

CS1023: Software Development Fundamentals

Lab Assignment- 1 & 2

Submission Deadline: 16th April 2023 6 PM

Total Marks: 10

Marks: Q1 carries 3 marks and Q2 carries 7 marks.

Q1. Write a C program to simulate a bash shell of your own say “**myshell**” which consists of Linux commands:

myshell must look exactly like your terminal.

myshell should also show correct usage of any command. Hence implement the help command for your linux commands.

myshell should look exactly like the one in your Linux terminal: user@hostname:path to current dir. For example: **shirshendu@mylaptop :~/Assignment1\$**

Any illegal command, unrecognized arguments should throw a meaningful error to the user and the shell should not crash or be killed.

myshell should also support the exit command so that the process is not killed or forcefully exited and print a meaningful exit message.

myshell should also remember the recently used commands. The recently used commands must be available when using UP and DOWN arrows.

myshell should be capable of executing any linux command using **system()**.

Q2. In myshell simulate the functionality of the following unix commands:

ls
ps
cp
mv
grep

The commands are to be implemented explicitly using C and should be executed via the **myshell** process. Use of an already existing implementation of these commands in bash or any other shell is strictly prohibited. You should implement at least 4 to 5 options for each command.

*** Hint: Use readline and getopt functions. A short video will be uploaded by tonight to explain the assignment.

***The submission procedure will be informed later.

*****All the submissions will be tested together to find the copy cases. Strict action will be taken in such cases. You may get negative marks also.**