# Christopher Lewis
PA1: Ping-Pong
2/29/2017

Overview:

For Project One, We did Ping Pong which was a message passing project that took data and passed it to another machine or processor. This concept is important in parallel computing since in parallel computing there is usually message passing of some sort.

Diagrams/Code:

The code using the MPI library using messages like MPI_Send and MPI_Recv to pass messages. MPI_Send will send data to its counterpart whereas MPI_Recv will receive data from its counterpart. I used a variable called ping_pong_count to send back and forth through processors to keep track how many pings the processors were doing. Two pictures below plot the times. The top one is on one box and the other is between two boxes.

Using one box

Using Two Boxes
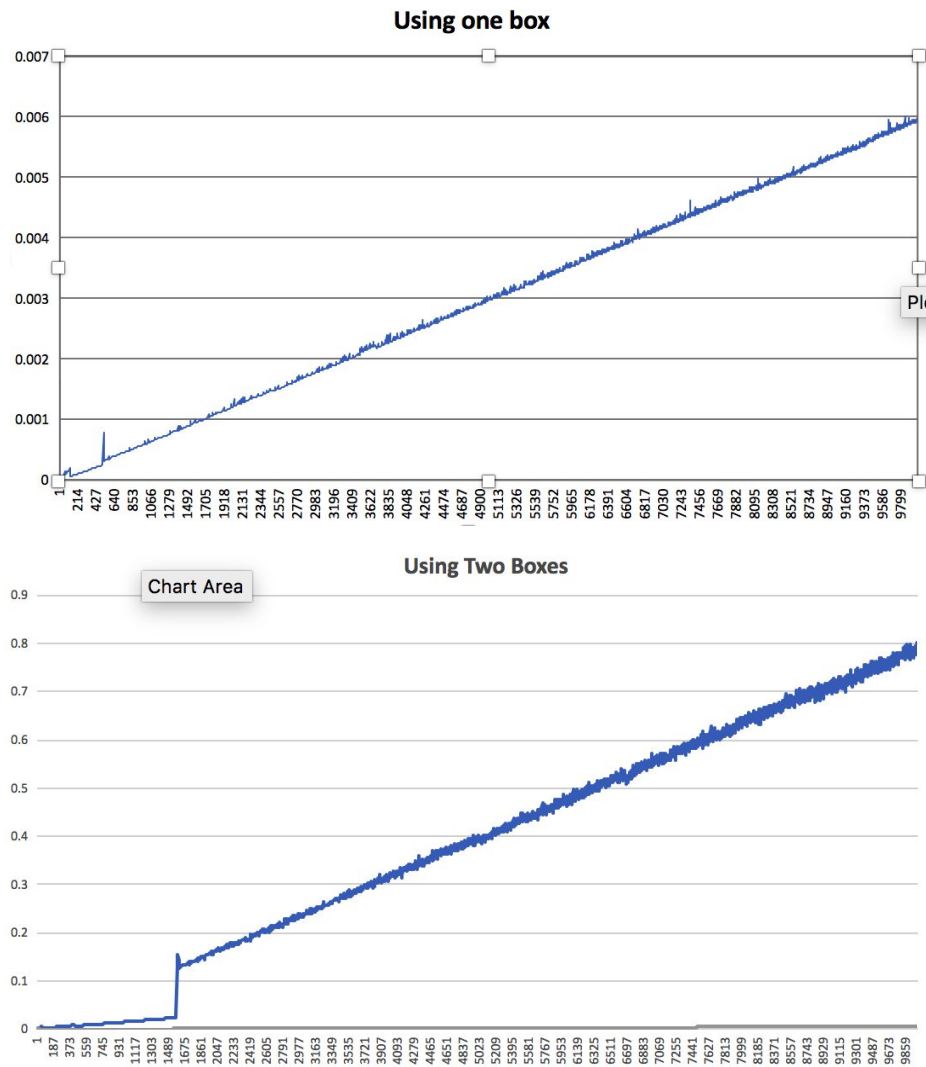
For the second graph things had more static than the top one. I believe it is due to the buffers. I am very confident in these findings considering the line is pretty linear. The code wasnt doing much but recording time so these findings are what I didn't expect.

For compilation of the project we had to use SBATCH which is like srun semantically but takes a batchscript instead of the object file to run. I unfortunately did not get my SBATCH to run. I think this is due to a minor bug. Next time the SBATCH should run just fine.

Issues/Problems:

For the project I had come across many issues that I could not solve. One of which was SBATCH and a late runtime error in srun. I kept getting step creation errors that didn't happen last week but were occurring this week. I think this is due to a small error in H1 since this didn't happen last week but the code was the same.