

# Size-ordered ls

Homework Assignment #2

ELEC462-003 System Programming

(Instructor: Prof. Suh, Young-Kyoon)

**Due: 1:59:59 pm, Thursday, March 23, 2023**

Your task is to build a **Size-ordered** `ls`. Standard `ls` supports the `-S` / `-s` options. This lists the contents in **size order** while sorting. (Refer to `man ls`.) Modify `ls2.c` to support the `-S/s` option for descending/ascending order respectively.

## <Precautions!!>

- Name your source code like: `hw2_s<StudentID>.c`.

- Zip the code and name it like `hw2_s<StudentID>.zip`.

Ex) If your student ID is 2022123456, your file name would be `hw2_s2022123456.zip`.

- Upload your zip file into LMS Assignments tab.

## [How to execute it]

```
// Assume that your filename is 'hw2_s2022123456.c.'
```

```
// The following execution must have NO errors!
```

```
~$ gcc -o hw2_s2022123456 hw2_s2022123456.c
```

```
~$ ./hw2_s2022123456
```

```
~$ ./hw2_s2022123456 -S
```

```
~$ ./hw2_s2022123456 -s
```

(Your program should accept `-S/s` options as arguments like these.)

## [Output result format]

If you **do NOT** include the option **-S/s**, then you must list the contents of the current directory.

[Example: './hw2\_s2022123456

~\$ ./hw2\_2022123456

```
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ ./hw2_s2022123456
-rwxrwxr-x- 1 yksuh yksuh 10848 Mar 13 19:16 test
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2
drwxrwxr-x- 4 yksuh yksuh 4096 Mar 13 19:12 ..
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2_s2022123456
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:12 size_order_ls.c
-rw-rw-r--- 1 yksuh yksuh 74 Mar 13 19:16 helloworld.c
-rwxrwxr-x- 1 yksuh yksuh 10752 Mar 13 19:16 helloworld
drwxrwxr-x- 2 yksuh yksuh 4096 Mar 13 19:16 .
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:13 hw2.c
-rw-r--r--- 1 yksuh yksuh 721 Mar 13 19:14 factorization_fixed.c
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ █
```

If you **include** the **-S** option, you must list the contents of the current directory in *descending* order of their file size.

~\$ ./hw2\_2022123456 -S

```
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ ./hw2_s2022123456 -S
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2_s2022123456
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2
-rwxrwxr-x- 1 yksuh yksuh 10848 Mar 13 19:16 test
-rwxrwxr-x- 1 yksuh yksuh 10752 Mar 13 19:16 helloworld
drwxrwxr-x- 2 yksuh yksuh 4096 Mar 13 19:16 .
drwxrwxr-x- 4 yksuh yksuh 4096 Mar 13 19:12 ..
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:13 hw2.c
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:12 size_order_ls.c
-rw-r--r--- 1 yksuh yksuh 721 Mar 13 19:14 factorization_fixed.c
-rw-rw-r--- 1 yksuh yksuh 74 Mar 13 19:16 helloworld.c
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ █
```

If you **include** the **-s** option, you must list the contents of the current directory in *ascending* order of their file size.

~\$ ./hw2\_2022123456 -s

```
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ ./hw2_s2022123456 -s
-rw-rw-r--- 1 yksuh yksuh 74 Mar 13 19:16 helloworld.c
-rw-r--r--- 1 yksuh yksuh 721 Mar 13 19:14 factorization_fixed.c
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:13 hw2.c
-rw-r--r--- 1 yksuh yksuh 3720 Mar 13 19:12 size_order_ls.c
drwxrwxr-x- 2 yksuh yksuh 4096 Mar 13 19:16 .
drwxrwxr-x- 4 yksuh yksuh 4096 Mar 13 19:12 ..
-rwxrwxr-x- 1 yksuh yksuh 10752 Mar 13 19:16 helloworld
-rwxrwxr-x- 1 yksuh yksuh 10848 Mar 13 19:16 test
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2_s2022123456
-rwxrwxr-x- 1 yksuh yksuh 13448 Mar 13 19:13 hw2
yksuh@macan:~/courses/ELEC462/homeworks/hw2$ █
```

## **Q&A**

If you have a question, then contact TA by email ([rinyo0126@knu.ac.kr](mailto:rinyo0126@knu.ac.kr)). Or, leave your messages on LMS Q&A board.

## **Late Day Policy**

All exercises are due at **1:59:59 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.