Assignment 2

Text

Description automatically generated

The program reads data from a file that contains fuel data for a wildfire. It uses multiple threads to count the fuel types and make sure the data is valid. It takes the data from the file and stores it in a grid, which is shared between the threads. The program uses pthreads to create multiple worker threads to count the fuel types in parallel. Once all the worker threads are done, the parent thread checks the data. The output is each thread with their thread ID, fuel type, and whether or not it found invalid data.

Advantages of using 20 threads versus 2 threads or one parent thread is that using 20 can provide faster performance by allowing more parallelism, but also increases the complexity, so it may require more resources. 2 threads can provide parallelism but you don’t get the same speed as 20. Having one parent thread do all the work provides no parallelism but is simple, so it will be slower.