

CSE 344 HOMEWORK 2**REPORT FILE**

In this homework, at start, i blocked SIGUSR1, SIGUSR2 and SIGCHLD signals not to lose them before handling with sigprocmask(), and i assigned handling methods for the required signals. Then i created processes in a loop with fork() (always from the parent). And i counted the number of the characters and the lines for the rest of the code in this part, before fork().

After fork, i defined another mask for parent and children, without blocking the signals above to be able to handle them whenever I used sigsuspend(). I used distinct file pointers for all processes , so that, only one process is able to reach the file when its locked the file.

In synchronization, to prevent signals from overlapping, I sent signals to the children and get a respond signal back one by one, randomly, for the communication in each time sequence.

In both parent and children, i repeat the operations in a loop due to the line count of the file.

In mother, firstly get signals from children randomly to learn it they wrote the first result, then gets the result and send signals to them back and prints the average difference thanks to that they can go on. Then gets the second signals to get the second result and then prints the second result.

In a child, a child firstly locks the file and reads the input and releases the lock. After first calculation, it gets the lock back and writes the first result and releases the lock again. And send signal to the mother to tell that the first data is ready. Then waits for a signal from mother to learn that it got the result from the file, and start calculating the second result. After calculatind the second and the last one, it signals the mother again to let it get the result, and prints the coefficents of the calculated function of degree 6.

In the end of the program, the mother waits for the SIGCHLD signal from all children, so that it will be sure that all children are finished operating, and then exits the program.