Assignment 2: SimpleShell in C

## Group: 29

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Contribution by Aakarsh:

1. Contributes code to launch and primary function

2. Handled pipes

3. Handled History

4. Handled error handling and

Contribution by Kshitij:

1.Code for the primary function main and launch.

2. Handled error handling.

3. Handeled the implementation of checkForAnd function.

### Github-link: https://github.com/aYohaan04/OS\_Lab\_2\_29

Working of the code:

1. History:

a. A data structure was made to store the command argument, pid, start time, end time, and duration

b. A function was made to save data into the history data structure

2. CheckForAnd: This function is to help spot the ‘&’ symbol in the command argument

3. Launch:

a. Timers are started and pid is initialized with the fork() command

b. We then join the command-argument with a string using strcat()

c. After the concatenation of the string, we then compile the string using the system() function

d. Then we wait for the parent’s process to get completed

e. After the above procedure is done, we call the history() function defined above to save necessary data

f. Necessary error handling is done whence compiling

4. Main:

1. Created an argv array which stores the tokenized strings of the command.
2. Created argc which is initialized to 0 and incremented based on the command.
3. Used getline to get the input from the user.
4. Used strtok function to split the command into tokens and pass it to the argv and furthermore allocating memory for the arv using realloc.

5. Limitations of the code:

a. Allows input size to be max of 1024

b. Only 100 arguments can be stored in history

c. Commands not supported:-

1. –

2. --