Hi,
I picked the man wget | grep -A 8 "\--debug" > output.txt command for
this assignment. I picked the wget command because it is a non-interactive network downloader. It doesn't require u ser's presence after it is initialized. It is very robust and will keep trying to finish downloading the file if a problem c omes up. And the "--debug" option allows us to take a deeper look at the wget request and response headers if we ev er need to. I though wget was cool.

I used two fork functions. I created a fork from the SHELL process and then created another fork from the MAN pro cess, which is the child of SHELL process.The child of MAN process handled the GREP part of the command.

I created the pipe using the pipe() function in an if condition to both execute it and exit if a problem occured.Turns o ut, when we create new processes, they come with their own copy of current file descriptors, which included the pip e file descriptors in the case of the GREP process part. What is nice about pipe file descriptors is that the read part w ill wait if there is nothing written to the pipe which allowed the child process to hang until parent process had writte n something to the pipe eventhough the parent process' code is after the child process' code. I used execvp() for com mand line executions in the environment of C. I didn't need to specify the ">output.txt" part in the GREP process or the pipe part in the MAN process because they were achieved by controlling which file descriptors were open or not. I had to close file descriptors before executing execvp() because if they weren't close, they'd stall for no reason so I left them with an exact open copy of the pipe file descriptors using the dup() function. I didn't forget to put the wait(NULL) in the SHELL process to make sure the prompt wasn't executed before all the processes had finished. Getting "--debug"" to work in the execvp was a bit of a hassle because I thought there needed to be double quotes bu t turns out there was no need for that. Using -A <N> allowed me to print the lines after my match.

It was quite complicated but it was fun.