B1- Unix System Programmation

B-PSU-100

my_ls

LiSting command-like

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binary name:	my_ls
repository name:	PSU_my_ls_$ACADEMICYEAR
repository rights:	ramassage-tek
language:	C
group size:	1
compilation:	via Makefile, including re, clean and fclean rules

> (!)
> - Your repository must contain the totality of your source files, but no useless files (binary, temp files, obj files,...).
> - All the bonus files (including a potential specific Makefile) should be in a directory named *bonus*.
> - Error messages have to be written on the error output, and the program should then exit with the 84 error code (0 if there is no error).

You must recode the **ls [-lRdrt] [FILE]** command.
Options can be given in either order:

```
~/B-PSU-100> ./my_ls -l -t
...
~/B-PSU-100> ./my_ls -lRt
...
~/B-PSU-100> ./my_ls -lt -R -t
...
```

It must be possible to pass a list of files/folders as parameters:

```
~/B-PSU-100> ./my_ls -l /dev /usr/sbin
...
~/B-PSU-100> ./my_ls -l -r file1 file2
...
```

> 💡 Handling the column formatting without the *-l* option would be considered as a bonus point, as well as **sorting** and **coloring**.

As a bonus, you could also handle others options, such as *-uFgf*.

Authorized Functions

The only system calls allowed are the following ones:
- opendir
- readdir
- closedir
- stat
- lstat
- write
- getpwuid
- getgrgid
- time
- ctime
- readlink
- malloc
- free
- perror
- strerror
- exit

Example

```
▽                              Terminal                            −  +  X
~/B-PSU-100> ./my_ls -l -R
total 4
 -rwxr-xr-x  1  stallman  operator  606  Oct 29  10:45  my_ls
 -rw-r--r--  1  stallman  prof      860  Oct 19  11:11  bdsh
 -rw-r--r--  2  stallman  operator  830  Oct 13  14:11  bdsh~
 -rwxr-xr-x  1  stallman  operator  497  Oct 13  14:00  stream.a*
```

```
▽                              Terminal                            −  +  X
~/B-PSU-100> ./my_ls ./lib
iob
libextra_FreeBSD.a
libmlx_FreeBSD.a
libmlx_ia64.a
libmy_FreeBSD.a
libmy_ia64.a
libmy_list_FreeBSD.a
lmd
my
my_btree
my_list
```