CS 475/575 -- Spring Quarter 2019

Project #0

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1. Tell what machine you ran this on

   The OSU server, flip3.engr.oregonstate.edu

2. What performance results did you get?

   Performance is based on Mega Multiples per Second (MM/s). I am using an array with size 1024000 and 20 tries. It will pick up the peak performance of all tries.

   Threads 4:

   Peak Performance = 1223.35 MegaMults/Sec

   Threads 1:

   Peak Performance = 312.90 MegaMults/Sec

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

   S = (Execution time with one thread) / (Execution time with four threads)

   = 1223.35 MegaMults/Sec / 312.90 MegaMults/Sec

   inverse since the units is mm/s

   = 3.91

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

   The system has others tasks running all the time, so it cannot assign all resources to run this test file. Also it will wait until that all threads have done their loops. This is a concern.

5. What was your Parallel Fraction, Fp?

   Fp = (4./3.)*(1. - (1./S)) = 0.9923