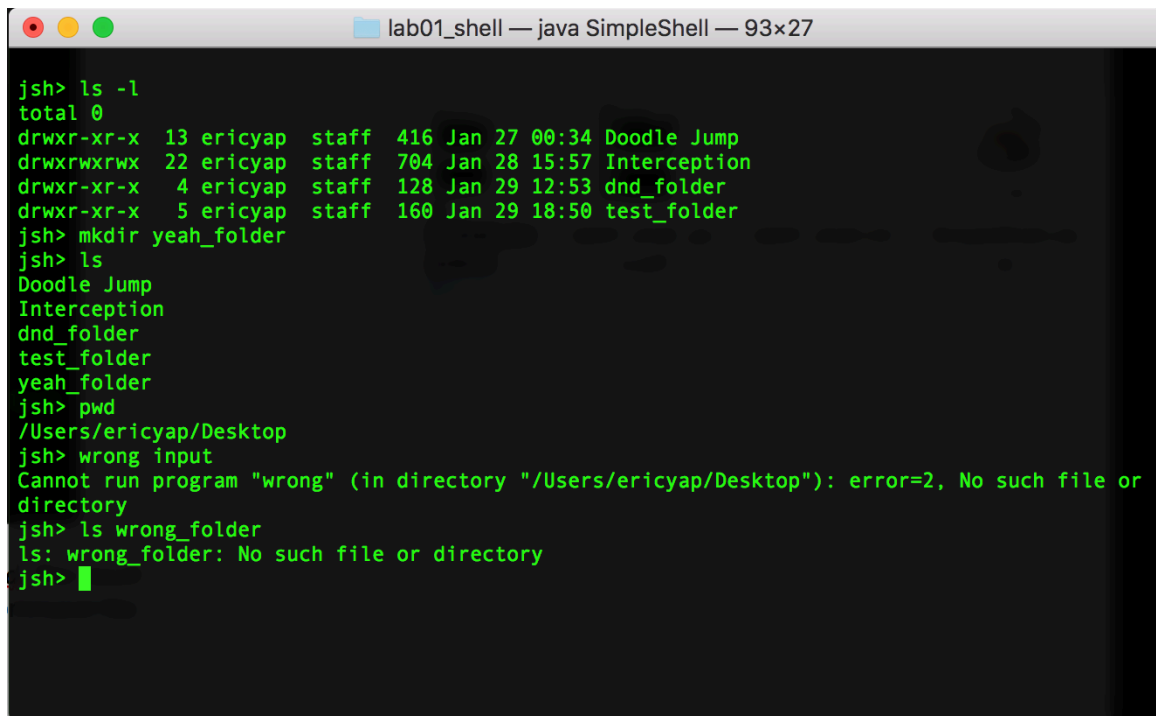


50.005 Computer System Engineering

Yap Wei Lok 1002394

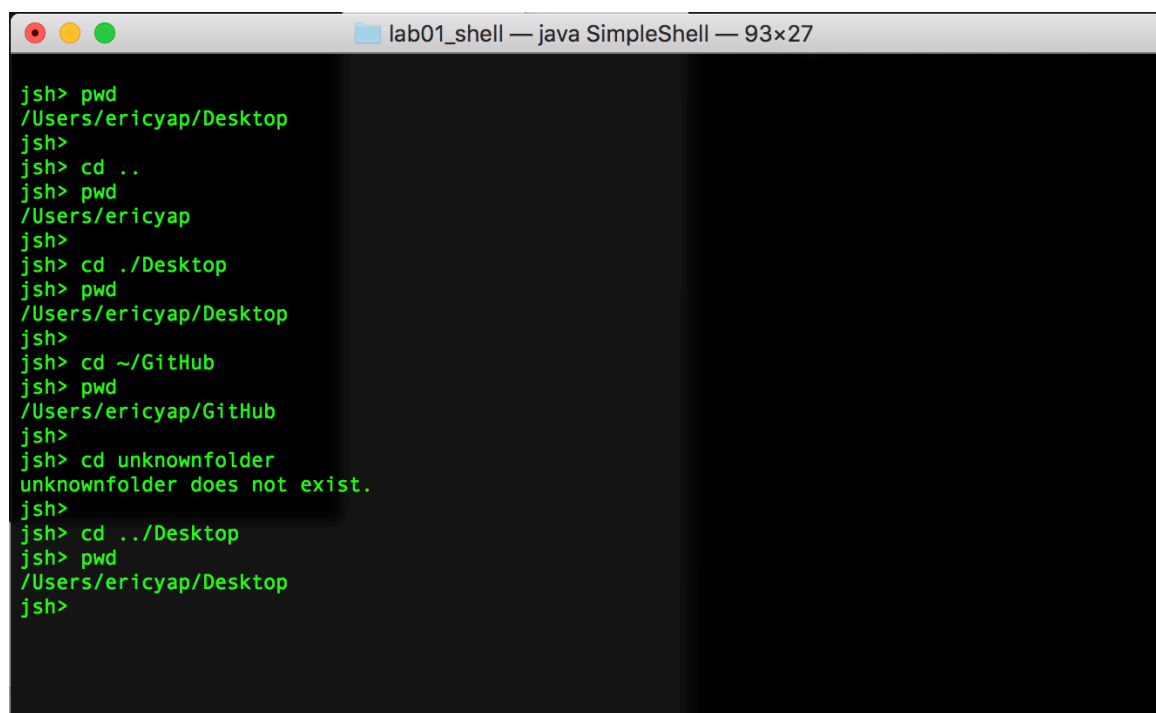
Question 1



```
lab01_shell — java SimpleShell — 93x27
jsh> 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
jsh> mkdir yeah_folder
jsh> ls
Doodle Jump
Interception
dnd_folder
test_folder
yeah_folder
jsh> pwd
/Users/ericyp/Desktop
jsh> wrong input
Cannot run program "wrong" (in directory "/Users/ericyp/Desktop"): error=2, No such file or
directory
jsh> ls wrong_folder
ls: wrong_folder: No such file or directory
jsh>
```

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 “wrong input” or with invalid arguments, it prints out an error instead.

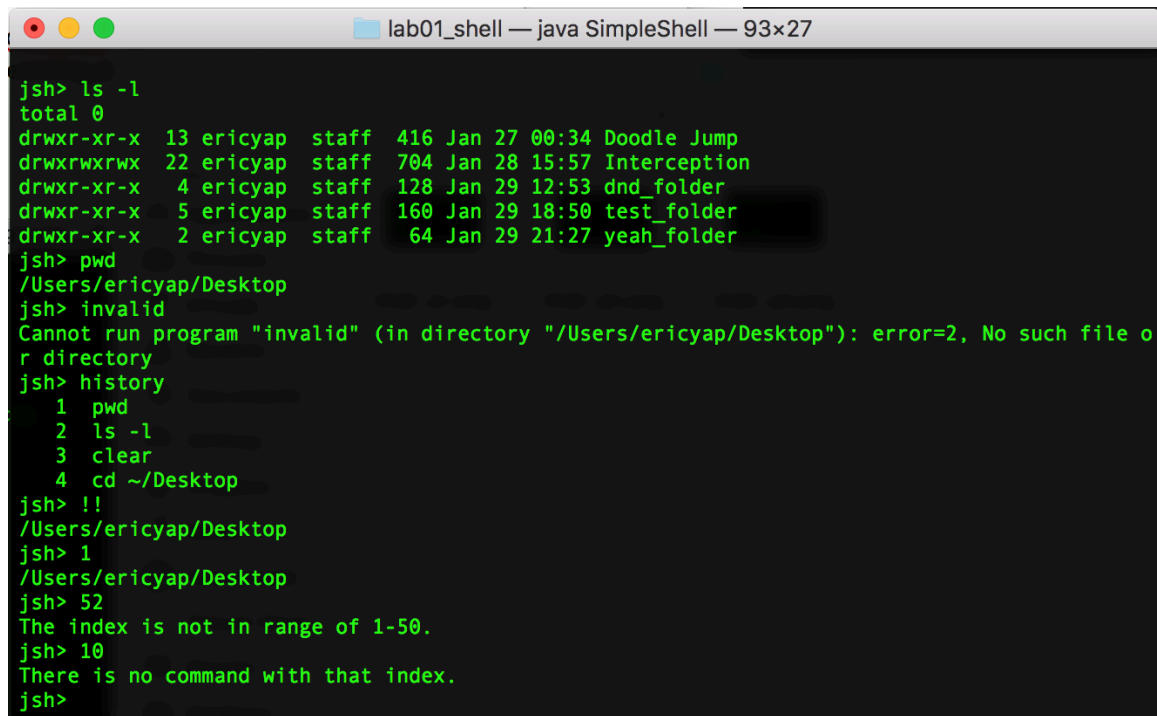
Question 2



```
lab01_shell — java SimpleShell — 93x27
jsh> pwd
/Users/ericyp/Desktop
jsh>
jsh> cd ..
jsh> pwd
/Users/ericyp
jsh>
jsh> cd ./Desktop
jsh> pwd
/Users/ericyp/Desktop
jsh>
jsh> cd ~/GitHub
jsh> pwd
/Users/ericyp/GitHub
jsh>
jsh> cd unknownfolder
unknownfolder does not exist.
jsh>
jsh> cd ../Desktop
jsh> pwd
/Users/ericyp/Desktop
jsh>
```

In the above screenshot, the shell executes the `cd` command. Shorthands like `..`, `~` and `.` are supported by the shell as shown above. When an invalid or non-existing directory is entered as the arguments, the user is notified with an error message.

Question 3



```
jsh> 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
drwxr-xr-x   2 ericyap  staff    64 Jan 29 21:27 yeah_folder
jsh> pwd
/Users/ericyp/Desktop
jsh> invalid
Cannot run program "invalid" (in directory "/Users/ericyp/Desktop"): error=2, No such file or directory
jsh> history
 1  pwd
 2  ls -l
 3  clear
 4  cd ~/Desktop
jsh> !!
/Users/ericyp/Desktop
jsh> 1
/Users/ericyp/Desktop
jsh> 52
The index is not in range of 1-50.
jsh> 10
There is no command with that index.
jsh>
```

In the above screenshot, the `history` command is executed. The maximum number of commands that can be stored in the history list is 50. 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 1-50.