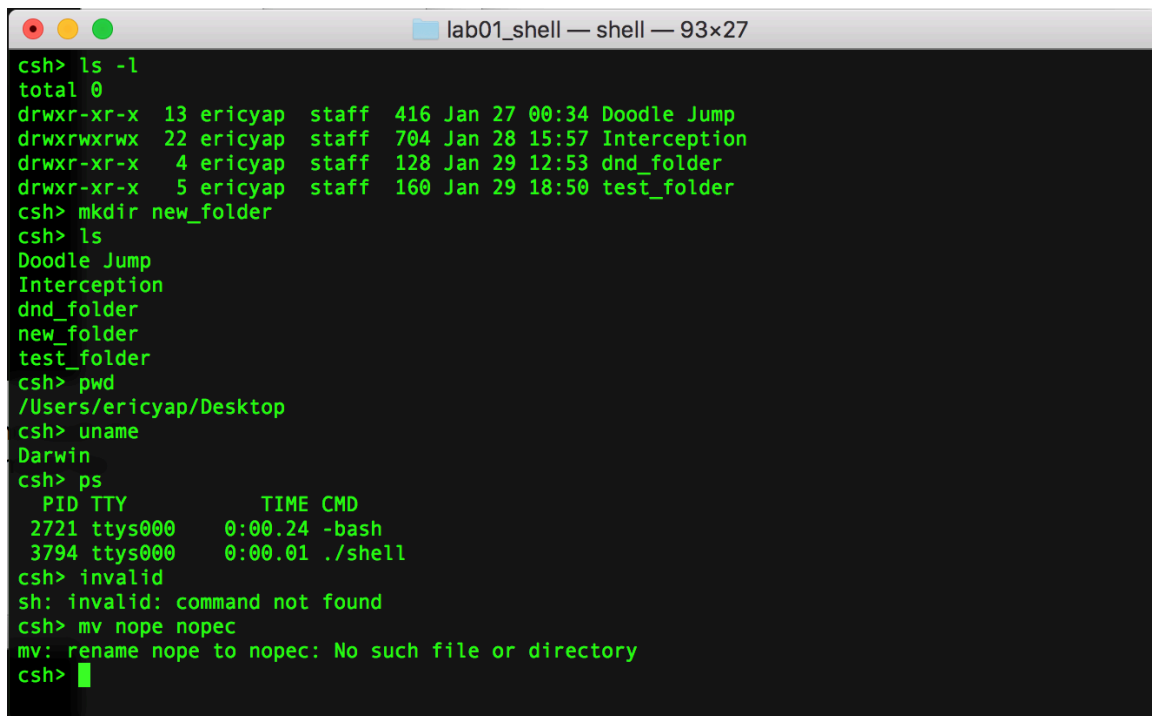


50.005 Computer System Engineering

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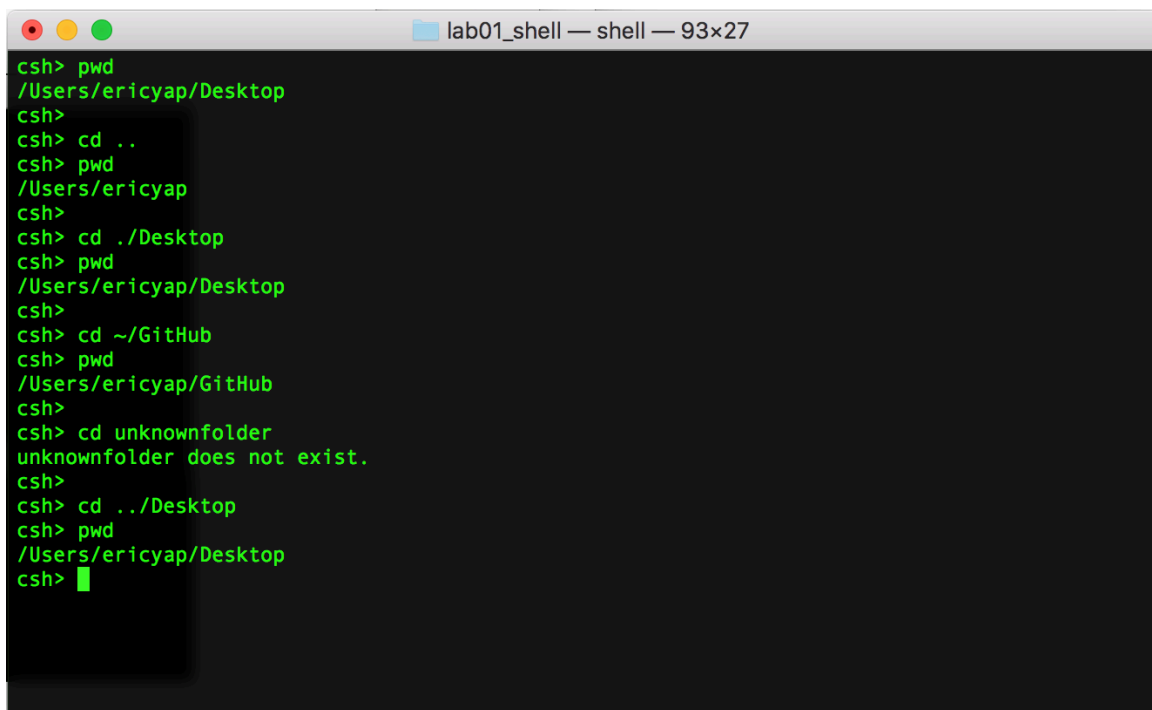
Question 1



```
lab01_shell — shell — 93x27
csh> ls -l
total 0
drwxr-xr-x  13 ericyap  staff  416 Jan 27 00:34 Doodle Jump
drwxrwxrwx  22 ericyap  staff  704 Jan 28 15:57 Interception
drwxr-xr-x   4 ericyap  staff  128 Jan 29 12:53 dnd_folder
drwxr-xr-x   5 ericyap  staff  160 Jan 29 18:50 test_folder
csh> mkdir new_folder
csh> ls
Doodle Jump
Interception
dnd_folder
new_folder
test_folder
csh> pwd
/Users/ericyp/Desktop
csh> uname
Darwin
csh> ps
  PID TTY          TIME CMD
 2721 ttys000    0:00.24 -bash
 3794 ttys000    0:00.01 ./shell
csh> invalid
sh: invalid: command not found
csh> mv nope nope
mv: rename nope to nopec: No such file or directory
csh>
```

In the above screenshot, the shell executes several commands like *ls*, *mkdir*, *pwd* etc. The result of the execution is also printed in the shell. When the shell tries to execute an invalid command like “invalid” or with invalid arguments, an error status is printed out on the shell.

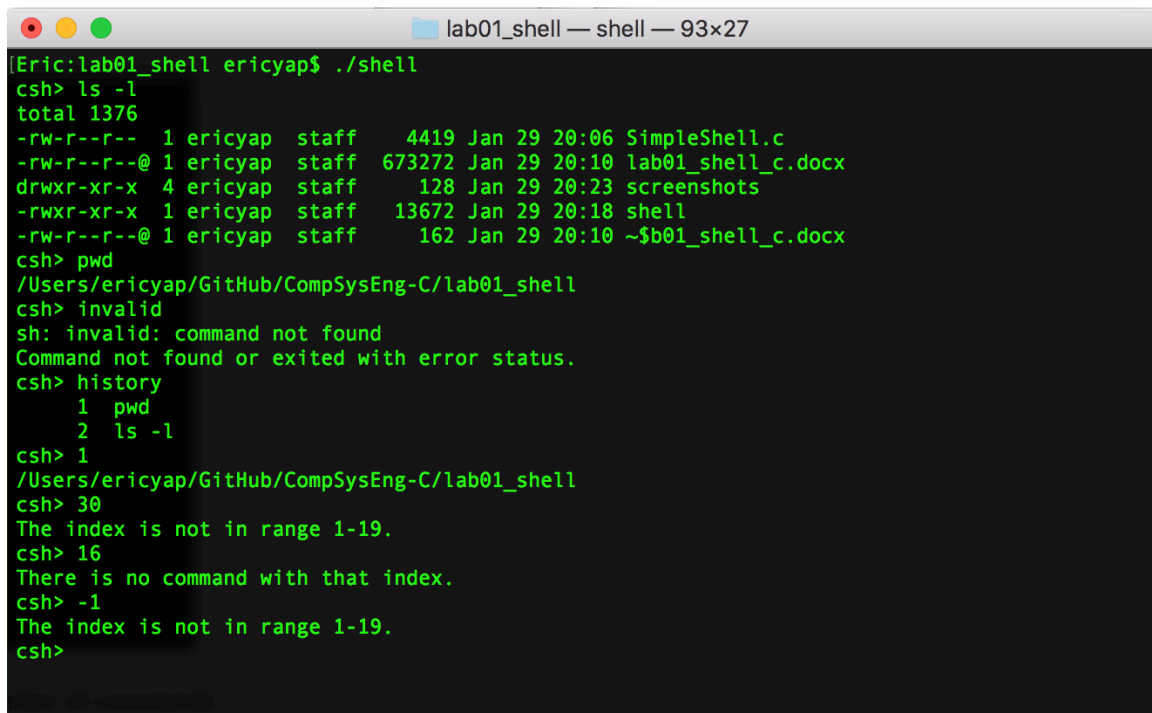
Question 2



```
lab01_shell — shell — 93x27
csh> pwd
/Users/ericyp/Desktop
csh>
csh> cd ..
csh> pwd
/Users/ericyp
csh>
csh> cd ./Desktop
csh> pwd
/Users/ericyp/Desktop
csh>
csh> cd ~/GitHub
csh> pwd
/Users/ericyp/GitHub
csh>
csh> cd unknownfolder
unknownfolder does not exist.
csh>
csh> cd ../Desktop
csh> pwd
/Users/ericyp/Desktop
csh>
```

In the above screenshot, the shell executes the `cd` command. Shorthands like `..`, `~` and `..` are supported by the shell as shown above. Whenever the user tries to change directory to one that does not exist, the shell notifies the user.

Question 3



```
lab01_shell — shell — 93x27
[Eric:lab01_shell ericyap$ ./shell]
csh> ls -l
total 1376
-rw-r--r--  1 ericyap  staff   4419 Jan 29 20:06 SimpleShell.c
-rw-r--r--@ 1 ericyap  staff 673272 Jan 29 20:10 lab01_shell_c.docx
drwxr-xr-x  4 ericyap  staff   128 Jan 29 20:23 screenshots
-rwxr-xr-x  1 ericyap  staff  13672 Jan 29 20:18 shell
-rw-r--r--@ 1 ericyap  staff   162 Jan 29 20:10 ~$b01_shell_c.docx
csh> pwd
/Users/ericyp/GitHub/CompSysEng-C/lab01_shell
csh> invalid
sh: invalid: command not found
Command not found or exited with error status.
csh> history
  1  pwd
  2  ls -l
csh> 1
/Users/ericyp/GitHub/CompSysEng-C/lab01_shell
csh> 30
The index is not in range 1-19.
csh> 16
There is no command with that index.
csh> -1
The index is not in range 1-19.
csh>
```

In the above screenshot, the `history` command is executed. The maximum number of commands that can be stored in the history list is 20. The history only stores commands that are valid. If the user enters `!!` the shell executes the previously executed command. If the user enters an integer index, the command that is associated with that index is executed but not saved in history. An error message will be printed if the index is not associated with a command or if the index is not within the range of 1-20.