Holberton Simple Shell
High Level Design

Command Line Interpreter Start

Command line prompt **$**

Wait for user to input command

User Input

Read line from user input and check/validate path of inputted command

No input or Error?

Continue

Execute Program

New shell (child process) is created (**fork()** system call)

User input invokes child process to call **execve()** - to load command (E.g. **ls**)

Parent process (shell) waits for child process to complete. (uses **wait()** to pause its execution)

Once child process finishes, parent process goes back to accepting new commands from user

Print error and exit program

Free allocated memory for the line buffer

Command Line Interpreter

1. Develop command line (user) prompt

Write getline function

1. Read line from a stream I(**stdin**) and automatically allocate memory for the line

Handle commands with arguments

1. Handle arguments (commands such as **ls**)
2. Return errors for non-valid arguments gracefully
3. Implement **cd** and **clear** command

Handle path

1. Validate path to user-supplied commands
2. Return errors for invalid paths gracefully

Implement env

1. Prints current environment
2. implement **setenv** and **unsetenv** commands

Implement exit

Handle arguments for built-in exit