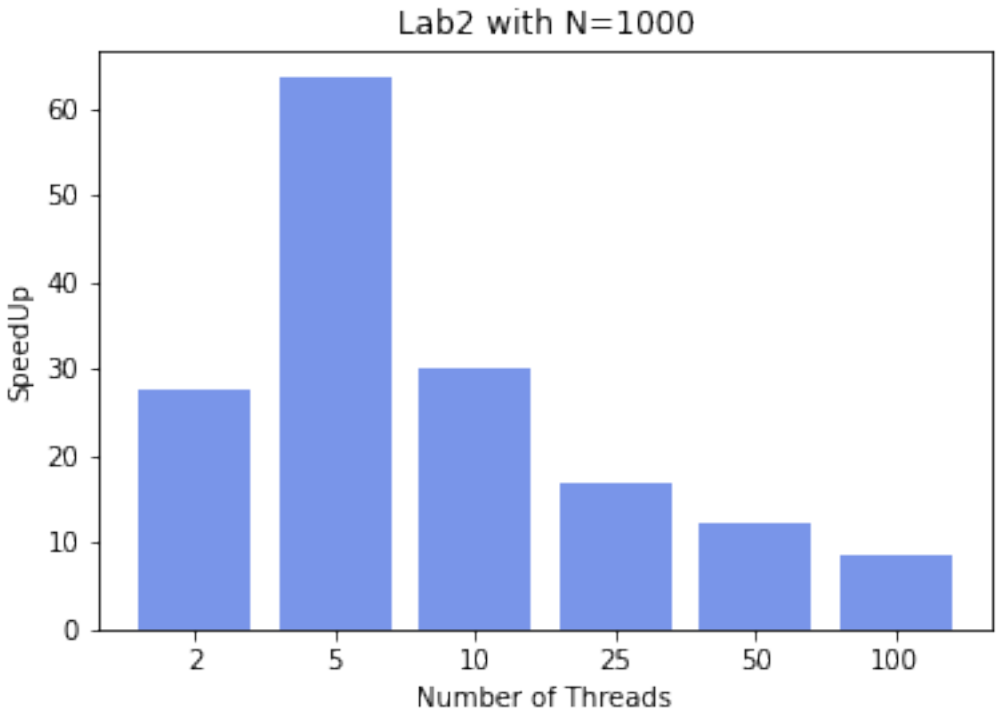
Multicore Processing - Lab 2

Junhua Liang - junhua.liang@nyu.edu

April 04, 2022

Graph 1

Bar Graph



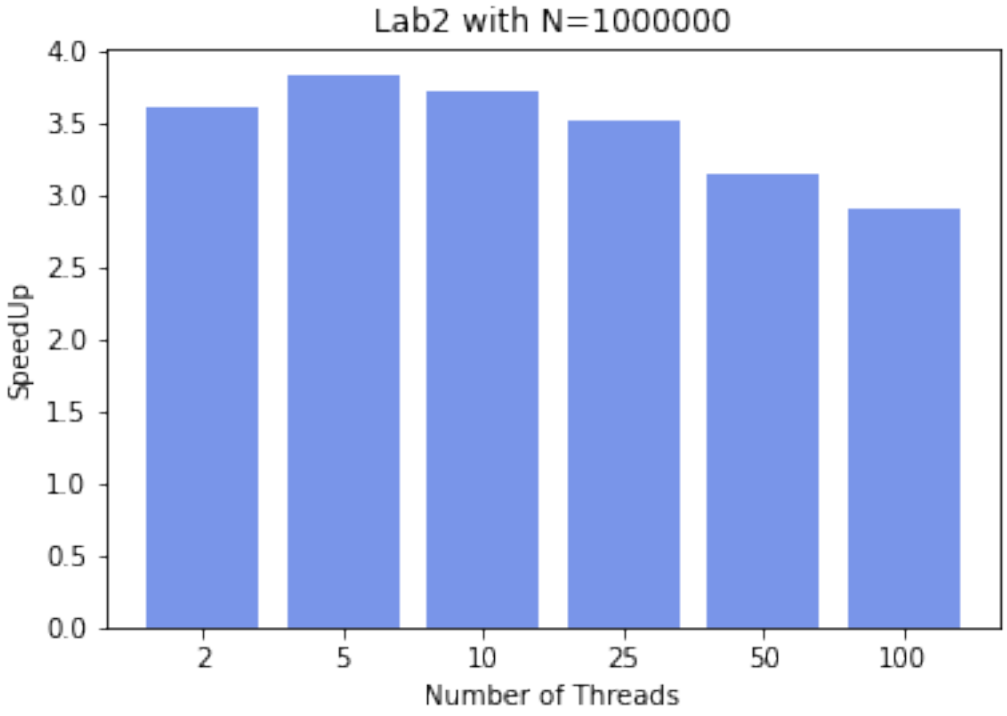
Explanation

The machine on CIMS is 4 cores, and thus we would reach maximum speedup with number of core near 5 (as we can see in the figure, the speedup reach maximum at 5 cores). However,

when we use more threads to parallelized our program, we could not get more speedup, while more threads would have more overhead, and thus we would have lower performance even though we increase the number of threads.

Graph 2

Bar Graph



Explanation

Compare to $N = 1000$, we observe that the speedup does not vary much among different number of threads, but still have similar trend as $N = 1000$, it reaches its maximum speedup at about 4 threads. With larger number, the running time may remain stable, and does not vary much.