WSU CPTS 411 Project 3

Game Of Life

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Experiment

For this experiment we were to create Conway's game of life using MPI. We were to record the timings for the total simulation time, the average run time for a single generation, and the total computation time. Our code runs, but unfortunately, we are unable to change the input size of n. We initially ran our code with: Number of processors = 5, n = 20, and G = 42. We chose the number of processors equal to 5, because due to the way we implement our code, process 0 acts as the master process, but ultimately isn't used for computation, so we actively use 4 processors.

We have successfully gotten the code to work when n is: 8, 12 and 20.

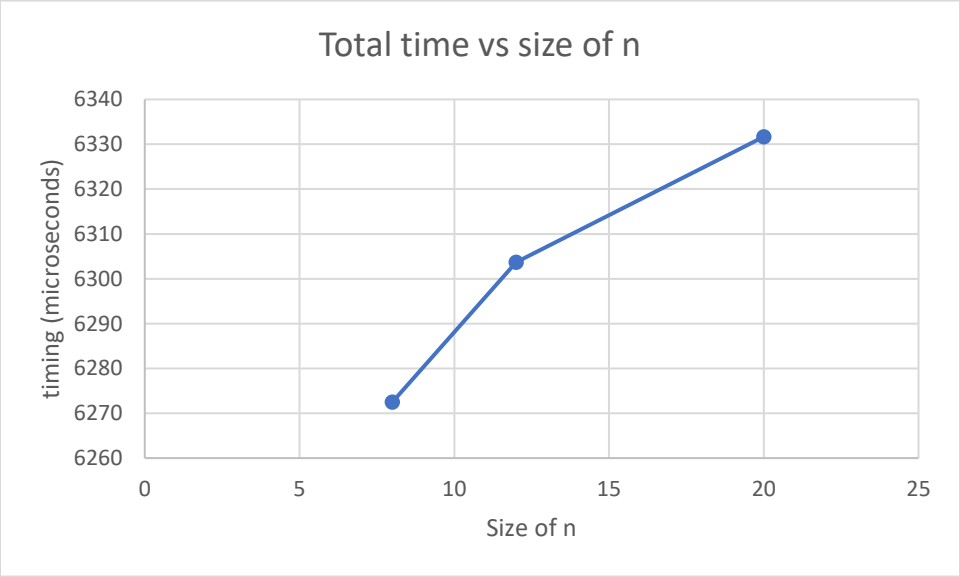

Figure 1

From figure 1 we see an increase in time as n increases in size. This is what we expect to see. We ran a series of 10 runs, with a fixed number or processors and fixed number of generations. Of these runs, we calculated the average time it took to complete the simulation.

Unfortunately, we were unable to get timing to work for individual generations, and for total communication time. We will work again on this at a later date, until we can successfully run our code and an arbitrary n, and can successfully time these functions.