EE 5370
Programming Assignment #2
Due October 4, 2022

Write a multi-threaded program that computes the Catalan number sequence (http://mathworld.wolfram.com/CatalanNumber.html) and writes those numbers in fixed point format to a file called "catalan.dat". Your program should take two command line arguments: the first specifies the number of Catalan numbers to generate and the second specifies the number of threads to use to compute the Catalan number sequence; you can assume a maximum of four threads. Create a way to balance the load among the threads.

You must use the "long double" type to get the largest range possible; the Catalan numbers grow very quickly. Output must be in ascending order (fixed point format) in the file "catalan.dat".

You can name the source file whatever you like. You will demonstrate and explain this program to the instructor during office hours on October 6th.

Grading rubric:

Submission	30
Computation of Catalan numbers	15
Thread creation	35
Thread load balancing	5
Output format	15