Homework 2 – OpenMP

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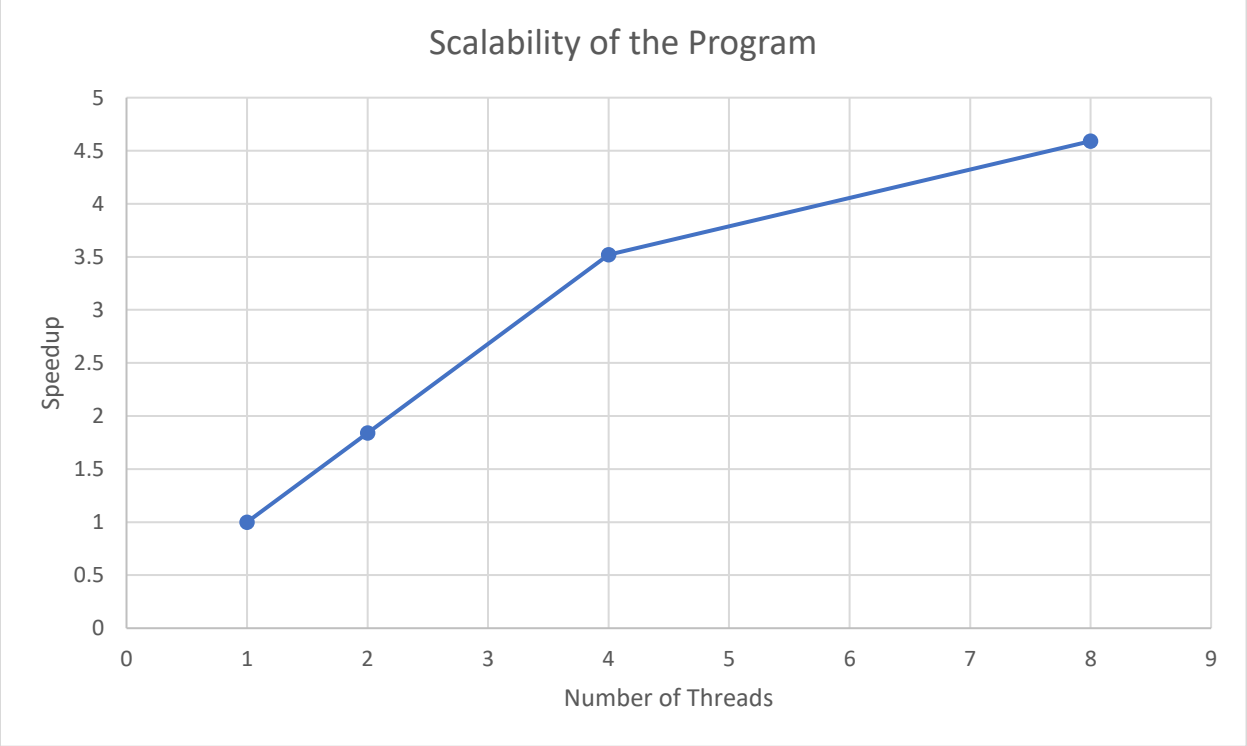
1. Object of the project:
    a. The object of this assignment was to use OpenMP to parallelize the work of the provided code and plot the scalability of the program.
2. Details:
    a. I wrapped the converting part in *omp parallel for* directive to partition the parallel iterations across threads.
3. Results:
    a. There was a speedup every time the threads were doubled:
        i. Threads: [1, 2, 4, 8]
        ii. Time (ms): [22.5, 12.2, 6.4, 4.9]
        iii. Speedup: [1, 1.84, 3.52, 4.59]



4. Performance improvements:
    a. Since the converting part was done entirely in for loops, I wrapped it in *#pragma omp for private(col)* in order to parallelize the loop in what seemed like the fastest OpenMP directive.
5. Encountered bugs:
    a. Until I changed Visual Studio to use /openmp:llvm, I kept getting an error that an index variable in omp for statement must have signed integral type