Northern Michigan University (Marquette Co, MI)
CS 444-01-25F: Parallel And Distributed Processing

Program 2
Due: Friday 19 September 2025 9:00 A.M. EDT

Parallel Merge Sort

Create a folder called “PG2” in the top level of your CS444-01-25F folder. Place all files pertaining to this assignment into the top level of your PG2 folder. Place a (possibly empty) file called “DONE” into this folder when you are ready to have your programs graded. The only files you need to turn in are the .cc and .h files. Please don't turn in any files other than these!!

Write a C++ program using the pthread library that performs merge sort in parallel. You should first read an integer n from standard input. Allocate an array of strings of size n. Then read in n strings into the array; each string will be on its own line. Sort the strings using merge sort in parallel and print out the sorted array. You will do the recursive splitting in parallel. The merge should just be a regular merge. Doing that in parallel will be a future assignment. Just doing the splitting in parallel should reduce your sort from $n \lg n$ time to just n time.