COS350 – Program 6

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4/28/21

Explanation of LC1

This program works correctly. It will work with single or multiple files. When multiple files are input it will output a total as well.

Explanation of LC2

I had trouble with implementing the total for this program. I could get the total to work if the files wrote to the pipe one at a time and outputs were never in the pipe at once, I was also having issues with the program hanging if this occurred. I then decided to try and process the data after all children had written to the pipe, but I was unable to process the string buffer correctly. I think that possibly the null terminators that were stacked up between the buffer were causing and issue.

Explanation LC3

This program works correctly and seems to be faster than the other two versions. I did not implement any sort of locks, and the program is not as versatile as I would like. The only way this program works is if all 10 files are input.

Timing Results

Timing Results	Real	User	Sys
Lc1	0.045s	0.028s	0.009s
Lc2	0.024s	0.033s	0.010s
Lc3	0.032s	0.045s	0.012s

The biggest problem I have with the timing results are because I did not implement a way for the faster processes in LC3 to give their output first. It is still faster than LC1 so it does meet the requirements, but I would have liked to have used finished/ready signals so the faster processes could report first. I'm sure that would reduce the time of LC3 some, though how much I do not know.

Machine that the timing tests were performed on: Mosquito