PA2 Report

Design

1. Parser

   The parser was implemented by separating via spaces by default or by a separator like the pipe symbol "|". The parser also was made to ignore spaces or separators within single or double quotes. The quotes are eventually gotten rid of when the parsed strings are converted into char* arrays by vec_to_char_array(). Trim function trims excess spaces off of all arguments within a passed vector of arguments.

2. Piping

   Piping was accomplished by treating individual requests within the piped for loop. Essentially, I designed the inner iteration for 1 loop and then implemented piping around those inner workings. The majority of time was spent on implementation of I/O redirection, which redirected within the child and then all opened redirects were closed within the parent. Piping came more easily, with the child dup2-ing to stdout and visa versa for the parent from stdin.

3. Background Processes

   Background Processes entailed setting a boolean for the process based on inputline that told the parent to add the process to a vector of background processes that checks itself before accepting another input.

4. Changing Directory

   Fairly simple, used chdir to change directories and used a vector to store past directories for access via "cd -".

Demo

https://www.youtube.com/watch?v=6-H9Az29MMQ&feature=youtu.be