

Pipe for Search

Homework Assignment #9

ELEC462-003 System Programming

(Instructor: Prof. Suh, Young-Kyoon)

Due: 13:59:59 pm, Thursday, May 18, 2023

Write a program that uses pipes to search for files containing a specific string. The search string should be entered by the user. The program should print only the files that contain the search string by running the “**ls**” command (to list the files in the current directory) and piping the output to the “**grep**” command.

The program should have the following features:

1. The program should prompt the user to enter a search string.
2. The program should run **ls** command and pipe its output to **grep** command.
3. The **grep** command should only output the files that contain the search string.
4. The program should print the search results to the standard output.
5. The program should be able to run on Linux and should be written in C.

For the exception handling, apply the same approach used in the example screenshot below.

<Precautions!!>

- Name your source code like: hw9_s<StudentID>.c.
- Zip the code and name it like hw9_s<StudentID>.zip.
Ex) If your student ID is 2019123456, your file name would be hw9_s2022123456.zip.
- Upload your zip file into LMS assignments tab.

[Expected output including several examples] (ll = 'ls -l')

```
palisade1@palisade1-Z490-UD:~/ywjang$ ll
total 40
drwxrwxr-x  2 palisade1 palisade1  4096 May  5 21:04 ./
drwxr-xr-x 31 palisade1 palisade1  4096 May  5 20:32 ../
-rwxrwxr-x  1 palisade1 palisade1 17224 May  5 20:34 hw*
-rw-rw-r--  1 palisade1 palisade1  1711 May  5 20:33 hw.c
-rw-rw-r--  1 palisade1 palisade1    0 May  5 21:04 main.c
-rw-rw-r--  1 palisade1 palisade1    0 May  5 21:04 main.java
-rw-rw-r--  1 palisade1 palisade1    6 May  5 20:34 main.py
-rw-rw-r--  1 palisade1 palisade1    0 May  5 21:04 sub.c
-rw-rw-r--  1 palisade1 palisade1    0 May  5 21:04 sub.java
-rw-rw-r--  1 palisade1 palisade1    5 May  5 20:34 sub.py
palisade1@palisade1-Z490-UD:~/ywjang$ ./hw
Enter a search string: main
main.c
main.java
main.py
palisade1@palisade1-Z490-UD:~/ywjang$ ./hw
Enter a search string: sub
sub.c
sub.java
sub.py
palisade1@palisade1-Z490-UD:~/ywjang$ ./hw
Enter a search string: py
main.py
sub.py
palisade1@palisade1-Z490-UD:~/ywjang$ ./hw
Enter a search string: helloworld
palisade1@palisade1-Z490-UD:~/ywjang$ ./hw
Enter a search string: ls
palisade1@palisade1-Z490-UD:~/ywjang$ 
```

Q & A

If you have a question, then contact TA by email (jtu6568@gmail.com). Or, leave your messages on LMS Q&A board.

Late Day Policy

All exercises are due at 13:59:59 pm on the assigned due date. A grading penalty will be applied to late assignments. Any assignment turned in late will be penalized 50% per late day.

Plagiarism

No plagiarism will be tolerated. Also, NEVER use ChatGPT. If the assignment is to be worked on your own, please respect it. If the instructor determines that there are substantial similarities exceeding the likelihood of such an event, he will call the two (or more) students to explain them and possibly to take an immediate test (or assignment, at the discretion of the instructor) to determine the student's abilities related to the offending work.