Operating Systems (PG)
Assignment 3

Objective:
To understand the file system services provided by OS.

Question:
Write a program to simulate GNU “ls” command.

Options to be implemented:

-l: Long listing format
-R: Recursive
-a: all
-d: list directory entries instead of contents
-S: sort by file size
-t: sort by modification time

Usage:
$ ./myls -lS
$ ./myls -l -ta
$ ./myls -lt
$ ./myls -R -lt
$ ./myls -l <file/directory>
$ ./myls -l -t <file/directory>

Note: Provide proper error messages.

Output format:
Output should be similar to the output provided by “ls” command. The output is in multiple columns (normal behavior) but when the standard output is not a terminal, the contents are printed one per line.

It must resolve symbolic links and provide details of where the link points with long listing option (-l).

Useful man pages:
- stat
- getpwuid
- getgrgid
- localtime
- scandir
- readlink

Deadline: 24th September, Monday, 11:59PM

Upload Format: .tar.gz

Create a folder named your roll number.
Create a “README” file containing the details of options implemented and also place your '.c' or '.cpp' files in the folder.
Create a tar.gz named “Assignment3_ls.tar.gz” and upload it.