Aashwin Vats

Project 0

1. Tell what machine you ran this on?

   - This project was run on OSU machine flip3.

2. What performance results did you get?

   - Peak Performance recorded using 4 threads: 821.53 MegaMults/Sec, Exec time .0000189 Secs.
   - Peak Performance recorded using 1 thread: 301.84 MegaMults/Sec, Exec time .0000230 Secs.

3. What was your 4-thread-to-one-thread speedup?

   - Speedup, S: (Execution time with 4 thread)/ Execution time with one thread.

     = 2.72

4. If the 4-thread-to-one-thread speedup is less than 4.0, why do you think it is this way?

   - In an ideal world, a computational job split among N processors would complete in 1/N time, leading to an N-fold increase in power (in this case 4). The 'speedup' of a parallel program is ratio of rate at which work is done when a job run on N processors to that when it's done by just one. Only the part that can be parallelized runs as much as N-fold faster. In many cases the time T(1) has both a serial portion and a parallelizable portion. The serial time doesn't diminish when the parallel part is split up. Hence the real speedup is less than or equal to this quantity.

5. What was your Parallel Fraction, Fp?

   - 0.85