

## CS242

### System Programming Lab No. - 6

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#### Objective

In the last lab we wrote a program **shell.c** which emulates a shell and supports built-in commands like `cd`, `pwd` etc. In this lab, we will add more functionality to **shell.c**.

#### Exercise

##### Task 2 – Running external commands/programs

- i. When you run a program through a shell, the program executes and sends back to the shell a termination code. Modify your **shell.c** so that it captures the termination code from the program it executes and prints out one of two possible messages:

**[shell: program terminated successfully]**

or

**[shell: program terminated abnormally][*"return status"*]**

- ii. Modify your **shell.c** so that it can execute two commands in sequence when they appear in the command line separated by a semi-colon character. For instance:

**> a; b**

should execute command **a**, wait for its termination, and then execute command **b**. For this problem, all you have to do is enable your shell to execute **two command sequentially**.

- iii. Modify your **shell.c** so that when the user presses the “enter” key twice in a row, your shell displays the list of files in the current working directory. For instance:  
**l>[enter][enter]**  
will show the directory listing.

#### Deliverables

Create a pdf document containing the output of your program. Next create an archive file by the name `<roll number>.tar` that contains the pdf document and the C program.

Mail the document to [cs242@iitp.ac.in](mailto:cs242@iitp.ac.in) with subject “Lab <no>”.

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