IIIT-Vadodara (Gandhinagar Campus)
CS203 - Operating Systems
Mini-Project 1: Implement Command-line Interpreter

In this assignment, we will start writing a command interpreter (Shell). The shell will give a prompt for the user to type in a command (from a set of commands), take the command, execute it, and then give the prompt back for the next command (i.e., actually give the functionality of a shell). Your program should do the following:

- Give a prompt "`myshell$`" for the user to type in a command
- Implement the following builtin commands:
  a) `cd < dir >` : changes the directory to "dir"
  b) `pwd` : prints the current directory
  c) `mkdir < dir >` : creates a directory called "dir"
  d) `rmdir < dir >` : removes the directory called "dir"
  e) `ls` : lists the files in the current directory. It should support both ls without any option and with the option "-l"
  f) `exit` : exits the shell

The commands are the same as the corresponding Linux commands by the same name. To see the descriptions, use the "`man`" command. You can use the standard system calls `chdir, getcwd, mkdir, rmdir, readdir` etc. to implement the calls (standard C library functions are available for these; look them up). These commands are called builtin commands since your shell program will have a function corresponding to each of these commands to execute.

Note:

a) Implement the programming problem in C/C++ language.
b) System call with the Linux shell command is not permitted.