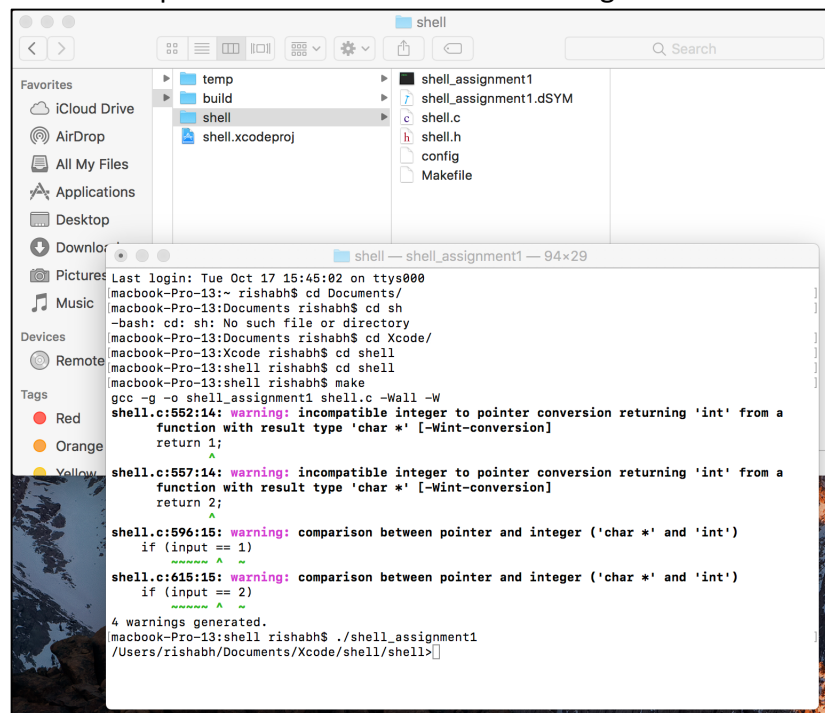


Shell Program Output's

```
/*
* Aim: - to create a custom shell in C
* Developed By: - Meet Shah (109875889) & Rishabh Sharma (109874160)
* Programming Assignment: - 1
* Subject: - CSCI 244, Operating System
* Programming Language Used: - C
* Compiler: - gcc
* Input/Output: - On Console Window (STDIN/STDOUT)
* Input type: - shell command
* Output: - execution of the shell command inputted by the user
* Steps to execute the program: - in command prompt first execute make file by command
* "make" then type "./shell-assignment1" for executing the custom shell inside command
* prompt
*/
```

Tested outputs of the program are as follow.

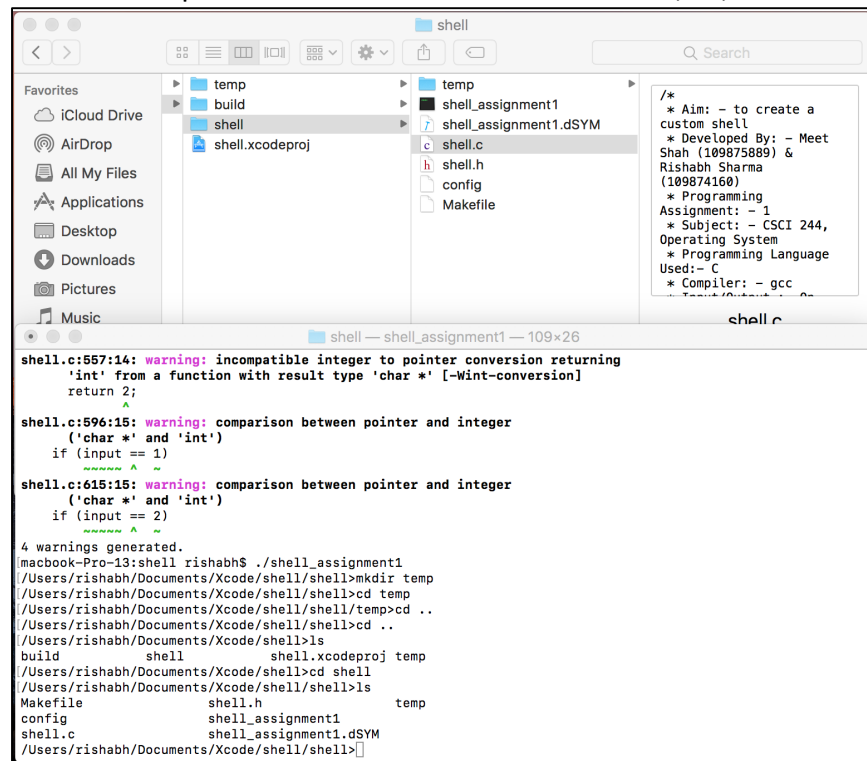
Output 1: - Execution of the shell using make file



```
macbook-Pro-13:~ rishabh$ cd Documents/
macbook-Pro-13:Documents rishabh$ cd sh
-bash: cd: sh: No such file or directory
macbook-Pro-13:Documents rishabh$ cd Xcode/
macbook-Pro-13:Xcode rishabh$ cd shell
macbook-Pro-13:shell rishabh$ cd shell
macbook-Pro-13:shell rishabh$ make
gcc -g -o shell_assignment1 shell.c -Wall -W
shell.c:552:14: warning: incompatible integer to pointer conversion returning 'int' from a
function with result type 'char *' [-Wint-conversion]
    return 1;
    ^
shell.c:557:14: warning: incompatible integer to pointer conversion returning 'int' from a
function with result type 'char *' [-Wint-conversion]
    return 2;
    ^
shell.c:596:15: warning: comparison between pointer and integer ('char *' and 'int')
if (input == 1)
               ^
shell.c:615:15: warning: comparison between pointer and integer ('char *' and 'int')
if (input == 2)
               ^
4 warnings generated.
macbook-Pro-13:shell rishabh$ ./shell_assignment1
/Users/rishabh/Documents/Xcode/shell/shell>
```

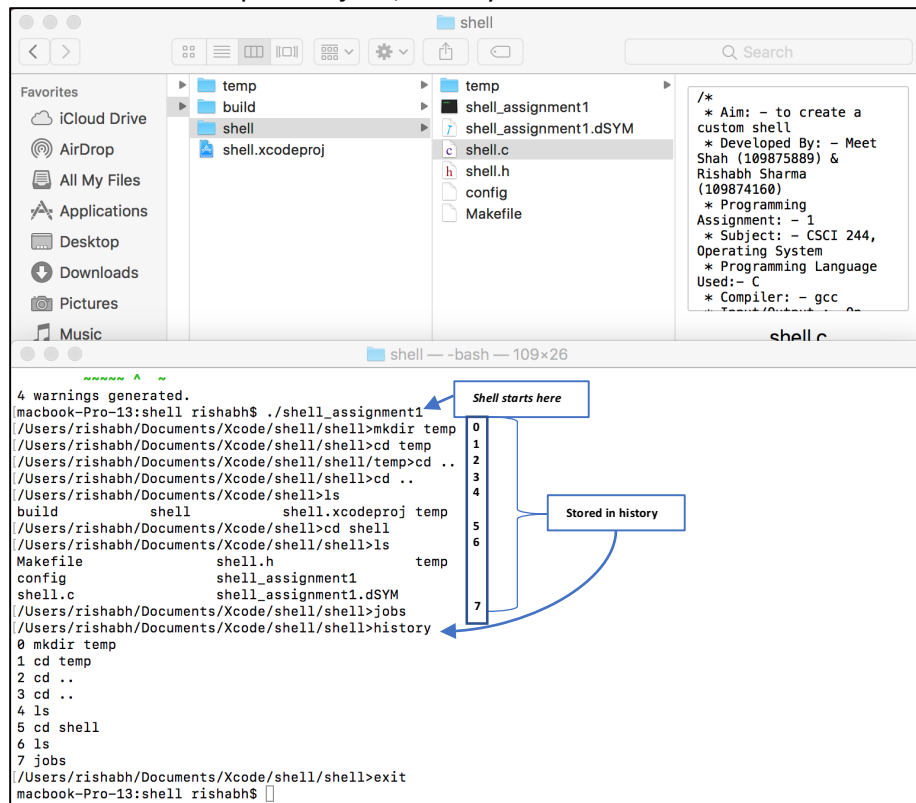
Shell Program Output's

Output 2: - execution of commands mkdir, cd, ls



```
shell.c:557:14: warning: incompatible integer to pointer conversion returning
'int' from a function with result type 'char *' [-Wint-conversion]
    return 2;
    ^
shell.c:596:15: warning: comparison between pointer and integer
('char *' and 'int')
    if (input == 1)
        ^
shell.c:615:15: warning: comparison between pointer and integer
('char *' and 'int')
    if (input == 2)
        ^
4 warnings generated.
macbook-Pro-13:shell rishabh$ ./shell_assignment1
/Users/rishabh/Documents/Xcode/shell/shell>mkdir temp
/Users/rishabh/Documents/Xcode/shell/shell>cd temp
/Users/rishabh/Documents/Xcode/shell/shell/temp>cd ..
/Users/rishabh/Documents/Xcode/shell/shell>cd ..
/Users/rishabh/Documents/Xcode/shell>ls
build      shell      shell.xcodeproj temp
/Users/rishabh/Documents/Xcode/shell>cd shell
/Users/rishabh/Documents/Xcode/shell/shell>ls
Makefile      shell.h      temp
config        shell_assignment1
shell.c       shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>
```

Output 3: - jobs, history and exit command



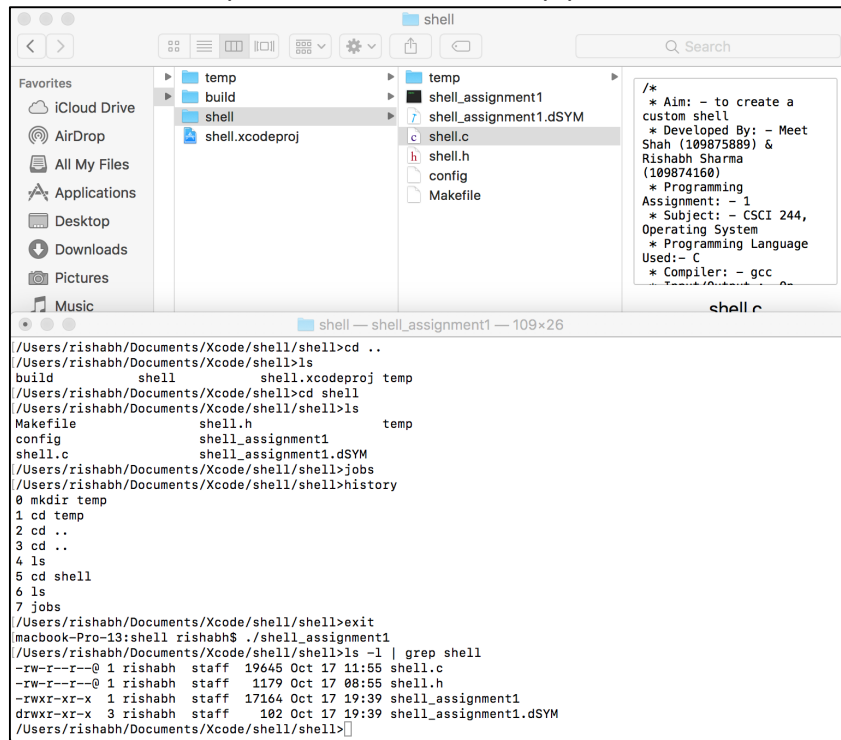
```
4 warnings generated.
macbook-Pro-13:shell rishabh$ ./shell_assignment1
/Users/rishabh/Documents/Xcode/shell/shell>mkdir temp
/Users/rishabh/Documents/Xcode/shell/shell>cd temp
/Users/rishabh/Documents/Xcode/shell/shell/temp>cd ..
/Users/rishabh/Documents/Xcode/shell/shell>cd ..
/Users/rishabh/Documents/Xcode/shell>ls
build      shell      shell.xcodeproj temp
/Users/rishabh/Documents/Xcode/shell>cd shell
/Users/rishabh/Documents/Xcode/shell/shell>ls
Makefile      shell.h      temp
config        shell_assignment1
shell.c       shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>jobs
/Users/rishabh/Documents/Xcode/shell/shell>history
0 mkdir temp
1 cd temp
2 cd ..
3 cd ..
4 ls
5 cd shell
6 ls
7 jobs
/Users/rishabh/Documents/Xcode/shell/shell>exit
macbook-Pro-13:shell rishabh$
```

Annotations:

- Shell starts here (points to the first command in the history list)
- Stored in history (points to the list of commands in the history list)

Shell Program Output's

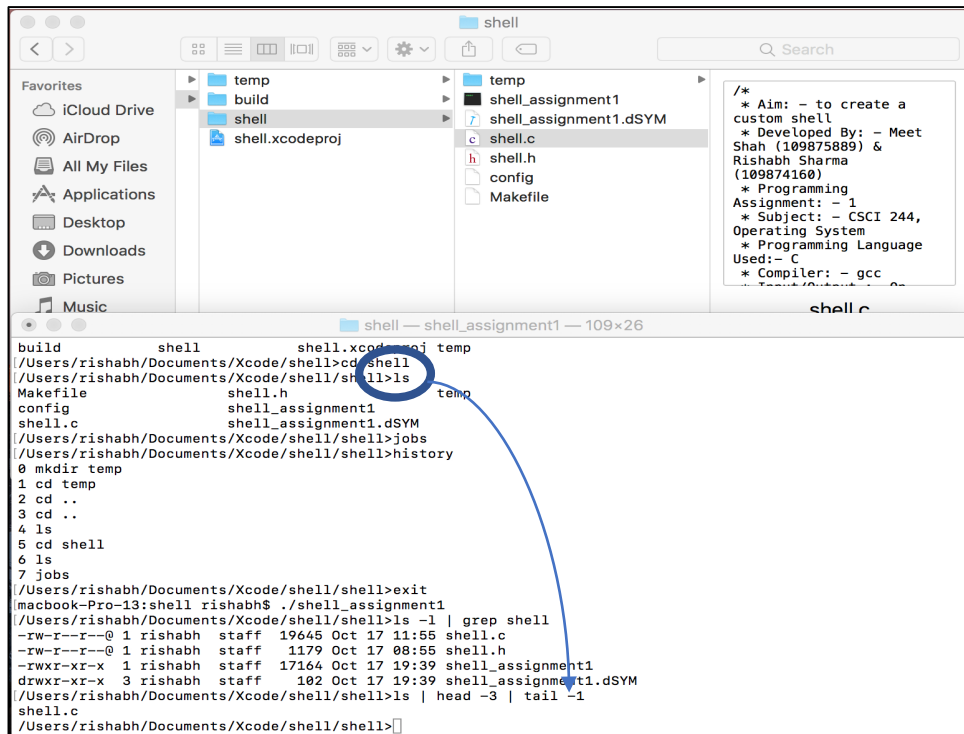
Output 4: - commands with pipeline - 1



```
/*
 * Aim: - to create a
 * custom shell
 * Developed By: - Meet
 * Shah (109875889) &
 * Rishabh Sharma
 * (109874160)
 * Programming
 * Assignment: - 1
 * Subject: - CSCI 244,
 * Operating System
 * Programming Language
 * Used:- C
 * Compiler: - gcc
 */

/Users/rishabh/Documents/Xcode/shell/shell>cd ..
/Users/rishabh/Documents/Xcode/shell/shell>ls
build      shell      shell.xcodeproj temp
/Users/rishabh/Documents/Xcode/shell/shell>cd shell
/Users/rishabh/Documents/Xcode/shell/shell>ls
Makefile   shell.h    temp
config     shell_assignment1
shell.c    shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>jobs
/Users/rishabh/Documents/Xcode/shell/shell>history
0 mkdir temp
1 cd temp
2 cd ..
3 cd ..
4 ls
5 cd shell
6 ls
7 jobs
/Users/rishabh/Documents/Xcode/shell/shell>exit
macbook-Pro-13:shell rishabh$ ./shell_assignment1
/Users/rishabh/Documents/Xcode/shell/shell>ls -l | grep shell
-rw-r--r--@ 1 rishabh  staff  19645 Oct 17 11:55 shell.c
-rw-r--r--@ 1 rishabh  staff   1179 Oct 17 08:55 shell.h
-rwxr-xr-x  1 rishabh  staff  17164 Oct 17 19:39 shell_assignment1
drwxr-xr-x  3 rishabh  staff   102 Oct 17 19:39 shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>
```

Output 5: - commands with pipeline - 2



```
build      shell      shell.xcodeproj temp
/Users/rishabh/Documents/Xcode/shell/shell>cd shell
/Users/rishabh/Documents/Xcode/shell/shell>ls
Makefile   shell.h    temp
config     shell_assignment1
shell.c    shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>jobs
/Users/rishabh/Documents/Xcode/shell/shell>history
0 mkdir temp
1 cd temp
2 cd ..
3 cd ..
4 ls
5 cd shell
6 ls
7 jobs
/Users/rishabh/Documents/Xcode/shell/shell>exit
macbook-Pro-13:shell rishabh$ ./shell_assignment1
/Users/rishabh/Documents/Xcode/shell/shell>ls -l | grep shell
-rw-r--r--@ 1 rishabh  staff  19645 Oct 17 11:55 shell.c
-rw-r--r--@ 1 rishabh  staff   1179 Oct 17 08:55 shell.h
-rwxr-xr-x  1 rishabh  staff  17164 Oct 17 19:39 shell_assignment1
drwxr-xr-x  3 rishabh  staff   102 Oct 17 19:39 shell_assignment1.dSYM
/Users/rishabh/Documents/Xcode/shell/shell>ls | head -3 | tail -1
shell.c
/Users/rishabh/Documents/Xcode/shell/shell>
```