

Project0

Simple OpenMP Experiment

1. Tell what machine you ran this on

local machine: MacOS

2. What performance results did you get?

1 threads: 540.71 MegaMults/Sec

4 threads: 1180.43 MegaMults/Sec

3. What was your 1-thread-to-4-thread speedup?

$S = (\text{Performance with four threads}) / (\text{Performance with one thread})$
 $= 1180.43 / 540.71 = 2.183$

4. Your 1-thread-to-4-thread speedup should be less than 4.0. Why do you think it is this way?

In summary, while increasing the number of threads can improve performance, several factors, including hardware limitations, thread management overhead, memory constraints, and the inherent sequential portion of the program, often prevent achieving linear speedup.

5. What was your Parallel Fraction, F_p ? (Hint: it should be less than 1.0, but not much less.)

$F_p = 0.72255$