

Explanation of my choices

grep command finds a target string in a given file. -A option is to print the specified number of lines after finding the match. I picked this command because it is one of the newest commands that I have learned in this course, and I thought it would be beneficial to look at its manual page and see its options in more detail. I picked this option because it sounded interesting and fun to examine this option while the programming assignment wants us to do the same job manually.

Process hierarchy

In my implementation, I used two fork and two execvp statements, specifically one for man, and one for grep. The main process waits for both of them, i.e. I used two wait statements. In detail, my implementation starts with the main process and forks the first child immediately. The main process does not enter any of the if statements and waits for the child processes. On the other hand, the first child process executes the man command which is going to be the input for the grep command i.e., it duplicates it to fd[1] which is going to be read by fd[0] in grep command. Then, the implementation forks the second child process. Here, the second child process reads the output of the man command as I mentioned in the previous sentence. Then, a file named output.txt is created in order to be filled by the final output. Finally, the grep command is executed and we have the final output which is the explanation of the option -A in the grep command. After all child processes are done, the main process prints out the last message and the program terminates.

Environment

server: Sabanci University Flow Server

man version: man 2.6.3

grep version: grep (GNU grep) 2.20