CSE 344 - SYSTEM PROGRAMMING - HOMEWORK #2 GÖKHAN HAS - 161044067

First of all, I had a problem in reading the characters in the homework that had no equivalent in ascii but equivalent in extended ascii. I solved this problem by reading it as unsigned char. When I read in this way, I was able to read positively, not negative, including Turkish characters (such as ş, ı, ö).

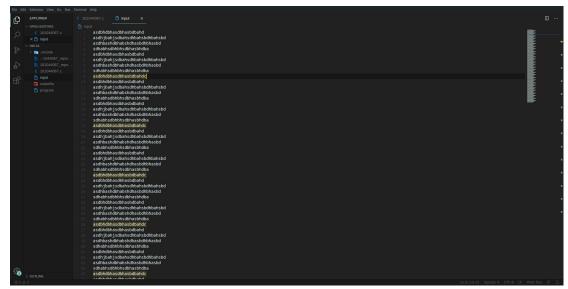
In the homework, the parent process is running first and reading the input file. Input file is read as 20 bytes and desired operations are done using least_square_method. Since this calculation method is considered as the critical region, signal masking operations are performed. While the SIGINT signal can be successfully captured, the SIGSTP signal cannot be captured, that is, it cannot be blocked. This process then writes the coordinates to a temp file along with the estimeted line. After that, SIGUSR2 signal is sent to the child process with the kill method. When file locking is done successfully, the two processes cannot write and read to temp file at the same time. Thus, complexity is prevented.

If a signal is detected in the critical region of the parent process, the signal numbers are printed towards the end of the parent process. If no signal is detected, an information message is printed.

The child process starts itself after receiving the SIGUSR2 signal from the parent process. It does the same in the critical region.

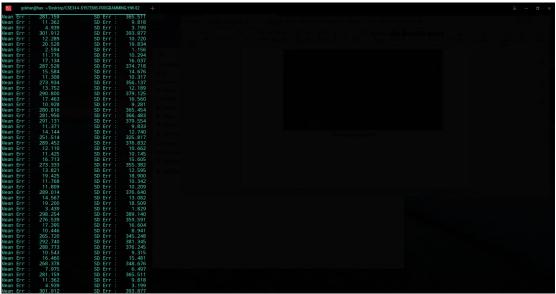
Then the parent process sends the SIGUSR1 signal and the child closes the process input file and deletes it.

If the SIGTERM signal is not sent by the user, I send myself SIGTERM at the end of the parent process (after the child process is completely finished) and close all files. I also delete the temp file (SIGTERM deletes itself).

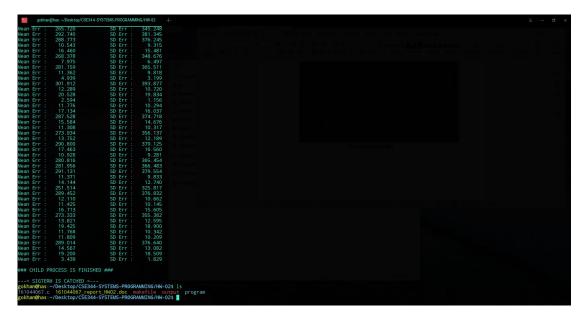


Example Input File









And all files is deleted (input and temp file). The screenshots were sent in a folder for better review.