

DOCUMENTATION

GROUP MEMBERS

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FUNCTIONS AND THE IMPLEMENTATION

1. Cleaning

This function does all the cleaning free all the memory.

2. Terminate Program

This function checks the control c Signal and terminate the program with all the cleaning and clearing the history file.

3. read_fn

It organises the input command in the form of array of strings

4. removing_new_line_character

It simply removes the `\n` character from the end of the string

5. updateHistory

1. Open a file where we store all the history of the program.
2. Write the PID and the command in the file.
3. Start the timer of the process.
4. Create another child process and run `exec` command
5. Note the end time in the parent
6. Write the duration in the file

6. Pipel

It handles the pipeline case.

1. First, count the number of pipelines
2. Then call the `read_fn` to separate each command through basic string handling
- 3 Create two pipe that keep the track of current pipe and prev pipe.
4. Run a for loop in range of number of pipes
5. Each time redirect the read and write end of pipes accordingly

7. Main function

1. Allocate memory to store commands in the array

2. Inside the do while loop, call the read function to organise input in the required form
3. Create a child process and call exec command
4. Call the update history function to update the history file
5. And when the while loop gets exited, free all the heap memory.
6. Have also performed error handling in various parts in between the code.
6. Terminate the program

** - we have done bonus that part in which we have to read commands from the sh file.

CONTRIBUTION

1. AKSHAT KARNWAL - Basic exec command implementation, read fn, clean function, termination function.
2. MOHD MASOOD – Update History function, pipe function
3. Both implemented the main function in collaboration

Git hub link — <https://github.com/Akshat22052/OS-ASS-2>