

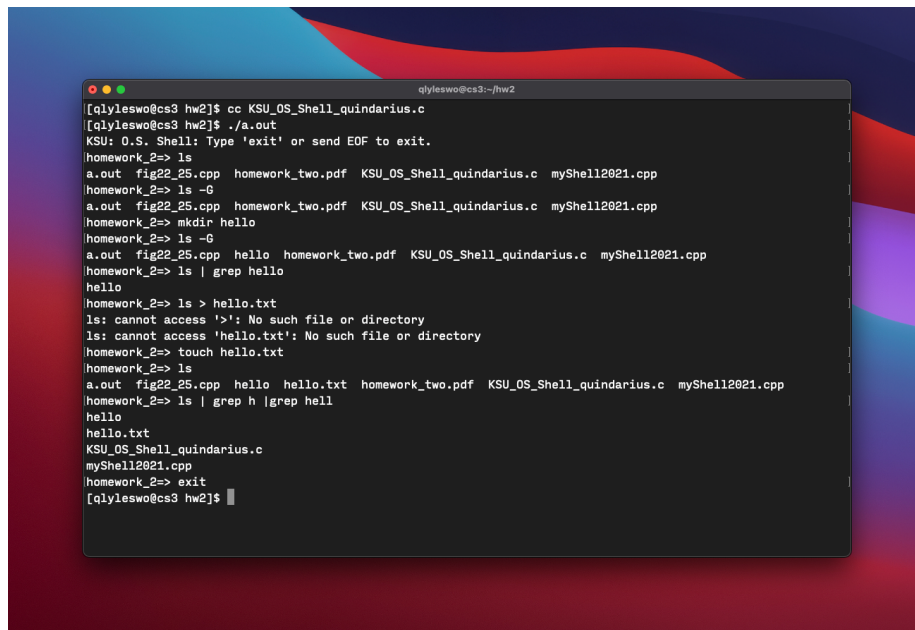
# Homework Two: Operating Systems

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September 25, 2021

## Implementing an Advanced Shell Using the C Language

I have produced a program that is capable of executing a sequence of programs that communicate through a pipe recursively.

A screenshot of a terminal window with a dark background and light-colored text. The window title is 'qlyleswo@cs3:~/hw2'. The terminal shows the following sequence of commands and outputs:

```
[qlyleswo@cs3 hw2]$ cc KSU_OS_Shell_quindarius.c
[qlyleswo@cs3 hw2]$ ./a.out
KSU: O.S. Shell: Type 'exit' or send EOF to exit.
homework_2=> ls
a.out fig22_25.cpp homework_two.pdf KSU_OS_Shell_quindarius.c myShell2021.cpp
homework_2=> ls -l
a.out fig22_25.cpp homework_two.pdf KSU_OS_Shell_quindarius.c myShell2021.cpp
homework_2=> mkdir hello
homework_2=> ls -l
a.out fig22_25.cpp hello homework_two.pdf KSU_OS_Shell_quindarius.c myShell2021.cpp
homework_2=> ls | grep hello
hello
homework_2=> ls > hello.txt
ls: cannot access '>': No such file or directory
ls: cannot access 'hello.txt': No such file or directory
homework_2=> touch hello.txt
homework_2=> ls
a.out fig22_25.cpp hello hello.txt homework_two.pdf KSU_OS_Shell_quindarius.c myShell2021.cpp
homework_2=> ls | grep h | grep hell
hello
hello.txt
KSU_OS_Shell_quindarius.c
myShell2021.cpp
homework_2=> exit
[qlyleswo@cs3 hw2]$
```

I learned a ton about the shells during this assignment as well as the processes within the shell. Such as pipes and arguments within other programming languages.