Лабораторная работа №4

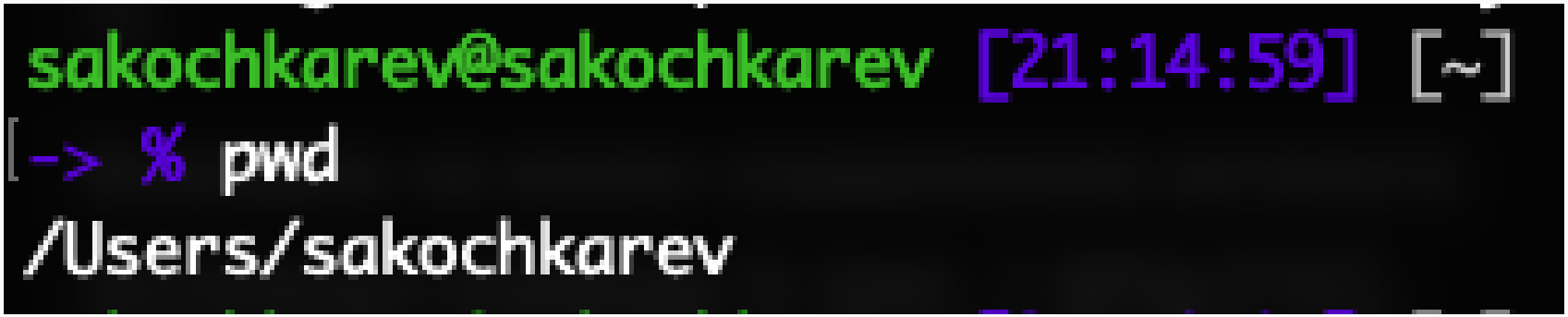
Кочкарев “sakochkarev” Станислав

RUDN University

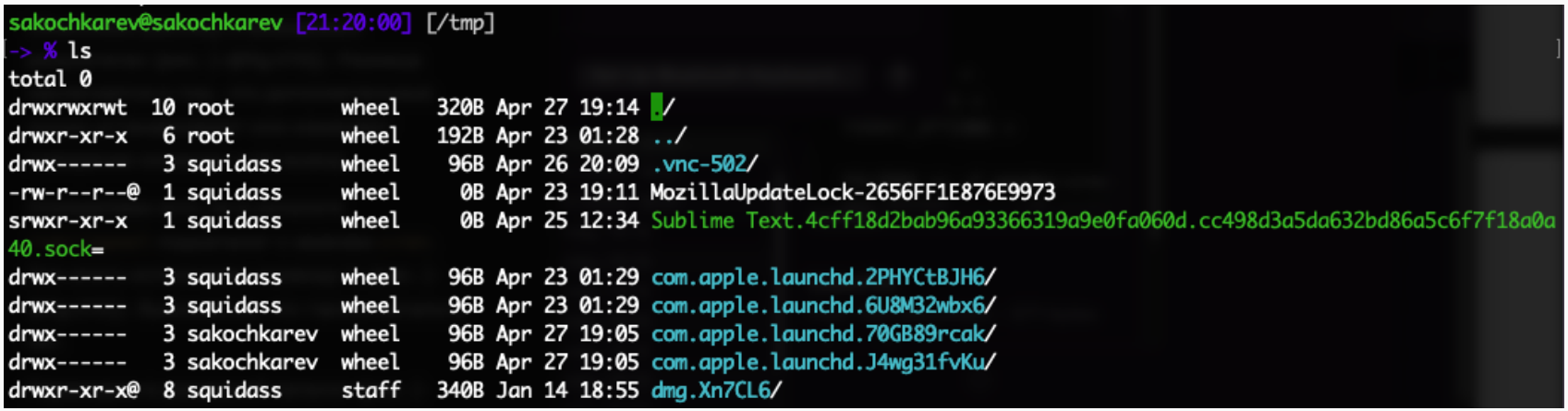
Цель работы

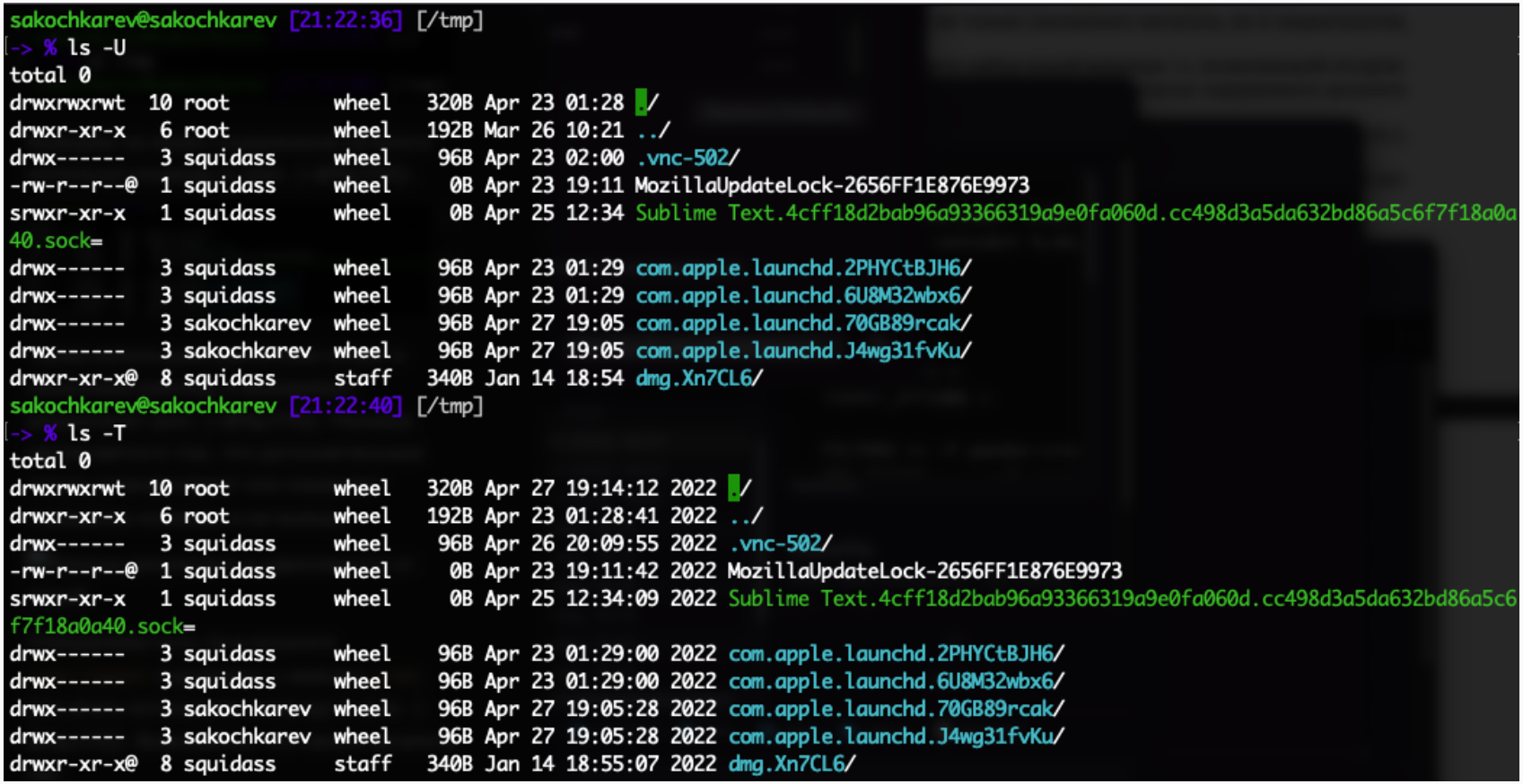
Приобретение практических навыков взаимодействия пользователя с системой посредством командной строки.

Выполнение лабораторной работы

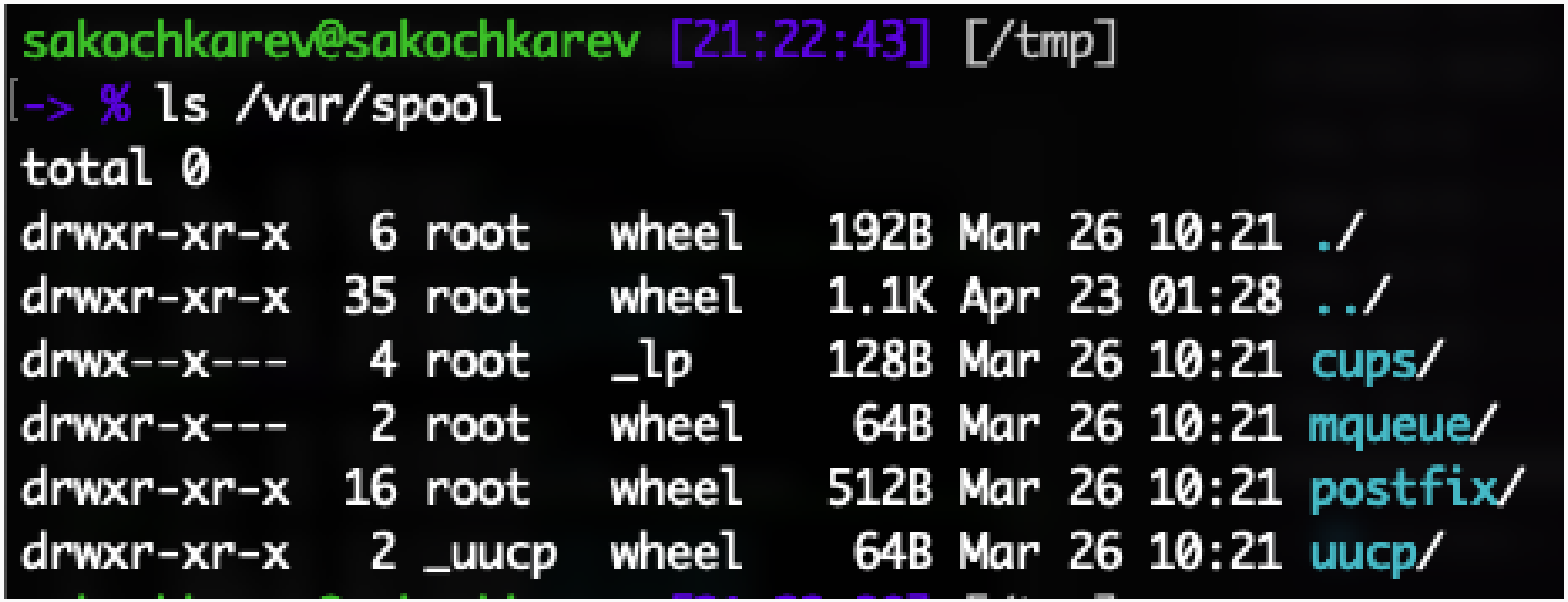

sakochkarev@sakochkarev [21:14:59] [~]
[-> % pwd
/Users/sakochkarev

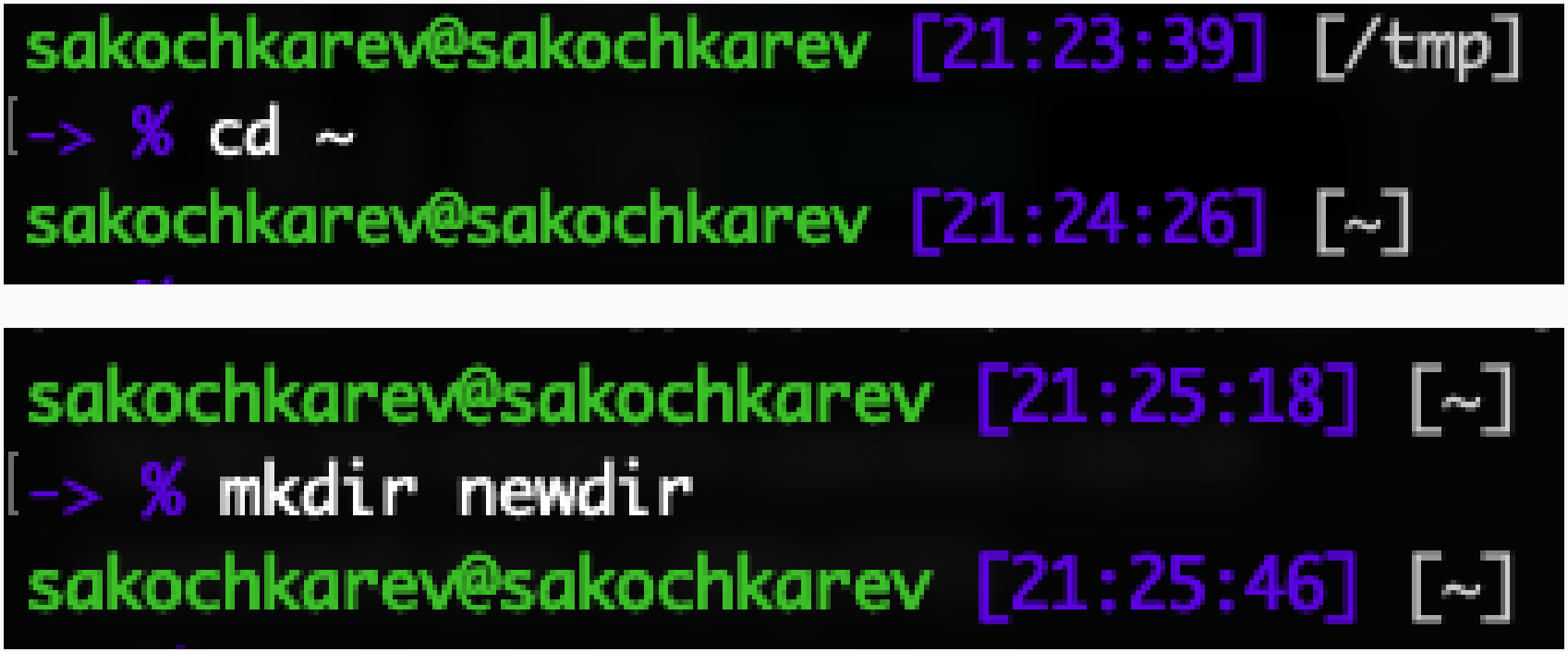

sakochkarev@sakochkarev [21:18:07] [~]
[-> % cd /tmp
sakochkarev@sakochkarev [21:20:00] [/tmp]


sakochkarev@sakochkarev [21:20:00] [/tmp]
-> % ls
total 0
drwxrwxrwt 10 root wheel 320B Apr 27 19:14 ./
drwxr-xr-x 6 root wheel 192B Apr 23 01:28 ../
drwx------ 3 squidass wheel 96B Apr 26 20:09 .vnc-502/
-rw-r--r--@ 1 squidass wheel 0B Apr 23 19:11 MozillaUpdateLock-2656FF1E876E9973
srwxr-xr-x 1 squidass wheel 0B Apr 25 12:34 Sublime Text.4cff18d2bab96a93366319a9e0fa060d.cc498d3a5da632bd86a5c6f7f18a0a40.sock=
drwx------ 3 squidass wheel 96B Apr 23 01:29 com.apple.launchd.2PHYCtBJH6/
drwx------ 3 squidass wheel 96B Apr 23 01:29 com.apple.launchd.6U8M32wbx6/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05 com.apple.launchd.70GB89rcak/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05 com.apple.launchd.J4wg31fvKu/
drwxr-xr-x@ 8 squidass staff 340B Jan 14 18:55 dmg.Xn7CL6/


sakochkarev@sakochkarev [21:22:36] [/tmp]
-> % ls -U
total 0
drwxrwxrwt 10 root wheel 320B Apr 23 01:28 ./
drwxr-xr-x 6 root wheel 192B Mar 26 10:21 ../
drwx------ 3 squidass wheel 96B Apr 23 02:00 .vnc-502/
-rw-r--r--@ 1 squidass wheel 0B Apr 23 19:11 MozillaUpdateLock-2656FF1E876E9973
srwxr-xr-x 1 squidass wheel 0B Apr 25 12:34 Sublime Text.4cff18d2bab96a93366319a9e0fa060d.cc498d3a5da632bd86a5c6f7f18a0a40.sock=
drwx------ 3 squidass wheel 96B Apr 23 01:29 com.apple.launchd.2PHYCtBJH6/
drwx------ 3 squidass wheel 96B Apr 23 01:29 com.apple.launchd.6U8M32wbx6/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05 com.apple.launchd.70GB89rcak/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05 com.apple.launchd.J4wg31fvKu/
drwxr-xr-x@ 8 squidass staff 340B Jan 14 18:54 dmg.Xn7CL6/
sakochkarev@sakochkarev [21:22:40] [/tmp]
-> % ls -T
total 0
drwxrwxrwt 10 root wheel 320B Apr 27 19:14:12 2022 ./
drwxr-xr-x 6 root wheel 192B Apr 23 01:28:41 2022 ../
drwx------ 3 squidass wheel 96B Apr 26 20:09:55 2022 .vnc-502/
-rw-r--r--@ 1 squidass wheel 0B Apr 23 19:11:42 2022 MozillaUpdateLock-2656FF1E876E9973
srwxr-xr-x 1 squidass wheel 0B Apr 25 12:34:09 2022 Sublime Text.4cff18d2bab96a93366319a9e0fa060d.cc498d3a5da632bd86a5c6f7f18a0a40.sock=
drwx------ 3 squidass wheel 96B Apr 23 01:29:00 2022 com.apple.launchd.2PHYCtBJH6/
drwx------ 3 squidass wheel 96B Apr 23 01:29:00 2022 com.apple.launchd.6U8M32wbx6/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05:28 2022 com.apple.launchd.70GB89rcak/
drwx------ 3 sakochkarev wheel 96B Apr 27 19:05:28 2022 com.apple.launchd.J4wg31fvKu/
drwxr-xr-x@ 8 squidass staff 340B Jan 14 18:55:07 2022 dmg.Xn7CL6/

Определяем есть ли в каталоге `/var/spool` подкаталог с именем `cron`.




sakochkarev@sakochkarev [21:23:39] [/tmp]
[-> % cd ~
sakochkarev@sakochkarev [21:24:26] [~]
sakochkarev@sakochkarev [21:25:18] [~]
[-> % mkdir newdir
sakochkarev@sakochkarev [21:25:46] [~]


sakochkarev@sakochkarev [21:25:18] [~]
[-> % mkdir newdir
sakochkarev@sakochkarev [21:25:46] [~]

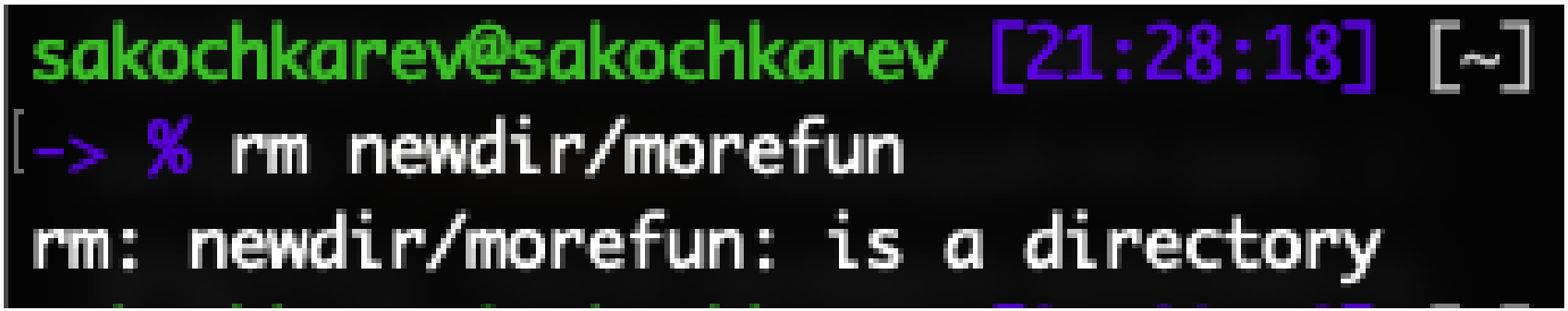

sakochkarev@sakochkarev [21:25:46] [~]
[-> % mkdir newdir/morefun
sakochkarev@sakochkarev [21:26:19] [~]


sakochkarev@sakochkarev [21:26:19] [~]
[-> % mkdir letters memos misk
sakochkarev@sakochkarev [21:27:17] [~]


sakochkarev@sakochkarev [21:27:17] [~]
[-> % rmdir letters memos misk
sakochkarev@sakochkarev [21:27:39] [~]

Пробуем удалить ранее созданный каталог `~/newdir`.

Пробуем удалить подкаталог `~/newdir/morefun`.



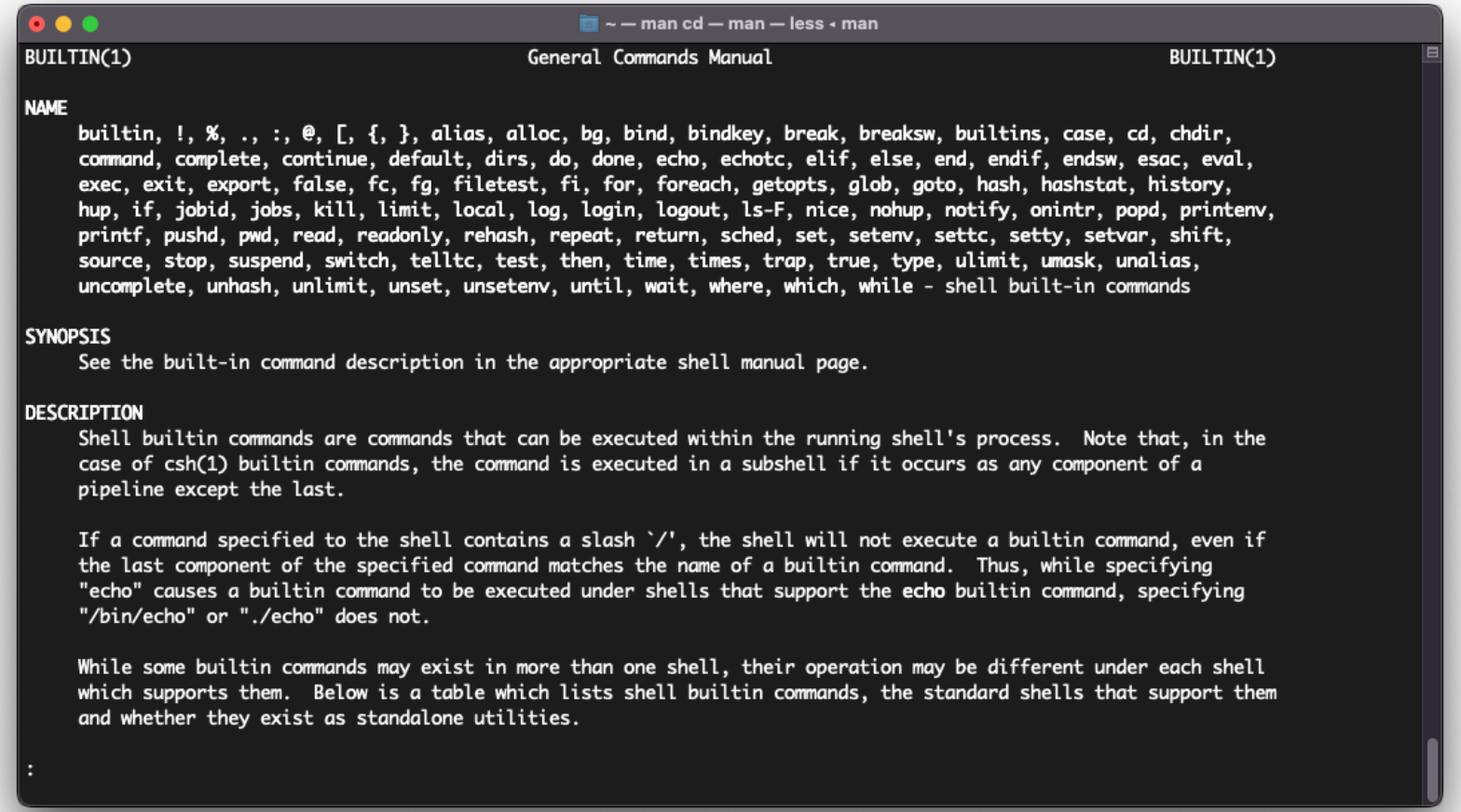
Определяем, какую опцию команды ls нужно использовать для просмотра содержимого не только указанного каталога, но и подкаталогов, входящих в него.

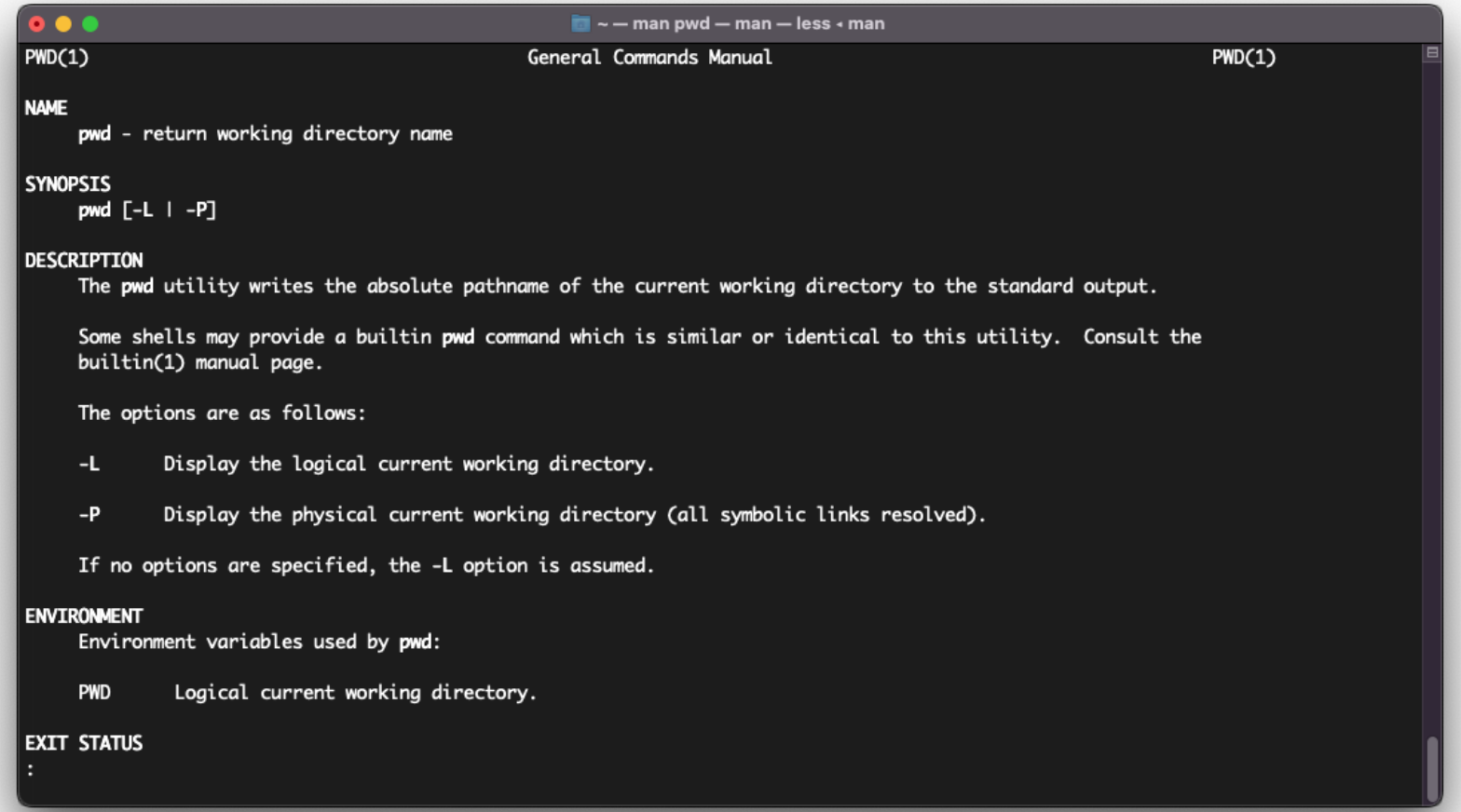
Находим опцию, позволяющую отсортировать выводимый список по времени последнего изменения.

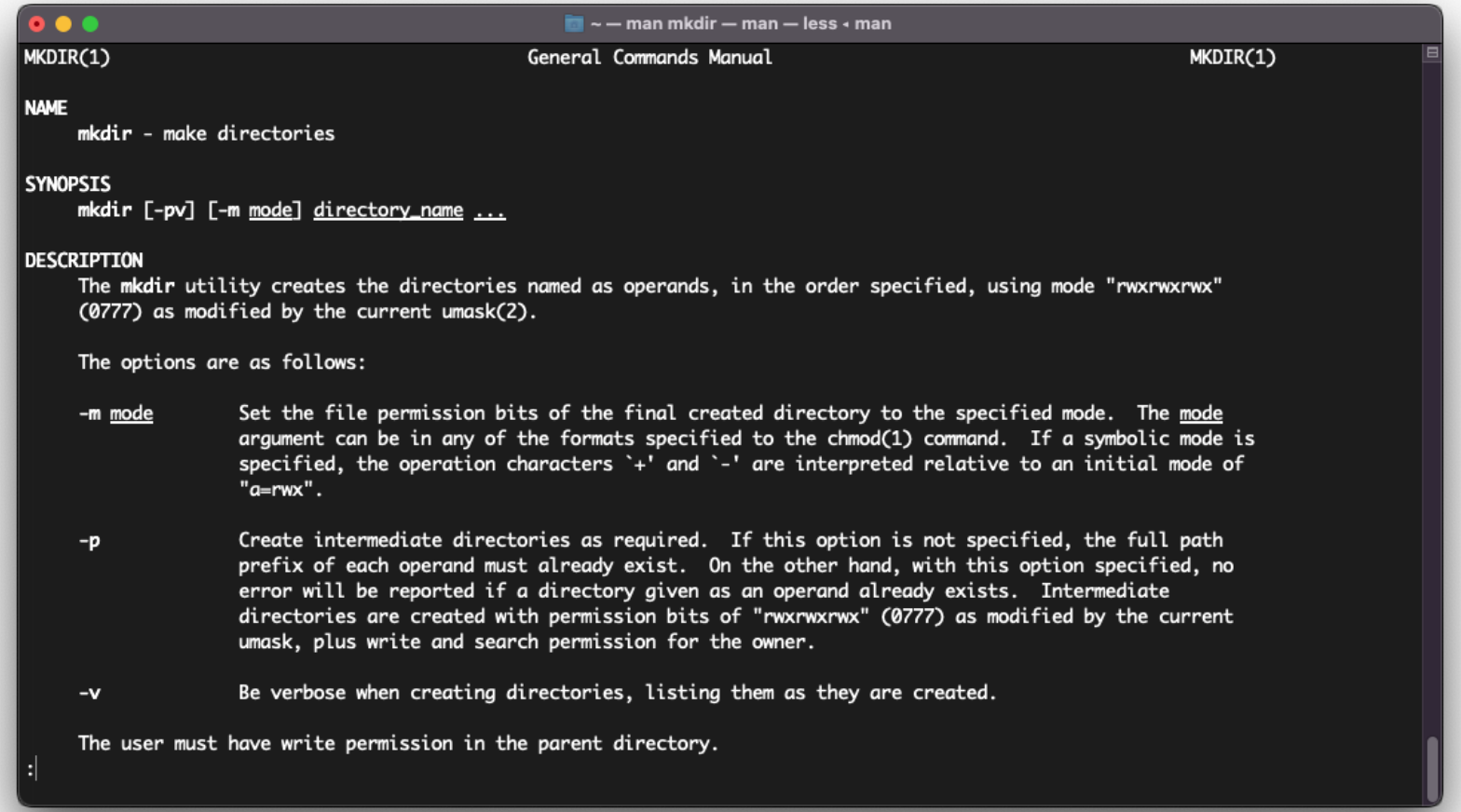
```
-t      Sort by descending time modified (most recently modified first).  If two files have the same
        modification timestamp, sort their names in ascending lexicographical order.  The -r option reverses
        both of these sort orders.

        Note that these sort orders are contradictory: the time sequence is in descending order, the
        lexicographical sort is in ascending order.  This behavior is mandated by IEEE Std 1003.2 ("POSIX.2").
        This feature can cause problems listing files stored with sequential names on FAT file systems, such as
        from digital cameras, where it is possible to have more than one image with the same timestamp.  In such
        a case, the photos cannot be listed in the sequence in which they were taken.  To ensure the same sort
        order for time and for lexicographical sorting, set the environment variable LS_SAMESORT or use the -y
        option.  This causes ls to reverse the lexicographical sort order when sorting files with the same
        modification timestamp.
```

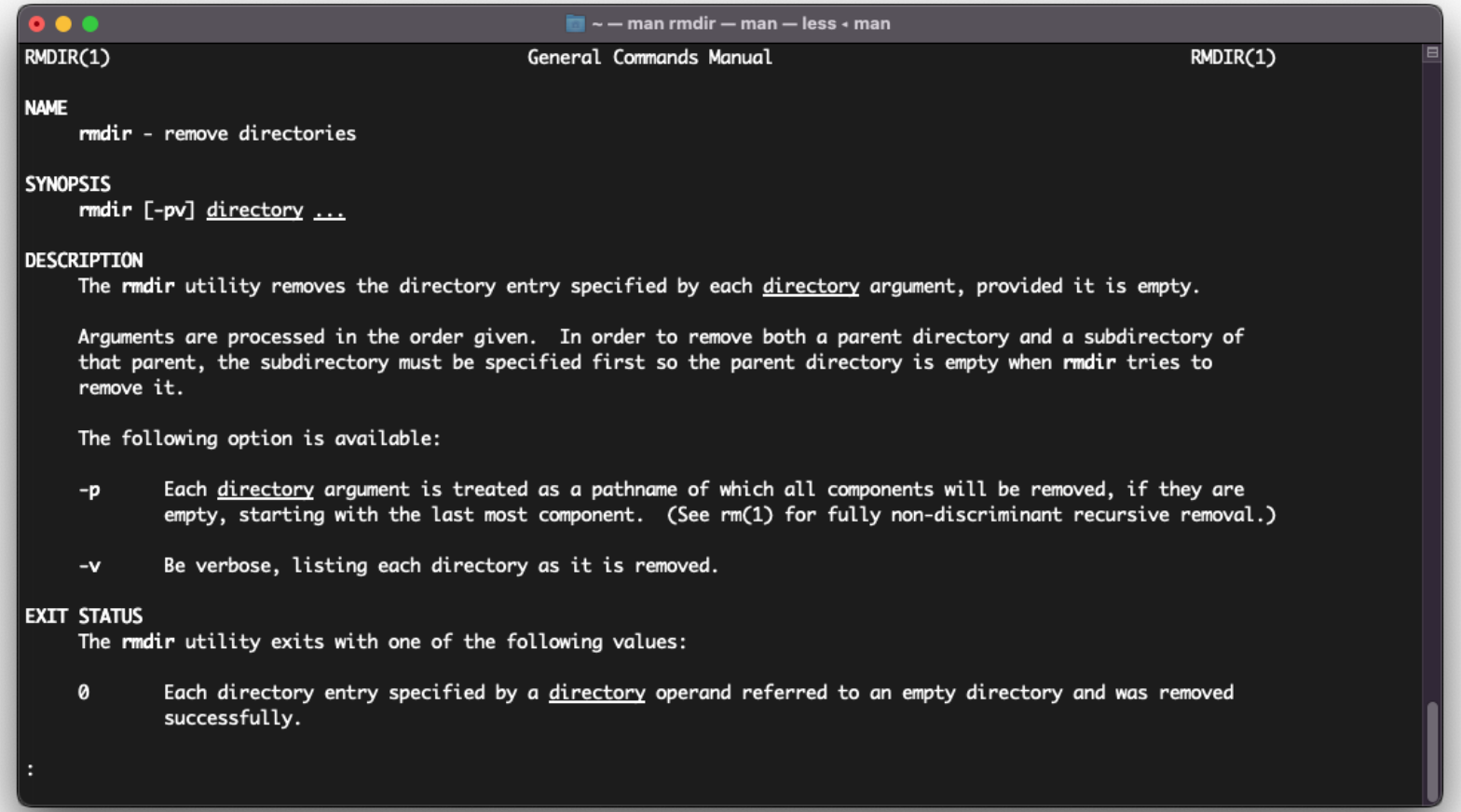
Просматриваем описание команд cd, pwd, mkdir, rmdir, rm и их пояснения.

- cd - перейти в каталог
- pwd - вернуть название рабочей директории
- mkdir - создать каталог
- rmdir - удалить каталог
- rm - удалить вхождение в каталог


~ — man cd — man — less ◂ man
BUILTIN(1) General Commands Manual BUILTIN(1)
NAME
builtin, !, %, ., :, @, [, {, }, alias, alloc, bg, bind, bindkey, break, breaksw, builtins, case, cd, chdir, command, complete, continue, default, dirs, do, done, echo, echotc, elif, else, end, endif, endsw, esac, eval, exec, exit, export, false, fc, fg, filetest, fi, for, foreach, getopts, glob, goto, hash, hashstat, history, hup, if, jobid, jobs, kill, limit, local, log, login, logout, ls-F, nice, nohup, notify, onintr, popd, printenv, printf, pushd, pwd, read, readonly, rehash, repeat, return, sched, set, setenv, settc, setty, setvar, shift, source, stop, suspend, switch, telltc, test, then, time, times, trap, true, type, ulimit, umask, unalias, uncomplete, unhash, unlimit, unset, unsetenv, until, wait, where, which, while - shell built-in commands
SYNOPSIS
See the built-in command description in the appropriate shell manual page.
DESCRIPTION
Shell builtin commands are commands that can be executed within the running shell's process. Note that, in the case of csh(1) builtin commands, the command is executed in a subshell if it occurs as any component of a pipeline except the last.
If a command specified to the shell contains a slash `/', the shell will not execute a builtin command, even if the last component of the specified command matches the name of a builtin command. Thus, while specifying "echo" causes a builtin command to be executed under shells that support the echo builtin command, specifying "/bin/echo" or "./echo" does not.
While some builtin commands may exist in more than one shell, their operation may be different under each shell which supports them. Below is a table which lists shell builtin commands, the standard shells that support them and whether they exist as standalone utilities.
:

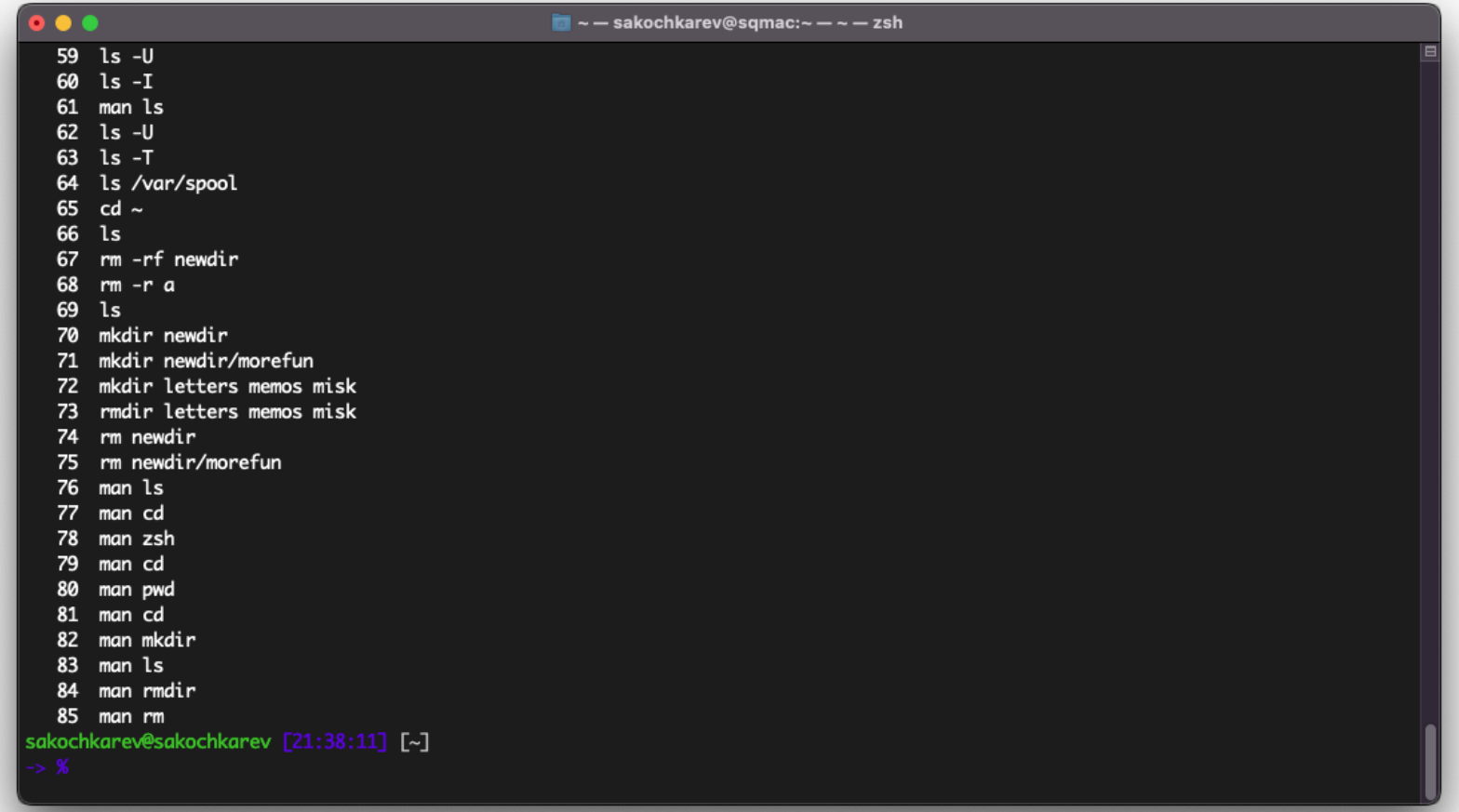

~ — man pwd — man — less ‹ man
PWD(1) General Commands Manual PWD(1)
NAME
pwd - return working directory name
SYNOPSIS
pwd [-L | -P]
DESCRIPTION
The pwd utility writes the absolute pathname of the current working directory to the standard output.
Some shells may provide a builtin pwd command which is similar or identical to this utility. Consult the builtin(1) manual page.
The options are as follows:
-L Display the logical current working directory.
-P Display the physical current working directory (all symbolic links resolved).
If no options are specified, the -L option is assumed.
ENVIRONMENT
Environment variables used by pwd:
PWD Logical current working directory.
EXIT STATUS
:

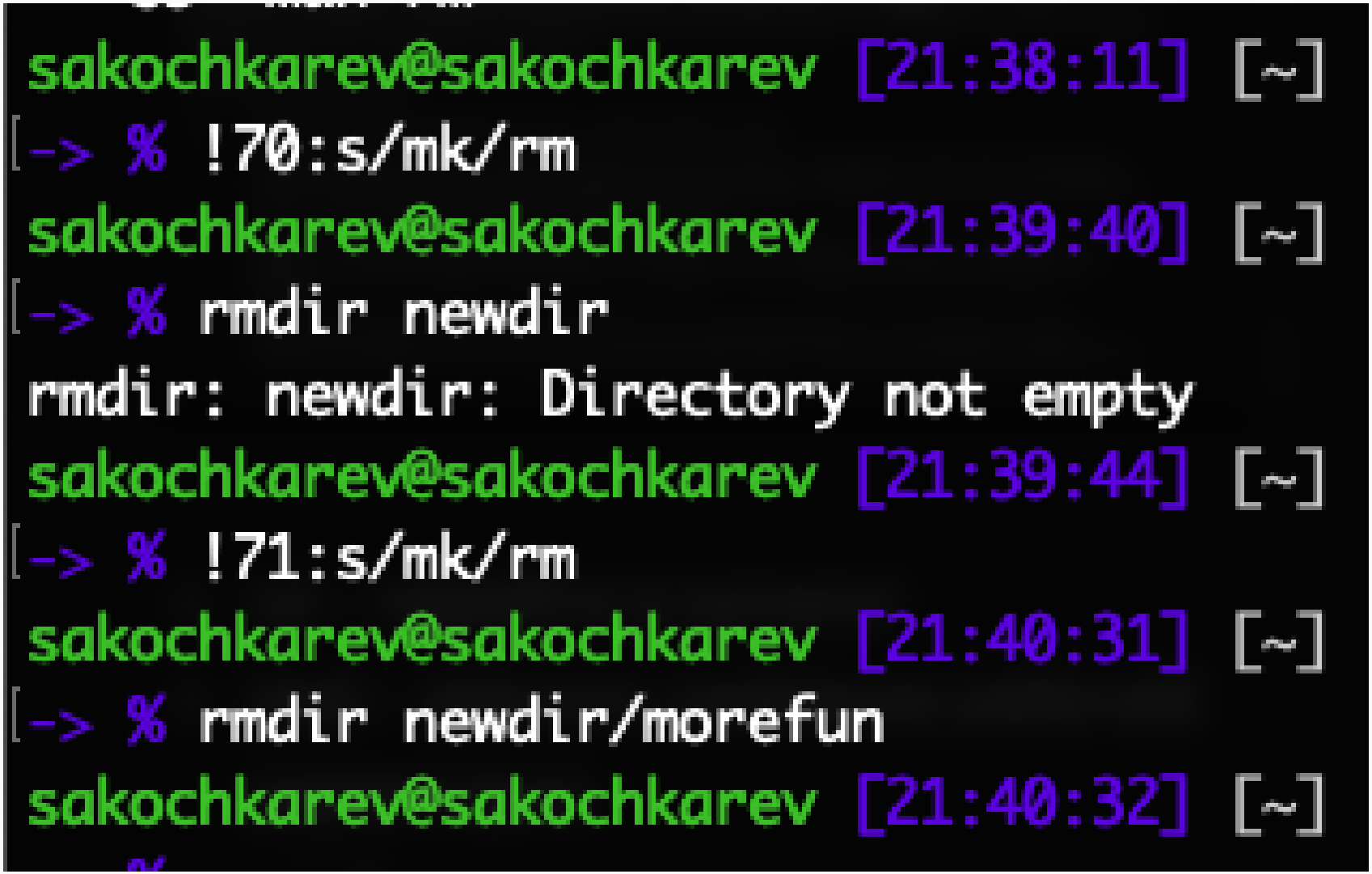

~ — man mkdir — man — less ◂ man
MKDIR(1) General Commands Manual MKDIR(1)
NAME
mkdir - make directories
SYNOPSIS
mkdir [-pv] [-m mode] directory_name ...
DESCRIPTION
The mkdir utility creates the directories named as operands, in the order specified, using mode "rwxrwxrwx" (0777) as modified by the current umask(2).
The options are as follows:
-m mode Set the file permission bits of the final created directory to the specified mode. The mode argument can be in any of the formats specified to the chmod(1) command. If a symbolic mode is specified, the operation characters `+' and `-' are interpreted relative to an initial mode of "a=rwx".
-p Create intermediate directories as required. If this option is not specified, the full path prefix of each operand must already exist. On the other hand, with this option specified, no error will be reported if a directory given as an operand already exists. Intermediate directories are created with permission bits of "rwxrwxrwx" (0777) as modified by the current umask, plus write and search permission for the owner.
-v Be verbose when creating directories, listing them as they are created.
The user must have write permission in the parent directory.
:


~ — man rmdir — man — less ◂ man
RMDIR(1) General Commands Manual RMDIR(1)
NAME
rmdir - remove directories
SYNOPSIS
rmdir [-pv] directory ...
DESCRIPTION
The rmdir utility removes the directory entry specified by each directory argument, provided it is empty.
Arguments are processed in the order given. In order to remove both a parent directory and a subdirectory of that parent, the subdirectory must be specified first so the parent directory is empty when rmdir tries to remove it.
The following option is available:
-p Each directory argument is treated as a pathname of which all components will be removed, if they are empty, starting with the last most component. (See rm(1) for fully non-discriminant recursive removal.)
-v Be verbose, listing each directory as it is removed.
EXIT STATUS
The rmdir utility exits with one of the following values:
0 Each directory entry specified by a directory operand referred to an empty directory and was removed successfully.
:


~ — man rm — man — less ◂ man
RM(1) General Commands Manual RM(1)
NAME
rm, unlink - remove directory entries
SYNOPSIS
rm [-f | -i] [-dIRrvWx] file ...
unlink [--] file
DESCRIPTION
The rm utility attempts to remove the non-directory type files specified on the command line. If the permissions of the file do not permit writing, and the standard input device is a terminal, the user is prompted (on the standard error output) for confirmation.
The options are as follows:
-d Attempt to remove directories as well as other types of files.
-f Attempt to remove the files without prompting for confirmation, regardless of the file's permissions. If the file does not exist, do not display a diagnostic message or modify the exit status to reflect an error. The -f option overrides any previous -i options.
-i Request confirmation before attempting to remove each file, regardless of the file's permissions, or whether or not the standard input device is a terminal. The -i option overrides any previous -f options.
-I Request confirmation once if more than three files are being removed or if a directory is being recursively removed. This is a far less intrusive option than -i yet provides almost the same level of
:

Модифицируем и исполняем несколько команд из буфера команд.




sakochkarev@sakochkarev [21:38:11] [~]
[-> % !70:s/mk/rm
sakochkarev@sakochkarev [21:39:40] [~]
[-> % rmdir newdir
rmdir: newdir: Directory not empty
sakochkarev@sakochkarev [21:39:44] [~]
[-> % !71:s/mk/rm
sakochkarev@sakochkarev [21:40:31] [~]
[-> % rmdir newdir/morefun
sakochkarev@sakochkarev [21:40:32] [~]

Выводы

Мы приобрели практические навыки взаимодействия пользователя с системой посредством командной строки.