CS 307 System Practicum
ASSIGNMENT 2

Note: Do not use any Wrapper Function

The Shell or Command Line Interpreter is a fundamental User Interface to an Operating System. In this assignment you have to write a simple shell that has the following properties.

The shell must support the following internal commands:

NOTE : Avoid using direct system calls to implement the commands.

1.   `cd <directory>` - Change the current default directory to `<directory>`. If the `<directory>` argument is not present, report current the current directory. If the directory doesn't exist an appropriate error should be reported. This command should change the PWD environment variable. **(1 mark)**

2.   `clr`- Clear the screen. **(1 mark)**

3.   `dir <directory>` -List the contents of directory `<directory>`. **(1 mark)**

4.   `environ` – List all the environment strings. **(1 mark)**

5.   `echo <comment>` - Display `<comment>` on the display followed by a new line. (Multiple spaces/tabs may be reduced to a single space). **(1 mark)**

6.   `pause` – Pause Operation of shell until 'Enter ' is pressed. **(1 mark)**

7.   `help`- Display User Manual. **(1 mark)**

8.   `quit` – Quit the shell. **(1 mark)**

9.   The shell environment should contain   `shell=<pathname>/myshell` where `<pathname>/myshell` is full path for the shell executable (not a hardwired path back to your directory, but the one from which it was executed). **(2 mark)**

Bonus:

The shell must be able to take its command line input from a file. That is, if the command line is invoked with a command line argument:

`myshell batchfile`

then `batchfile` is assumed to contain a set of command lines for the shell to process. When the end-of-file is reached, the shell should exit. Obviously, if the shell is invoked without a command line argument, it solicits input from the user via prompt on the display. **(3 marks)**