

Custom-Shell-in-C

This project implements a simple custom shell in C, providing basic functionalities for executing commands, file redirection, and managing directories. The shell allows users to interact with the system in a minimal environment.

Features

- Execute basic commands like `ls`, `cat`, etc.
- Change directories using the `cd` command, including support for returning to the previous directory (`cd -`).
- Input and output redirection with `<`, `>`, and `>>`.
- Display a help menu with the `help` command.
- Exit the shell with the `exit` command.

Files

Source Files

- `shell.c`: The main source file implementing the custom shell.

Makefile

- Used to compile and build the project.

Compilation

To compile the project, use the provided Makefile:

```
```bash
```

```
make
```

```
```
```

Run the Shell

To run the project, use the provided:

```
```bash
```

```
./custom_shell
```

```
```
```

Process tree

Process tree showing where the custom shell has created child processes.:

![Alt Text] (images/tree.png)

```
..$ ps
PID TTY          TIME CMD
89911 ttys003      0:00.11 /bin/zsh -il
2333  ttys010      0:00.07 /bin/zsh -il
2437  ttys010      0:00.01 /Users/shriyanshbhardwaj/Desktop/Mtech/GRS ass /final_shell
3152  ttys010      0:00.01 ./MT24090_PA01
..$ pstree -p 3152
+-= 00001 root /sbin/launchd
  \-+= 87287 shriyanshbhardwaj /Applications/Visual Studio Code.app/Contents/MacOS/Electron
    \-+= 87319 shriyanshbhardwaj /Applications/Visual Studio Code.app/Contents/Frameworks/Code Helper.app/Contents/MacOS
      \-+= 02333 shriyanshbhardwaj /bin/zsh -il
        \-+= 03152 shriyanshbhardwaj ./MT24090_PA01
          \-+= 03274 shriyanshbhardwaj pstree -p 3152
            \--- 03275 root ps -axwwo user,pid,ppid,pgid,command
..$ pstree -p 3152
+-= 00001 root /sbin/launchd
  \-+= 87287 shriyanshbhardwaj /Applications/Visual Studio Code.app/Contents/MacOS/Electron
    \-+= 87319 shriyanshbhardwaj /Applications/Visual Studio Code.app/Contents/Frameworks/Code Helper.app/Contents/MacOS
      \-+= 02333 shriyanshbhardwaj /bin/zsh -il
        \-+= 03152 shriyanshbhardwaj ./MT24090_PA01
          \-+= 03283 shriyanshbhardwaj pstree -p 3152
            \--- 03284 root ps -axwwo user,pid,ppid,pgid,command
```

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