

Homework#4 Write-Up

Time Management:

Date	Time spent (Hrs)	Task
Thursday 17 th July	2	Read about Signals and Exec() from the book
Friday 18th	2	Implement infinite loop with "logout", "exit"
Saturday 19th	5	Implemented input string tokening Figured how to invoke shell from c Implemented code from page 587 Start implementing my_system()
Sunday 20th	4	Implemented str_tok() version 1 that only handles basic commands Trying to disable ctrl+c on shell (didn't work)
Wednesday 23nd	4	Redesigned str_tok() to handle piping/redirecting inside the shell Implement is_cd() Continue on my_system() on the first section
Thursday 24rd	4	Improve the performance of str_tok() Implement is_pipe_redir() Finished up is_cd()
Friday 25th	2	Trying to fix the bug with ctrl+c is not disable within the shell.
Saturday 26th	8	Fixed the signals so it is working (doesn't completely working) Read about piping and fork() Trying to understand how to create a pipe Implement the code from page 900 Pipe doesn't work!!! Pipe stuck!
Sunday 27th	6	Re-implemented the my_system() on piping section (Still doesn't work) Trying to figure out the bug
Monday 28th	7	Thanks to Sean the savior. Pipe section is now working. Implement the redirecting section Fixed is_cd() to handle "cd ~" Fixed signals to make it works perfectly Finishing up the write up

Problems:

1) Prompt() - generate infinite \$ because it didn't detect EOF

Fixed: add "flush"

2) Signals - the shell recognizes ctrl+c and exits

Fixed: make the signals handler outside of the my_system() in main()

3) `is_cd()` - doesn't recognize "`cd ~`" as a home directory

Fixed: make an if-else to check for `'~'` if so, `dir = getenv("HOME")`

4) `my_system()` - cannot handle `'|'`; child process never dies

Fixed: close all of the file descriptors in both parents and children

Fixed: move a `') '` so it becomes `if(close(pdf[0]) == -1)`

5) `my_system()` - redirection section - it creates a voodoo file name

Fixed: change `str_tok()` so it recognize `'|', ' ', '<', '>'` and skip those characters

Fixed: swap between command and `pp_dest` if it detects `<` so that the rest of `my_system()` works the same for both `>` and `<`

The most difficult part about this assignment:

1) Detecting your own typo.

Sean, you know what I mean.

2) Understand how to connect ends of the pipe.

The concept itself seems pretty easy; you close the ends that you don't need.

Once, there are multiple source connecting to the same pipe; things get more complicate real quick.

Things we should take away from this assignment:

0) Sean is my Savior

1) Never trust your fingers to type EVERYTHING correctly

2) Pipe is awesome. No more complication once you got it.

3) A child proc can lives forever if it has incomplete mission

Question of the day: Is it worth to spend \$250 so that you can play Mario cart?