

Explainer Document

Requirements

Correct Makefile - we have this

Correct input arguments and their constraints - all our input arguments pass into the program, please note at this time, only 2 threads and 2 input files work in our pthreads function

Correct/Working metadata file - our metadata parsing function parses and extracts all the contents from metadata by the given path

Correct lock configuration

Lock 1 - we have implemented mutex lock inside our pthreads function for this one

Lock 2 - not yet complete

Lock 3 - not yet complete

Correct global point checking

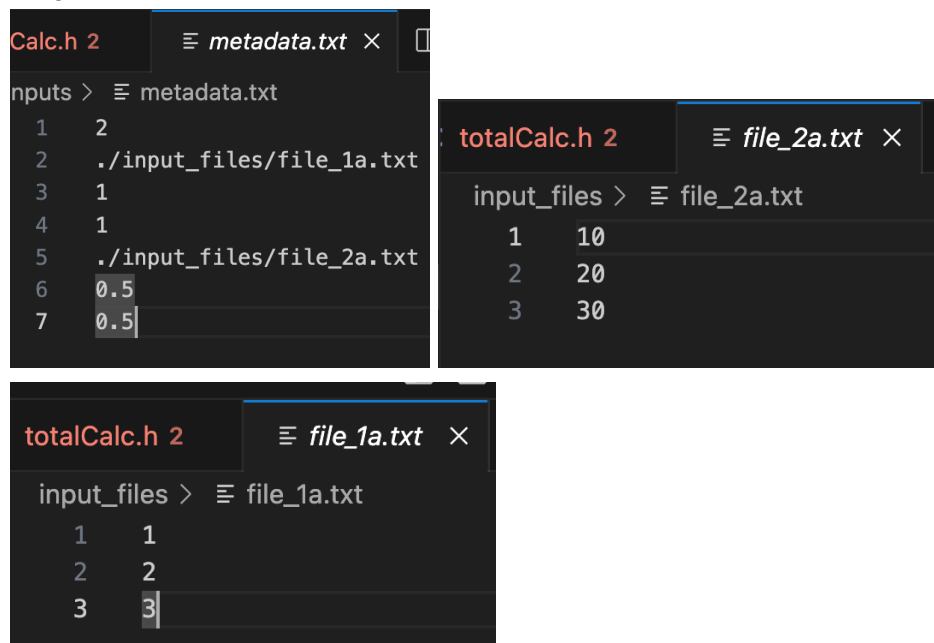
Global 1 - we have pthreads_barrier but it is not functional

Global 0 - this has been completed

Correct Output File - we write to an output file but not correct outputs

Modifications

Inside metadata.txt we have replaced file_1 with file_1a and file_2 with file_2a to remove the eof signature



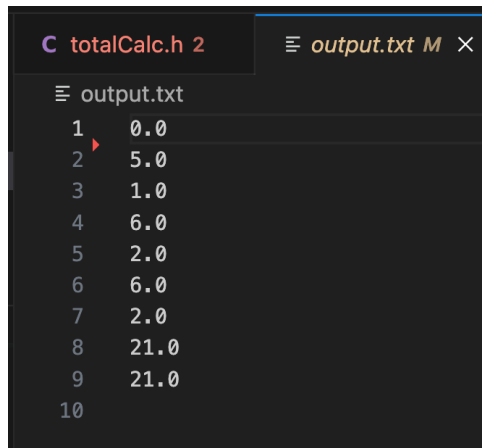
The image contains three screenshots of terminal windows. The top-left window shows the contents of 'metadata.txt' with 7 lines of data. The top-right window shows the contents of 'file_2a.txt' with 3 lines of data. The bottom window shows the contents of 'file_1a.txt' with 3 lines of data.

```
Calc.h 2  metadata.txt x
inputs > metadata.txt
1 2
2 ./input_files/file_1a.txt
3 1
4 1
5 ./input_files/file_2a.txt
6 0.5
7 0.5

totalCalc.h 2  file_2a.txt x
input_files > file_2a.txt
1 10
2 20
3 30

totalCalc.h 2  file_1a.txt x
input_files > file_1a.txt
1 1
2 2
3 3
```

Below shows the write to our output.txt file under lock_config = 1



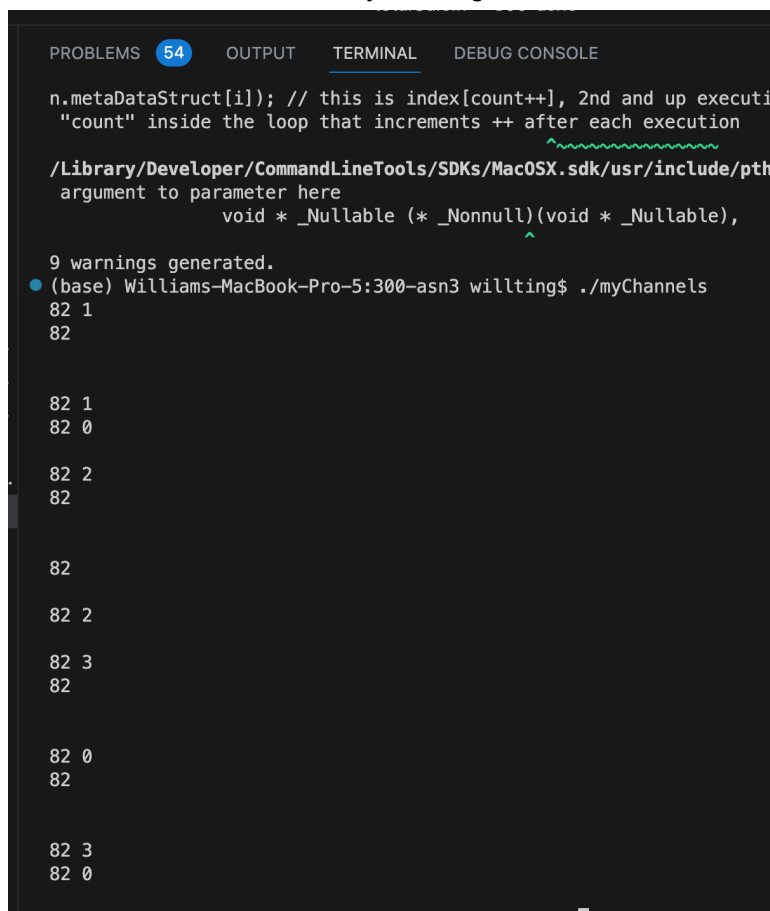
```
C totalCalc.h 2  output.txt M X
≡ output.txt
1 0.0
2 5.0
3 1.0
4 6.0
5 2.0
6 6.0
7 2.0
8 21.0
9 21.0
10
```

Below demonstrates that input file 1 and input file 2 print out in alternating threads by the buffer size of 2

Input file 1 = 1,2,3

Input file 2 = 10,2,0,30

This showcases concurrently running multi threads



```
PROBLEMS 54 OUTPUT TERMINAL DEBUG CONSOLE
n.metadataStruct[i]); // this is index[count++], 2nd and up executi
"count" inside the loop that increments ++ after each execution
/Library/Developer/CommandLineTools/SDKs/MacOSX.sdk/usr/include/PTH
argument to parameter here
void * _Nullable (* _Nonnull)(void * _Nullable),
9 warnings generated.
(base) Williams-MacBook-Pro-5:300-asn3 willting$ ./myChannels
82 1
82

82 1
82 0

82 2
82

82

82 2

82 3
82

82 0
82

82 3
82 0
```