COS350 – Program 6

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# 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**