Cpre 308 Project Summary:

Throughout this project I gained a deeper, more secure understanding of process management. The goal was to create and implement a basic shell that manages a user's input as well as process execution. I learned how to use system calls like fork() to create child processes,execvp() to execute programs, waitpid() and exit() to control and monitor their completion. The shell needing to have built-in commands helped me understand the internal side of the shell and how it communicates with the operating systems, this was super apparent with issues I had changing directories and used chdir(). I also had many issues with parsing the arguments, I first had issues with simple parsing where it would read the whole input as one command. Then after I had issues with handling special cases like background processes with the "&" symbol.

Also, I added the built-in commands like cd, pwd, pid, and ppid. This taught me how to manage the environment and change the working directory and gave me a deeper understanding of how processes are identified. I also had many issues that I needed to debug, one error involved my shell constantly saying command not found. This required me to modify strtok() to use spaces and tabs so the shell would recognize and parse the input correctly. Another issue occurred when I tried to "cd~" I had to properly add in that special case. Overall I gained a deeper understanding about the architecture and structure of a shell.