

Operating Systems

Lab 1 (Simple Shell)

Name	Hana Mahmoud El Goweini
ID	4237

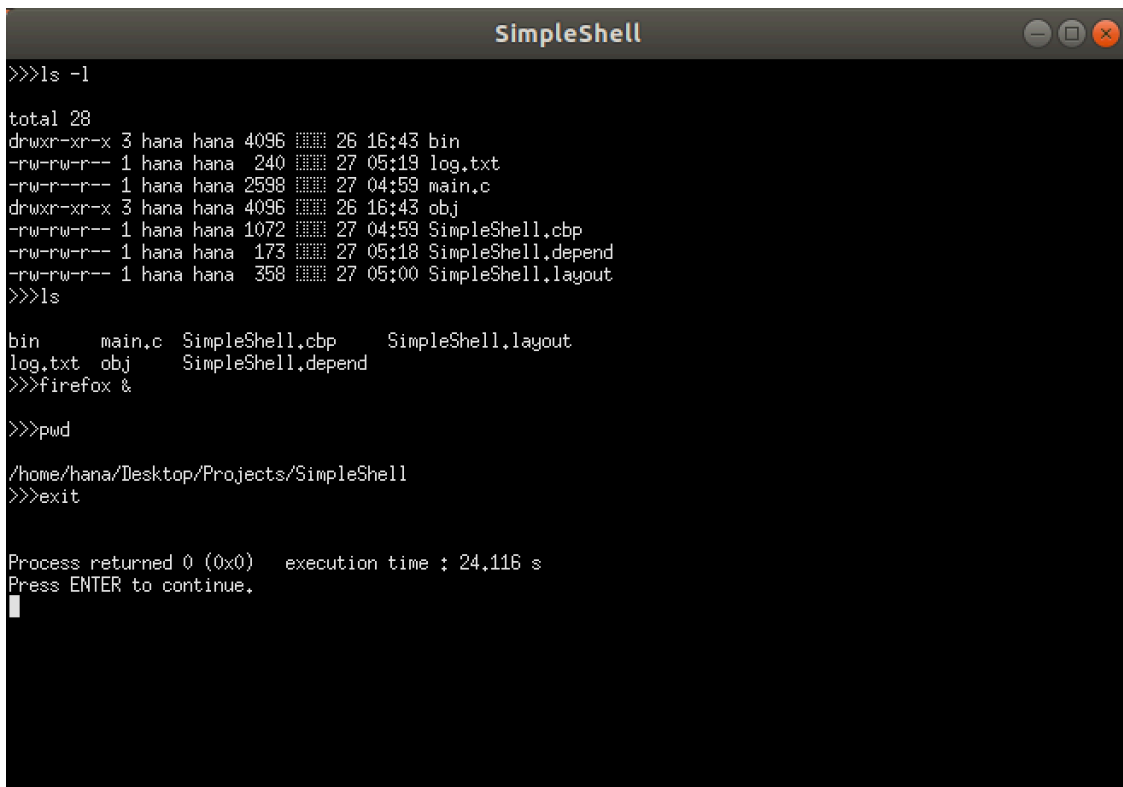
Overall organization and major functions used:

The code is divided into function and the main function. The main function calls a function to read the input from user first and then calls another one to parse the input and splits it into the command and its arguments. After that, the command may be executed using the fork() instruction.

Some functions:

1. **int parseCommand():** It takes the command given by the user and splits it after every space, putting each word in a 2D array of characters and ends the array with a null character.
2. **void isBackgroundProcess() :** It checks whether the process is a background process by checking if there is a '&' in the command. If so, a flag is set to 1 and the next process may be executed normally without waiting for this one to finish.
3. **void writeToLog() :** When a child process terminates, it writes in a log file that it was terminated.

Sample Run:



```
SimpleShell
>>>ls -l
total 28
drwxr-xr-x 3 hana hana 4096  26 16:43 bin
-rw-rw-r-- 1 hana hana  240  27 05:19 log.txt
-rw-rw-r-- 1 hana hana 2598  27 04:59 main.c
drwxr-xr-x 3 hana hana 4096  26 16:43 obj
-rw-rw-r-- 1 hana hana 1072  27 04:59 SimpleShell.cbp
-rw-rw-r-- 1 hana hana  173  27 05:18 SimpleShell.depend
-rw-rw-r-- 1 hana hana  358  27 05:00 SimpleShell.layout
>>>ls
bin      main.c  SimpleShell.cbp  SimpleShell.layout
log.txt  obj     SimpleShell.depend
>>>firefox &
>>>pwd
/home/hana/Desktop/Projects/SimpleShell
>>>exit

Process returned 0 (0x0)   execution time : 24.116 s
Press ENTER to continue.
█
```