

## Project 3: Creating a Shell Interface

Hao Wu

5140219226

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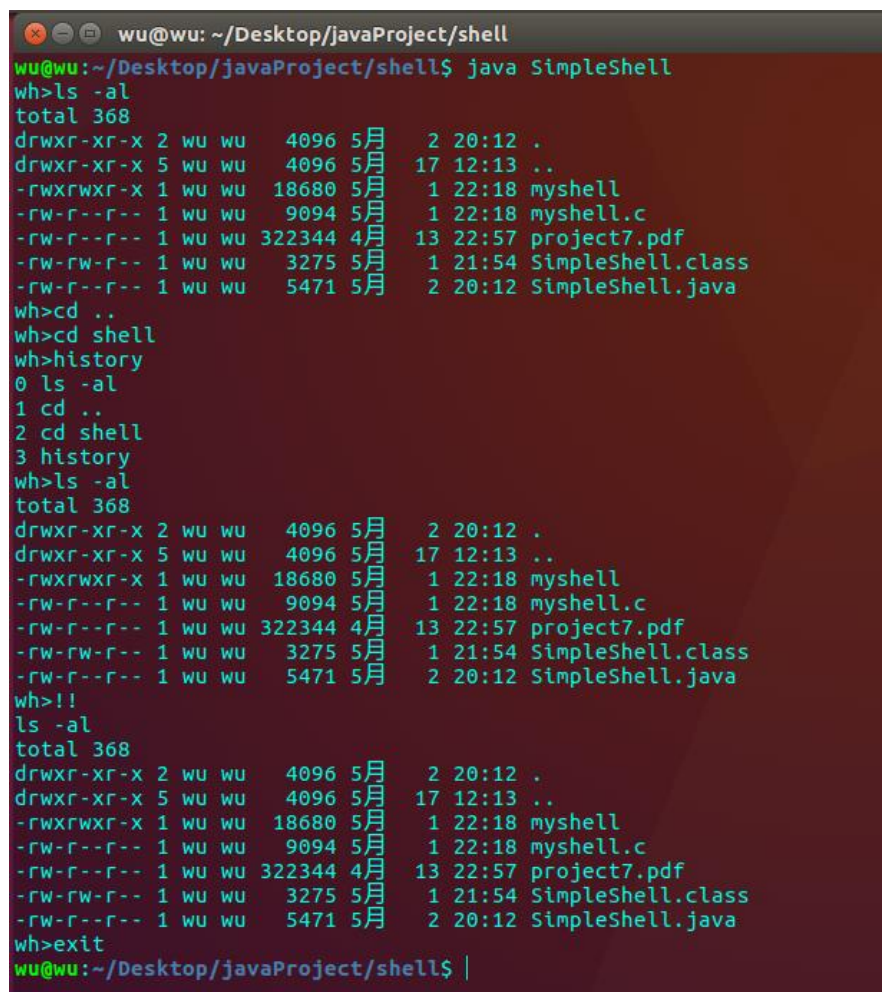
Instructor: Ling Gong

### 1. Object:

Write a program that can imitate a simple shell and execute some basic commands. You can see the detail in the end of chapter 3 of OPERATING SYSTEM CONCEPTS WITH JAVA(Seventh Edition), page 127..

### 2. Screen Cut:

This project can basically realize the function of shell, like `cd`, `ls`, `pwd`, `history`, `!`, `!!`, etc. As shown below, we can use `ls -al` to observe the information of the files and directories in this space, and by typing in `cd ..` to get to the up level. By using `history`, we can see the command we typed in before, and use `!` and `!!` to invoke these commands.



```
wu@wu:~/Desktop/javaProject/shell$ java SimpleShell
wh>ls -al
total 368
drwxr-xr-x 2 wu wu 4096 5月 2 20:12 .
drwxr-xr-x 5 wu wu 4096 5月 17 12:13 ..
-rwxrwxr-x 1 wu wu 18680 5月 1 22:18 myshell
-rw-r--r-- 1 wu wu 9094 5月 1 22:18 myshell.c
-rw-r--r-- 1 wu wu 322344 4月 13 22:57 project7.pdf
-rw-rw-r-- 1 wu wu 3275 5月 1 21:54 SimpleShell.class
-rw-r--r-- 1 wu wu 5471 5月 2 20:12 SimpleShell.java
wh>cd ..
wh>cd shell
wh>history
0 ls -al
1 cd ..
2 cd shell
3 history
wh>ls -al
total 368
drwxr-xr-x 2 wu wu 4096 5月 2 20:12 .
drwxr-xr-x 5 wu wu 4096 5月 17 12:13 ..
-rwxrwxr-x 1 wu wu 18680 5月 1 22:18 myshell
-rw-r--r-- 1 wu wu 9094 5月 1 22:18 myshell.c
-rw-r--r-- 1 wu wu 322344 4月 13 22:57 project7.pdf
-rw-rw-r-- 1 wu wu 3275 5月 1 21:54 SimpleShell.class
-rw-r--r-- 1 wu wu 5471 5月 2 20:12 SimpleShell.java
wh>!!
ls -al
total 368
drwxr-xr-x 2 wu wu 4096 5月 2 20:12 .
drwxr-xr-x 5 wu wu 4096 5月 17 12:13 ..
-rwxrwxr-x 1 wu wu 18680 5月 1 22:18 myshell
-rw-r--r-- 1 wu wu 9094 5月 1 22:18 myshell.c
-rw-r--r-- 1 wu wu 322344 4月 13 22:57 project7.pdf
-rw-rw-r-- 1 wu wu 3275 5月 1 21:54 SimpleShell.class
-rw-r--r-- 1 wu wu 5471 5月 2 20:12 SimpleShell.java
wh>exit
wu@wu:~/Desktop/javaProject/shell$ |
```

Fig1 Simple shell interface