

MyLs

Deadline: October 3rd, 2014

1 Instructions

Implement a program named `mysls` that matches the following documentation:

```
Usage: mysls [OPTION]... [FILE]...

List information about the FILES (the current directory
by default). Sort the output alphabetically by default.

Options:
  -R      Recurse into subdirectories.
  -l      Use a long listing format.
```

- The program must terminate with code 0 if the operation completes successfully, 1 otherwise.
- Use only one column for the output.
- Entries whose name start with a period (.) must be omitted, except if explicitly given on the command line.
- For the long listing, use the following format: file mode, number of links, owner user ID, group ID, number of bytes in the file, datetime of last modification in format YYYY-MM-DD HH:MM:SS, entry name, optionally followed by “->” and the link target for symbolic links.
- You may use any standard C function (either from ISO C 1999/2011 or POSIX).
- You may not use `system` or any other mechanism that invokes an external program.

You may implement the following for a higher grade:

- multi-column output if the output is a terminal;
- output sorting: by default alphanumeric on the entry name; no sorting if `-f` is specified; by modification time if `-t` is specified, by size if `-s` is specified. Tip: use `qsort(3)`;
- any extra feature you deem particularly useful.

2 Grading

- 4 points if `myls` works without arguments or with only one file/directory argument.
 - +1 point if `-R` is properly implemented.
 - +1 point if `-l` is properly implemented.
 - +1 point if `myls` also supports more than 1 file/directory argument.
 - +0.5 point if multi-column output is properly implemented.
 - +1.5 point if output sorting is properly implemented (including `-f`, `-t` and `-s`);
 - +1 point if any additional feature is implemented and duly documented in an enclosed `README` file, and your examiner agrees it is indeed useful.
-

3 Copyright and licensing

Copyright © 2014, Raphael 'kena' Poss. Permission is granted to distribute, reuse and modify this document and other documents for the Systems Programming course by the same author according to the terms of the Creative Commons Attribution-ShareAlike 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-sa/4.0/>.