

SimpleShell: A Unix Shell in C from Scratch

Contributors:

Vishal Kumar Maurya (2022580)

Subham Maurya (2022510)

GitHub Link for the Repository (Private) :-

<https://github.com/vmaurya6622/OS-Assignments/tree/0205f3816c9bc32f7c086c2acc29277431d5e72b/Assignment-03>

Files Contained :- **main.c** , **README.md** , **Documentation**,**header.h**, and other **.out** files that were used for **testing**. we have used debian based (KALI linux) to complete our assignment and we have completed Bonus part also in this assignment that was stated as "Advanced functionalities".

Contribution by Vishal Kumar Maurya (2022580) :- I have successfully implemented the header files and .out files for error handling. I conducted extensive research to gather valuable resources for the project. In "main.c" file, I created the main function and integrated the simpleshell functionality. I also developed a queue for managing processes effectively. My contributions shine in areas such as history tracking, waiting time calculation, execution time measurement, and instance wait time calculation. This comprehensive approach ensures the reliability and performance of my shell. I've laid the foundation for the documentation and "readme.md," which is crucial for understanding and using my shell effectively. My emphasis was on error handling and segmentation to minimize the chances of encountering bugs in code at runtime.

Contribution by Subham Maurya (2022580) :- Implemented the roundrobin(RR) scheduling algorithm, functions which helps in scheduling the queue based on their priority, scheduler function which runs in the background with the simple subshell which helps in scheduling the processes of the process table or queue.

I have done the work like calculating and storing the execution time and waiting time of the processes , signal handling for SIGUSR1, SIGUSR2 and SIGINT signals, implementation of basic data structures like queue along with its basic methods like enqueue, dequeue etc and helped in handling errors throughout the code.

[Click here](#) to get the source code