Systems Programming AE1 Report

The program compiles and passes both tests given in the specification as shown below.

A limitation I have identified is my implementation of the iterator. I have implemented the iterator as an array of 1,000,000 nodes meaning that if an input file exceeded this number the iterator would not be able to store every element which would likely cause it to crash.

Note that when trying to execute it when a “Permission denied” is encountered, in terminal run

*chmod 755 \**

in the start2020 directory.

Text

Description automatically generatedThe image below is used purely to explain this.

There are memory leaks in the code, determined through Valgrind.

I have tried to remove any however as for the iterator I believe I have not properly freed memory.

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From testing the two files specified, there don’t seem to be any obvious bugs/errors.

In conclusion, the program executes the given tests correctly, however due to the nature of the memory leaks it is not a complete solution.