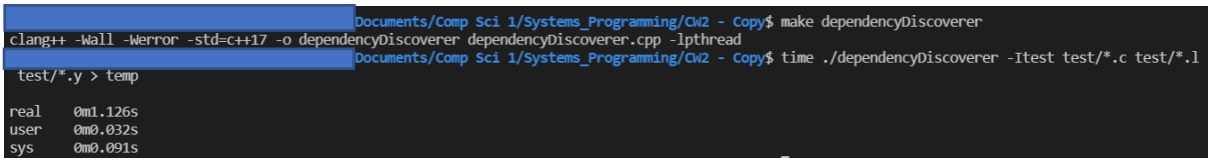
Concurrent Dependency Discoverer

Status:

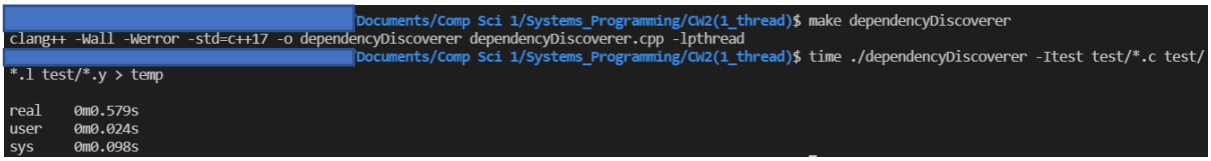
The Program I submitted is a multi-threaded solution and runs without errors produces the expected output from the test file provided.

Build, and sequential & 1-thread runtimes:

Sequential:

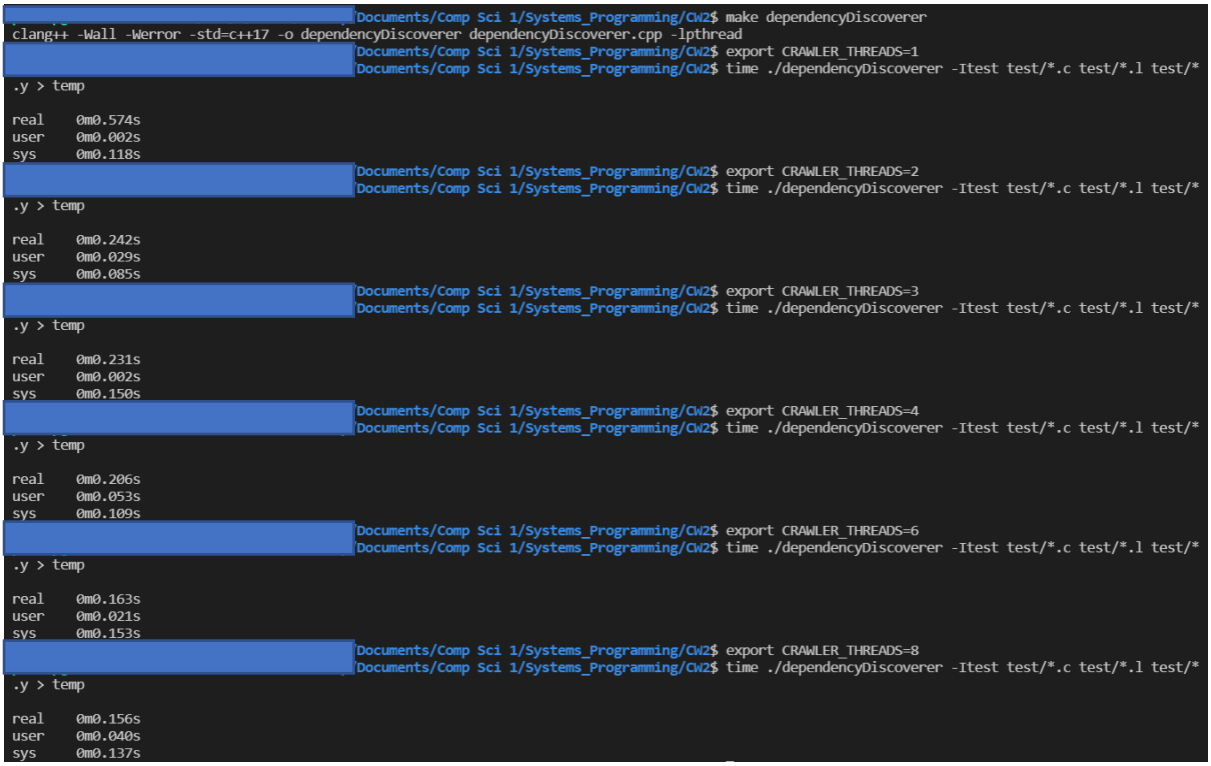


1-thread:



Runtime with Multiple Threads:

Screenshot:



Systems Programming AE 2

Experiment:

CRAWLER_ THREADS	1	2	3	4	6	8
	Elapsed Time	Elapsed Time	Elapsed Time	Elapsed Time	Elapsed Time	Elapsed Time
Execution 1	0.080s	0.040s	0.024s	0.028s	0.019s	0.020
Execution 2	0.053s	0.030s	0.023s	0.021s	0.020s	0.019
Execution 3	0.050s	0.028s	0.023s	0.021s	0.022s	0.019s
Median	0.061s	0.033s	0.023s	0.023s	0.020s	0.019s

From running my program with different thread counts, I conclude that increasing the thread count can significantly reduce the runtime of my code. This reduction in run time reduces the more threads I add (for example the different between 1 and 2 threads is much greater than the difference between 7 and 8 threads).

I can see from my experiments on the school sever that there can be lots of variation on the Elapsed times. Only by taking the median of multiple results can we see the clear benefits of making the program concurrent.