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Homework 7

Overview

This project was to extend our command line interpreter from homework 3 to have new functionality using symbols to redirect and/or append stdout, stdin, and stderr streams to or from files. Then we were to implement a pipe between two process and redirect their standard streams to the pipe handles. To create the background process, I simply made a if statement that skips the wait() function if background boolean variables equals true. I used the method from John to omit the symbols from the argv array before the fork(), and use them only to switch the modes. File redirections were achieved through dup2. For the pipe, I made one pipe and passed in two file descriptors. I forked another process in the child process, connected the streams to the pipe using dup2, and closed the redirected pipes.

Testing

Tested file redirections all with hw7.txt file on my computer. Streams redirected to and from text files and used cat to show contents. Appended versions also showed appended contents. I tried closing the original streams after or before I redirected them in the child process, but I was getting BAD FILE DESCRIPTOR error. Without the close, they seemed to work fine. Background process seemed to work fine. And the pipe works, but very buggy. Pic shows I used cat on the same file in both processes, and it seemed to work because I saw the file contents twice where the contents of the file contained the output from the shell, but there is a bug where the cat tries to read in an invalid argument somewhere in the array during the nested process. **CONTENTS OF TEXT FILE changed to contents of shell after I kept testing.**