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Lab Report PA1

I implemented the code by first restructuring the functions to be more concise for ease of debugging. I used fork and execvp to create the child process. I passed in Booleans to trigger the general processes like a file transfer, or a new channel. I found the hardest part of the lab to be knowing what to call where. This was pertinent in requesting one data point as I had to consult Minh a few times to understand what was occurring. After such, I call memcpy to allocate the memory of the buffer that I send to write, read, then reply. This simple function really was the most difficult just as a conceptual block. The only other function that was conceptually challenging would be the file transfer. I got the file length in a memcpy that allocated the file name, then a stcpy of the file name that was written to the channels and read as a \_\_int64\_t. This was returned, and applied to a while loop that ran until offset was greater than the file’s bytes. Inside this while loop, memcpy was used to allocate bytes for the file name, and for the bytes of the filemsg sent. Then, it was a simple writing and reading from the channels, writing to the excel file, checking if there was a small fraction of bytes left and updating capacity to account, then updating offset and deleting variable allocations. I found requesting a new channel to be straightforward and again Minh gave fantastic advice by having a variable channel declared but unused and if a new channel was called then have this new variable – main\_channel – be allocated inside of the control channel, this essentially bypassed all the vector logic and potential restructuring of my code. With Minh’s idea, deletion was also very simple as if the new channel flag was called then I would have to call my delete on main\_channel and the control channel, else just on the control channel. This assignment was rather confusing at the start but after working with TA’s watching and re-watching labs. It became simplified and significantly more trivialized.

ADDRESS TIMES EHRE

Graph1

Graph2