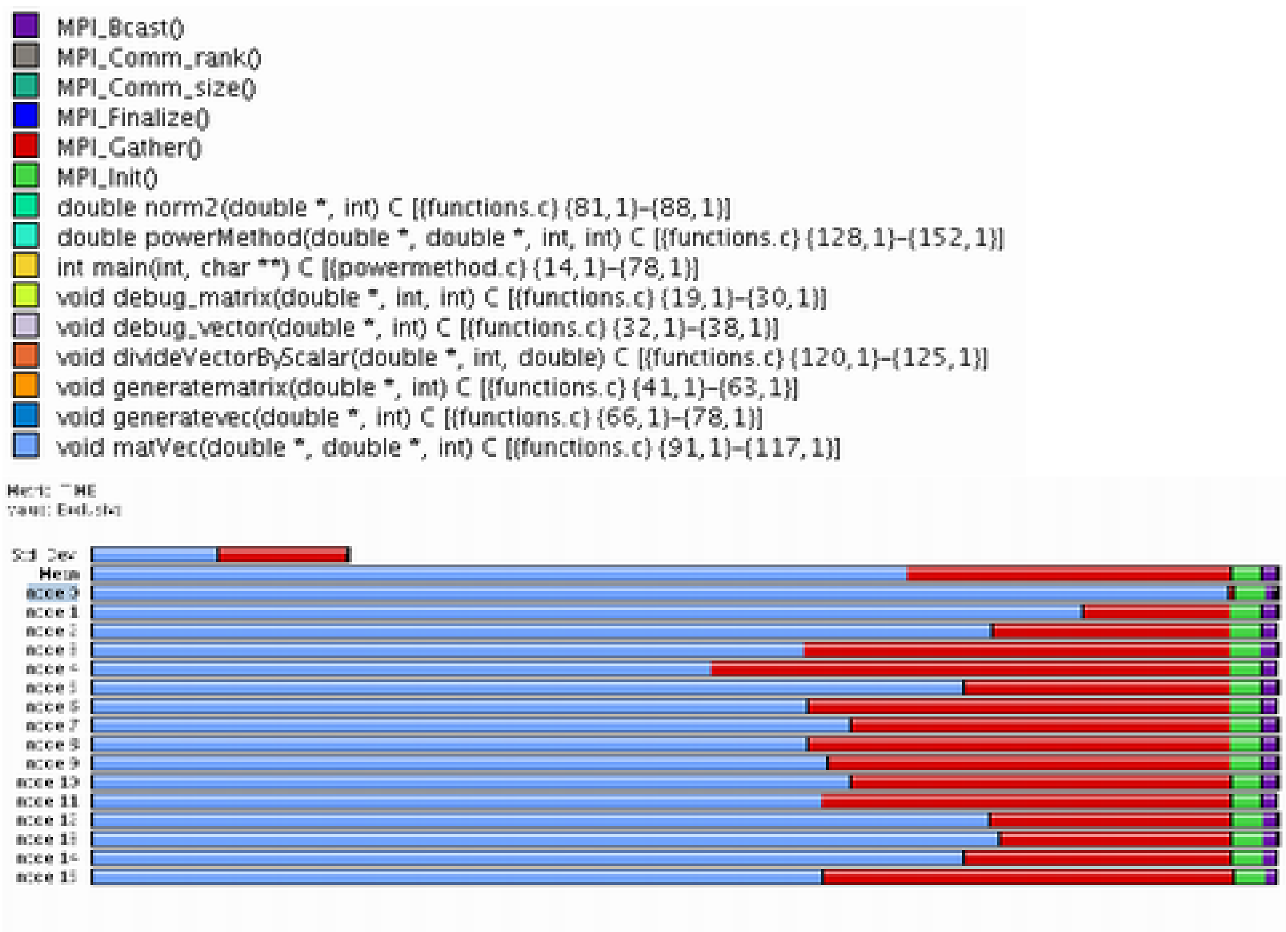
1. Matrix size: 8192
   Iterations: 1000
   Answer: 39123.970102





Predictably, larger number of processors yield smaller running times. More processors yield worse parallel efficiency. We can expect that this be the case becausause more processors require more communication.

2. Matrix size: 8192
   Iterations: 1000
   Answer: 39123.970102



The profiling results were less predictable. Still, we can see some patterns. For example, MPI_Gather takes up very little time in node 0 compared to the other nodes. Since our use of MPI_Gather moves data to node 0, it makes sense that this would be a very cheap operation in node 0. Most of the time is spent in matVec(), which multiplies a slice of a matrix by a vector. However, a significant portion of time (around a third) is spent in MPI_Gather(), communicating between the processes. When compared to the profile information when using 4 processes (below), this communication overhead becomes clear.

I was not able to get the Communication Matrix working, which might have given me more insights into the performance of this distributed program.

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