PA4 Shell – Report

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To compile, run make and then ./main

I implemented the shell on my macbook computer and partly on the build.tamu.edu server. All of the commands work except for the builtins not explicitly required like jobs (as per post on piazza by Dr. tanzir). Pipes, IO redirection, prompt and background process works completely. The given Awk functions don’t work because of the single quote character being changed by the pdf format. I’ve changed it to proper single quote character and it works. It’s to be noted that make clean removes the text files.

In terms of design, I used a pipe to connect the different levels for pipes and used dup2 for io redirection. The really special thing I used was a custom made function to handle quotes (both single and double) without any hassle so it doesn’t mess with them. For handling background processes, I simply used the WNOHANG option. The prompt was written based on system functions.

I’ve included some commands I used to test on the build.tamu server. They are correctly formatted in terms of quotes.

pwd > pwd.txt

mv pwd.txt newpwd.txt

ls -l /proc/sys | sort -r | head -5

ls -l /proc/sys | sort -r | head -5 | sort > output.txt

ls -l -a > test.txt

grep 19 < "test.txt" | head -8 | tail -7 | head -4 | sort > "output.txt"

cd /home/ugrads

cd -

sleep 10 &

awk '{print $3}' < test.txt | head -5 | head -3 | sort > awk.txt

Done