

№4 “

Unix

RUDN University, Moscow, Russian Federation

1.

2.

2.1

/tmp.

2.2

/tmp.

ls

2.3

/var/spool

cron

2.4

3. :
3.1 newdir.
3.2 ~/newdir morefun.
3.3 letters, memos,
 misk.
3.4 ~/newdir rm.

3.5 ~/newdir/morefun
4. man , ls

-
- 5. man ls,
 - 6. man : cd, pwd, mkdir,
rmdir, rm.
 - 7. , history,

,
 cd ,
 $.(\quad . \quad 1)$
 pwd ,

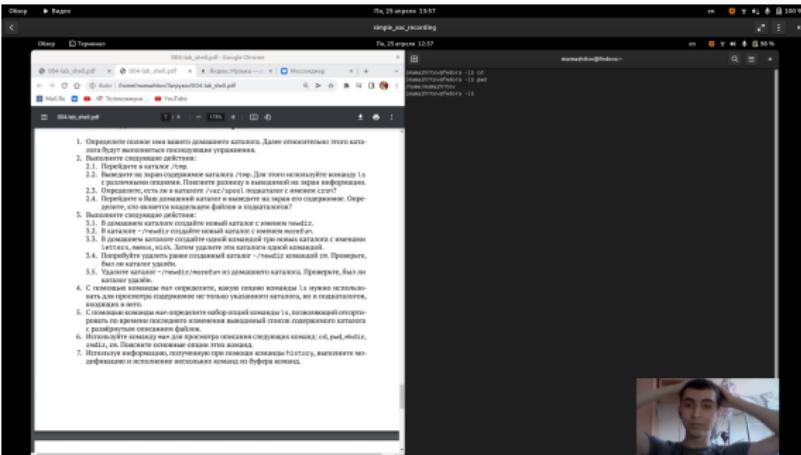


Figure 1:

/tmp,
,

).(. 2)

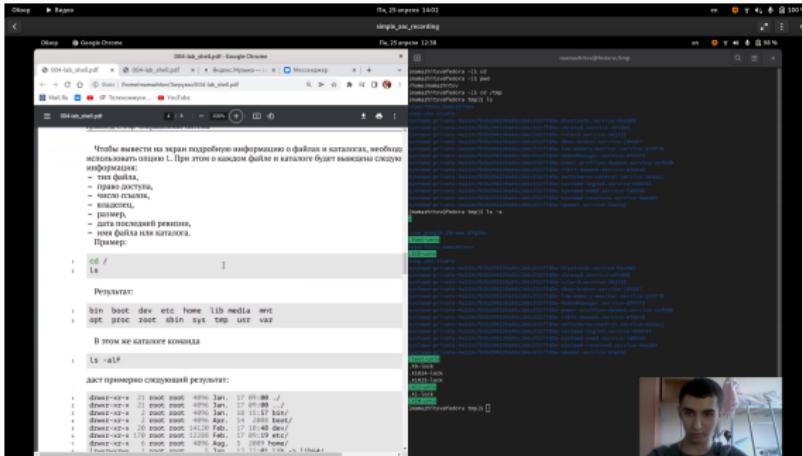


Figure 2:
ls

/var/spool *ls*
cron(*).(. . 3)*

```
[mamazhitov@fedora spool]$ cd  
[mamazhitov@fedora ~]$ cd /tmp  
[mamazhitov@fedora tmp]$ cd /var/spool  
[mamazhitov@fedora spool]$ ls  
abrt abrt-upload cups lpd mail plymouth
```

Figure 3: cron /var/spool

.(. 4)

```
[mamazhitov@fedora spool]$ cd
[mamazhitov@fedora ~]$ ls -l
ИТОГО 8
-rw-r--r--. 1 mamazhitov mamazhitov 5188 апр 24 20:53 123.txt
drwx-----. 1 mamazhitov mamazhitov 20 апр 20 23:33 snap
drwxrwxr-x. 1 mamazhitov mamazhitov 10 апр 21 15:37 work
drwxr-xr-x. 1 mamazhitov mamazhitov 0 апр 20 22:39 Видео
drwxr-xr-x. 1 mamazhitov mamazhitov 14 апр 24 19:04 Документы
drwxr-xr-x. 1 mamazhitov mamazhitov 1082 апр 25 11:30 Загрузки
drwxr-xr-x. 1 mamazhitov mamazhitov 436 апр 25 12:36 'записи ос'
drwxr-xr-x. 1 mamazhitov mamazhitov 216 апр 25 12:16 Изображения
drwxr-xr-x. 1 mamazhitov mamazhitov 0 апр 20 22:39 Музыка
drwxr-xr-x. 1 mamazhitov mamazhitov 0 апр 20 22:39 Общедоступные
drwxr-xr-x. 1 mamazhitov mamazhitov 0 апр 20 22:39 'Рабочий стол'
drwxr-xr-x. 1 mamazhitov mamazhitov 0 апр 20 22:39 Шаблоны
```

Figure 4:

newdir,
morefun.(. 5)

```
[mamazhitov@fedora ~]$ cd
[mamazhitov@fedora ~]$ mkdir newdir
[mamazhitov@fedora ~]$ ls
123.txt  snap  Видео      Загрузки    Изображения  Общедоступные  Шаблоны
newdir   work  Документы  'записи о с'  Музыка        'Рабочий стол'
[mamazhitov@fedora ~]$ cd newdir/
[mamazhitov@fedora newdir]$ mkdir morefun
[mamazhitov@fedora newdir]$ ls
morefun
```

Figure 5: newdir morefun

mkdir letters memos misk

,
. (. 6)

```
[mamazhitov@fedora ~]$ mkdir letters memos misk
[mamazhitov@fedora ~]$ ls
123.txt  memos  newdir  work  Документы 'записи ос'  Музыка      'Рабочий стол'
letters  misk   snap    Видео  Загрузки  Изображения  Общедоступные  Шаблоны
[mamazhitov@fedora ~]$ rmdir memos letters misk
[mamazhitov@fedora ~]$ ls
123.txt  snap    Видео      Загрузки     Изображения  Общедоступные  Шаблоны
newdir   work   Документы 'записи ос'  Музыка      'Рабочий стол'
```

Figure 6:

rm *newdir*,
 .
morefun ,
 rmdir.(. 7)

```
[mamazhitov@fedora ~]$ rm newdir
rm: невозможно удалить 'newdir': Это каталог
[mamazhitov@fedora ~]$ cd newdir
[mamazhitov@fedora newdir]$ rm morefun
rm: невозможно удалить 'morefun': Это каталог
[mamazhitov@fedora newdir]$ rmdir morefun
[mamazhitov@fedora newdir]$ ls
[mamazhitov@fedora newdir]$
```

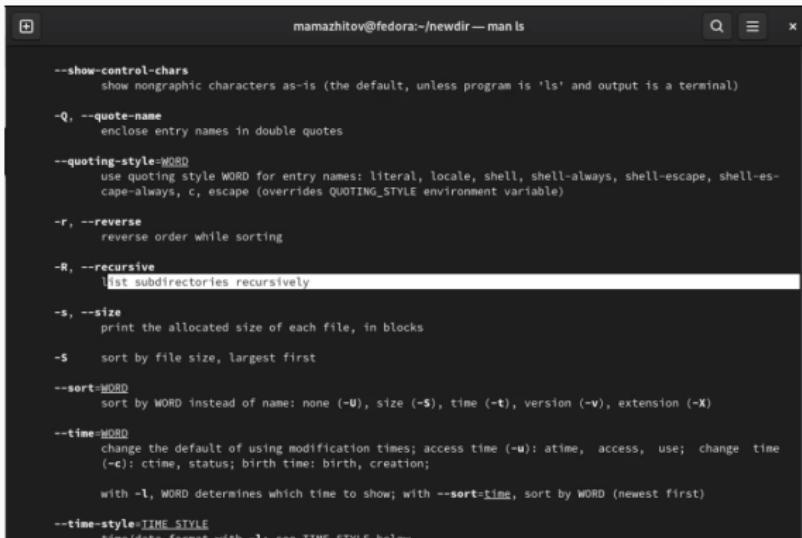
Figure 7: *newdir* *morefun*

man ls

ls.

-R,

.(. . 8)



A screenshot of a terminal window titled "mamazhitov@fedora:~/newdir -- man ls". The window displays the man page for the "ls" command. The "R" option is highlighted with a white rectangle. The text in the window is as follows:

```
--show-control-chars
    show nongraphic characters as-is (the default, unless program is 'ls' and output is a terminal)

-Q, --quote-name
    enclose entry names in double quotes

--quoting-style=WORD
    use quoting style WORD for entry names: literal, locale, shell, shell-always, shell-escape, shell-escape-always, c, escape (overrides QUOTING_STYLE environment variable)

-r, --reverse
    reverse order while sorting

-R, --recursive
    list subdirectories recursively

-s, --size
    print the allocated size of each file, in blocks

-S
    sort by file size, largest first

--sort=WORD
    sort by WORD instead of name: none (-U), size (-S), time (-t), version (-v), extension (-X)

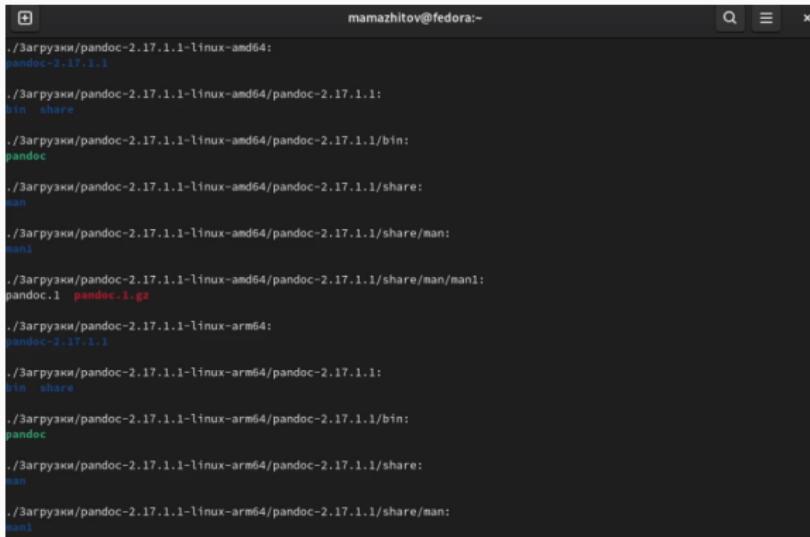
--time=WORD
    change the default of using modification times; access time (-u): atime, access, use; change time
    (-c): ctime, status; birth time: birth, creation;

    with -l, WORD determines which time to show; with --sort=time, sort by WORD (newest first)

--time-style=TIME_STYLE
    time/date format with -l, see TIME_STYLE below
```

Figure 8:

.(. 9)



mamazhitov@fedora:~

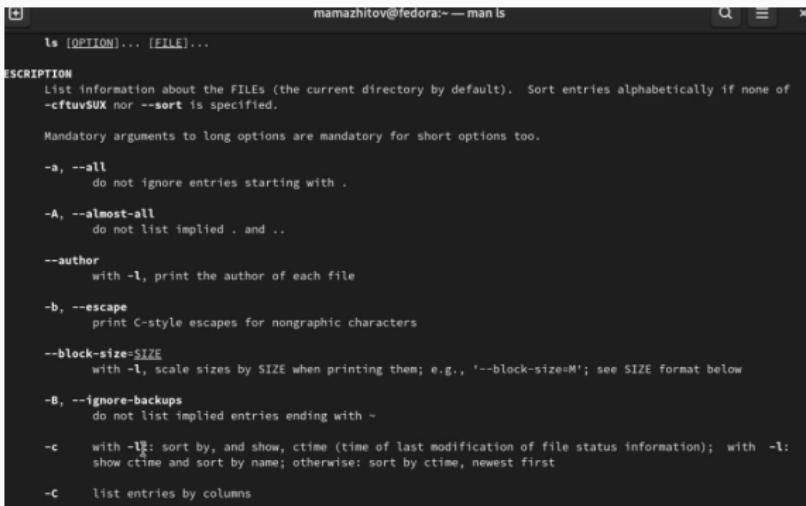
```
./загрузки/pandoc-2.17.1.1-linux-amd64:  
pandoc-2.17.1.1  
./загрузки/pandoc-2.17.1.1-linux-amd64/pandoc-2.17.1.1:  
bin share  
./загрузки/pandoc-2.17.1.1-linux-amd64/pandoc-2.17.1.1/bin:  
pandoc  
./загрузки/pandoc-2.17.1.1-linux-amd64/pandoc-2.17.1.1/share:  
man  
./загрузки/pandoc-2.17.1.1-linux-amd64/pandoc-2.17.1.1/share/man:  
man1  
./загрузки/pandoc-2.17.1.1-linux-amd64/pandoc-2.17.1.1/share/man/man1:  
pandoc.1 pandoc.1.gz  
./загрузки/pandoc-2.17.1.1-linux-arm64:  
pandoc-2.17.1.1  
./загрузки/pandoc-2.17.1.1-linux-arm64/pandoc-2.17.1.1:  
bin share  
./загрузки/pandoc-2.17.1.1-linux-arm64/pandoc-2.17.1.1/bin:  
pandoc  
./загрузки/pandoc-2.17.1.1-linux-arm64/pandoc-2.17.1.1/share:  
man  
./загрузки/pandoc-2.17.1.1-linux-arm64/pandoc-2.17.1.1/share/man:  
man1
```

Figure 9: *ls -R*

ls

- ,

.(. ??)



mamazhitov@fedora:~ — man ls

```
ls [OPTION]... [FILE]...

DESCRIPTION
List information about the FILEs (the current directory by default). Sort entries alphabetically if none of
-cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.

-a, --all
      do not ignore entries starting with .

-A, --almost-all
      do not list implied . and ..

--author
      with -l, print the author of each file

-b, --escape
      print C-style escapes for nongraphic characters

--block-size=SIZE
      with -l, scale sizes by SIZE when printing them; e.g., '--block-size=M'; see SIZE format below

-B, --ignore-backups
      do not list implied entries ending with ~

-c      with -l: sort by, and show, ctime (time of last modification of file status information); with -l:
      show ctime and sort by name; otherwise: sort by ctime, newest first

-C      list entries by columns
```

Figure 10:

.(. 11)

```
[mamazhitov@fedora Заргузки]$ ls -lt -
 всего 10324
-rw-r--r--. 1 mamazhitov mamazhitov 10727744 арп 25 11:29 '!!!Лаб4 Опер (без вопросов).doc'
-rw-r--r--. 1 mamazhitov mamazhitov 200355 арп 25 11:02 004-lab_shell.pdf
-rw-r--r--. 1 mamazhitov mamazhitov 31031 арп 24 20:34 lab03.pdf
-rw-r--r--. 1 mamazhitov mamazhitov 2692 арп 24 18:59 lab2.md
-rw-r--r--. 1 mamazhitov mamazhitov 1760352 арп 24 18:36 'nA6a02 (2).doc'
-rw-r--r--. 1 mamazhitov mamazhitov 1760352 арп 24 18:25 'nA6a02 (1).doc'
drwxr-xr-x. 1 mamazhitov mamazhitov 30 арп 24 18:12 pandoc-2.17.1.1-linux-arm64
-rw-r--r--. 1 mamazhitov mamazhitov 18453307 арп 24 18:12 pandoc-2.17.1.1-linux-arm64.tar.gz
-rw-r--r--. 1 mamazhitov mamazhitov 18153998 арп 24 18:12 pandoc-2.17.1.1-arm64.deb
-rw-r--r--. 1 mamazhitov mamazhitov 29668 арп 24 18:09 report.pdf
-rw-r--r--. 1 mamazhitov mamazhitov 1185249 арп 24 17:51 Отчет_по_Laboratornoy_rabote_2.docx
-rw-r--r--. 1 mamazhitov mamazhitov 1698816 арп 24 15:59 nA6a02.doc
-rw-r--r--. 1 mamazhitov mamazhitov 1247172 арп 24 15:48 pandoc-crossref
drwxr-xr-x. 1 mamazhitov mamazhitov 64 арп 24 15:48 pandoc-crossref
-rw-r--r--. 1 mamazhitov mamazhitov 6947756 арп 24 15:48 pandoc-crossref
drwxrwxr-x. 1 mamazhitov mamazhitov 750 арп 24 15:46 pandoc-2.17.1.1
-rw-r--r--. 1 mamazhitov mamazhitov 7245973 арп 24 15:46 pandoc-2.17.1.1
drwxr-xr-x. 1 mamazhitov mamazhitov 38 арп 24 15:45 pandoc-2.17.1.1
-rw-r--r--. 1 mamazhitov mamazhitov 15625148 арп 24 15:44 pandoc-2.17.1.1
-rw-r--r--. 1 mamazhitov mamazhitov 15883177 арп 24 15:37 pandoc-2.17.1.1
-rw-r--r--. 1 mamazhitov mamazhitov 907334 арп 24 15:16 os_intro_lectio
-rw-r--r--. 1 mamazhitov mamazhitov 924933 арп 24 15:16 os_intro_lectio
[mamazhitov@fedora Заргузки]$
```

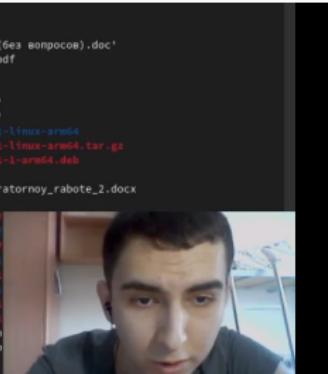
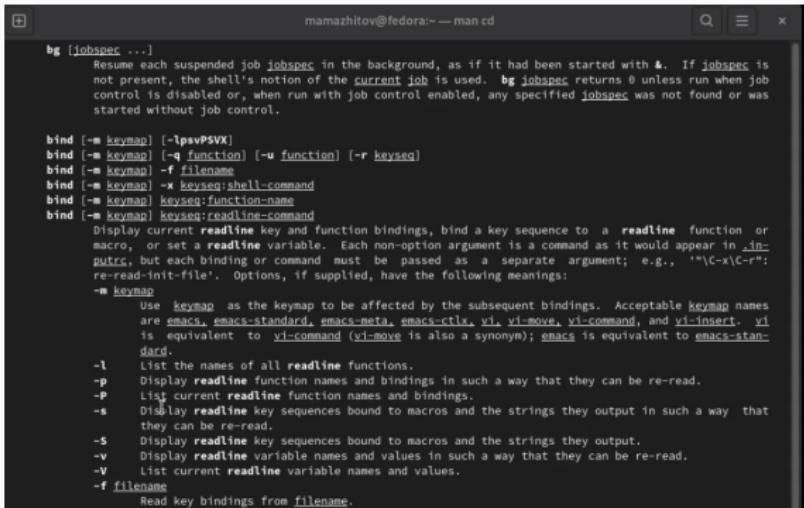


Figure 11:
ls -lt -

man : *cd, pwd, mkdir, rmdir, rm.* .(. 12)



mamazhitov@fedora:~ — man cd

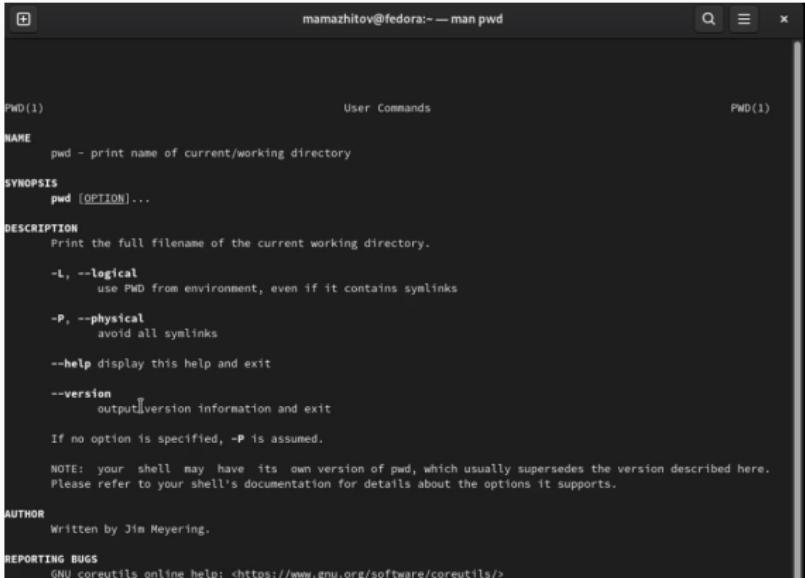
```
bg [jobspec ...]
    Resume each suspended job jobspec in the background, as if it had been started with &. If jobspec is not present, the shell's notion of the current job is used. bg jobspec returns 0 unless run when job control is disabled or, when run with job control enabled, any specified jobspec was not found or was started without job control.

bind [-m keymap] [-lpsvPSVX]
bind [-m keymap] [-q function] [-u function] [-r keyseq]
bind [-m keymap] -f filename
bind [-m keymap] -x keyseq;shell-command
bind [-m keymap] keyseq:function-name
bind [-m keymap] keyseq:readline-command

Display current readline key and function bindings, bind a key sequence to a readline function or macro, or set a readline variable. Each non-option argument is a command as it would appear in .inputrc, but each binding or command must be passed as a separate argument; e.g., "C-xC-r": re-read-init-file'. Options, if supplied, have the following meanings:
-m keymap
    Use keymap as the keymap to be affected by the subsequent bindings. Acceptable keymap names are emacs, emacs-meta, emacs-ctlx, vi, vi-move, vi-command, and vi-insert. vi is equivalent to vi-command (vi-move is also a synonym); emacs is equivalent to emacs-standard.
-l
    List the names of all readline functions.
-p
    Display readline function names and bindings in such a way that they can be re-read.
-P
    List current readline function names and bindings.
-s
    Display readline key sequences bound to macros and the strings they output in such a way that they can be re-read.
-S
    Display readline key sequences bound to macros and the strings they output.
-v
    Display readline variable names and values in such a way that they can be re-read.
-V
    List current readline variable names and values.
-f filename
    Read key bindings from filename.
```

Figure 12: *cd*

- -P - ,
“..”;
- -L - , “..”;
- -e - , - (. 13)



mamazhitov@fedora:~ — man pwd

PWD(1) User Commands PWD(1)

NAME
pwd - print name of current/working directory

SYNOPSIS
pwd [OPTION]...

DESCRIPTION
Print the full filename of the current working directory.

-L, --logical
use PWD from environment, even if it contains symlinks

-P, --physical
avoid all symlinks

--help display this help and exit

--version
output version information and exit

If no option is specified, -P is assumed.

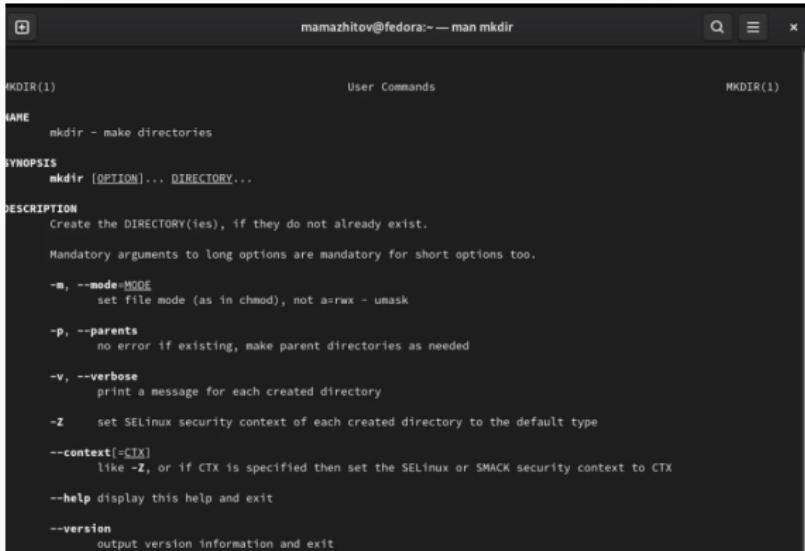
NOTE: your shell may have its own version of pwd, which usually supersedes the version described here.
Please refer to your shell's documentation for details about the options it supports.

AUTHOR
Written by Jim Meyering.

REPORTING BUGS
GNU coreutils online help: <<https://www.gnu.org/software/coreutils/>>

Figure 13: *pwd*

- -L, --logical - ,
;
- -P - ;
- --help - ;
- --version - . (. 14)



mamazhitov@fedora:~ — man mkdir

MKDIR(1) User Commands MKDIR(1)

NAME
mkdir - make directories

SYNOPSIS
`mkdir [OPTION]... DIRECTORY...`

DESCRIPTION
Create the DIRECTORY(ies), if they do not already exist.

Mandatory arguments to long options are mandatory for short options too.

-m, --mode=MODE
set file mode (as in chmod), not a=rwx - umask

-p, --parents
no error if existing, make parent directories as needed

-v, --verbose
print a message for each created directory

-Z
set SELinux security context of each created directory to the default type

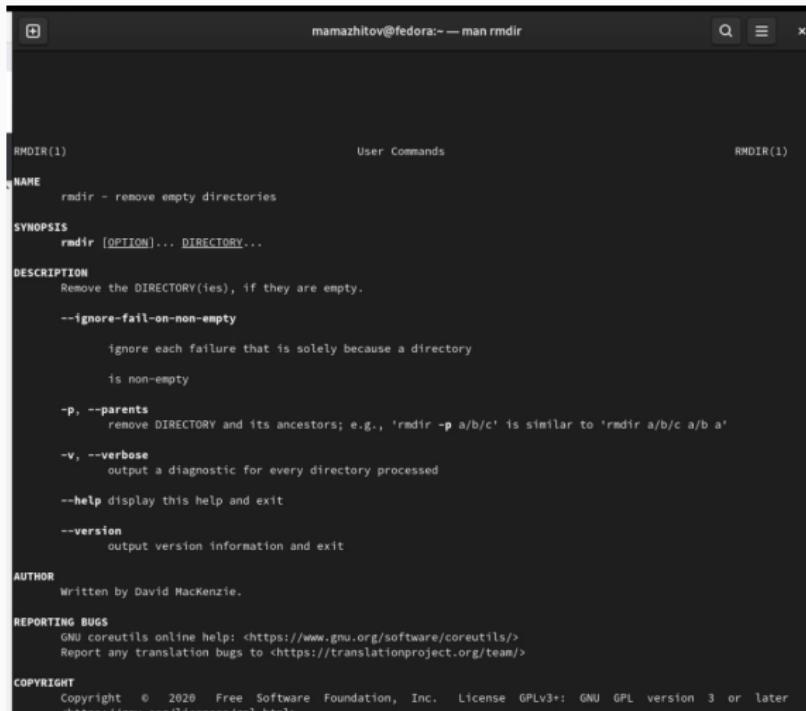
--context[=CTX]
like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX

--help display this help and exit

--version
output version information and exit

Figure 14: *mkdir*

- -m (-mode=) - (). mod
0777,
- -p (-parents) -
- -z (-context=CTX) SELinux
- -v (-verbose) -
- --help -
- --version - (. 15)



mamazhitov@fedora:~ --- man rmdir

```
RMDIR(1)                               User Commands                               RMDIR(1)

NAME
    rmdir - remove empty directories

SYNOPSIS
    rmdir [OPTION]... DIRECTORY...

DESCRIPTION
    Remove the DIRECTORY(ies), if they are empty.

    --ignore-fail-on-non-empty

        ignore each failure that is solely because a directory
        is non-empty

    -p, --parents

        remove DIRECTORY and its ancestors; e.g., 'rmdir -p a/b/c' is similar to 'rmdir a/b/c a/b a'

    -v, --verbose

        output a diagnostic for every directory processed

    --help display this help and exit

    --version

        output version information and exit

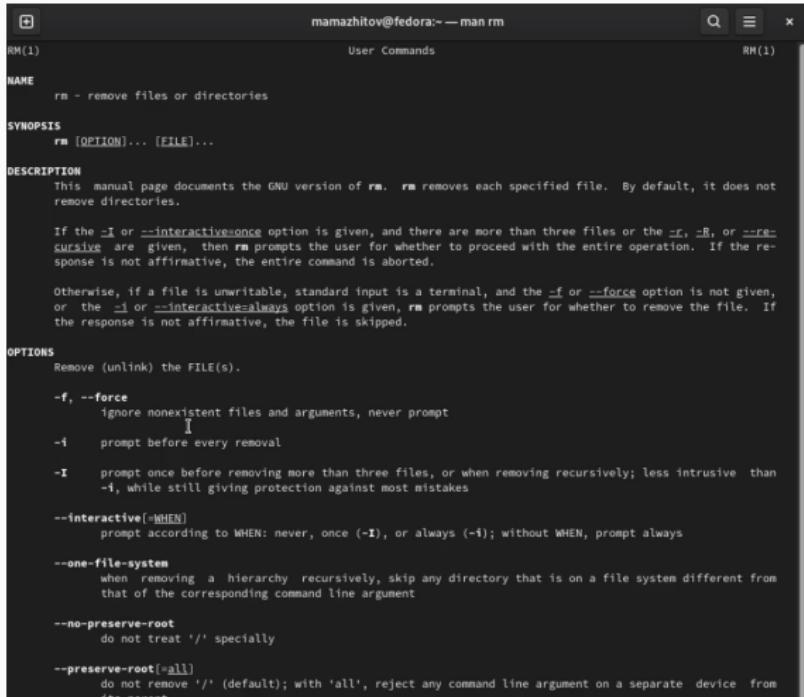
AUTHOR
    Written by David MacKenzie.

REPORTING BUGS
    GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
    Report any translation bugs to <https://translationproject.org/team/>

COPYRIGHT
    Copyright © 2020 Free Software Foundation, Inc. License GPLv3+: GNU GPL version 3 or later
    <https://gnu.org/licenses/gpl.html>.
```

Figure 15:
rmdir

- `-ignore-fail-on-non-empty >`
 - `-p, -parents >`
 - `-v, -verbose >`
 - `-help >`
 - `-version >`
- (. 16)



mamazhitov@fedora:~ -- man rm

RM(1) User Commands RM(1)

NAME

rm - remove files or directories

SYNOPSIS

rm [OPTION]... [FILE]...

DESCRIPTION

This manual page documents the GNU version of **rm**. **rm** removes each specified file. By default, it does not remove directories.

If the **-I** or **--interactive=once** option is given, and there are more than three files or the **-r**, **-R**, or **--recursive** are given, then **rm** prompts the user for whether to proceed with the entire operation. If the response is not affirmative, the entire command is aborted.

Otherwise, if a file is unwritable, standard input is a terminal, and the **-f** or **--force** option is not given, or the **-i** or **--interactive=always** option is given, **rm** prompts the user for whether to remove the file. If the response is not affirmative, the file is skipped.

OPTIONS

Remove (unlink) the FILE(s).

-f, --force
ignore nonexistent files and arguments, never prompt
[]

-i prompt before every removal

-I prompt once before removing more than three files, or when removing recursively; less intrusive than **-i**, while still giving protection against most mistakes

--interactive[=WHEN]
prompt according to WHEN: never, once (**-I**), or always (**-i**); without WHEN, prompt always

--one-file-system
when removing a hierarchy recursively, skip any directory that is on a file system different from that of the corresponding command line argument

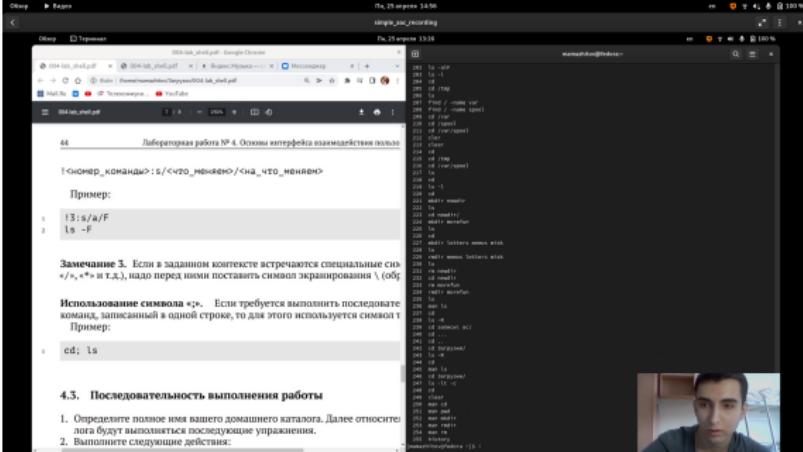
--no-preserve-root
do not treat '/' specially

--preserve-root[=all]
do not remove '/' (default); with 'all', reject any command line argument on a separate device from its parent

Figure 16:
rm

- -f -force >
- -i >
- -l >
- -one-file-system >
- -r -R -recursive >

history . (. . 17)



The screenshot shows a Linux desktop environment with two windows open. The top window is a terminal titled 'history' with the command 'ls -al' running. The bottom window is a file viewer titled 'liberator.pdf' showing a document with the following text:

```
Лабораторная работа №4. Основы интерфейса взаимодействия пользователя  
!<номер_команды>;!<чтото_записано>/<на_что_меняю>  
Пример:  
13:s/a/F  
ls -F  
  
Замечание 3. Если в заданным контексте встречаются специальные символы (<, >, *, ?, & т.д.), надо перед ними поставить символ экранирования \ (обратную косую черту).  
  
Использование символа «<. Если требуется выполнить последовательность команд, записанный в одной строке, то для этого используется символ табуляции.  
Пример:  
cd; ls  
  
4.3. Последовательность выполнения работы  
1. Определите папку имя вашего домашнего каталога. Далее относящиеся к нему логотипы будут выполняться последующие упражнения.  
2. Выполните следующие действия:
```

In the bottom right corner of the terminal window, there is a small video feed of a person's face.

Figure 17: *history*

```
[mamazhitov@fedora ~]$ !201:s/a/l
ls -l
итого 8
-rw-rw-r--, 1 mamazhitov mamazhitov 5188 апр 24 20:53 123.txt
drwxrwxr-x, 1 mamazhitov mamazhitov     0 апр 25 12:50 newdir
drwx-----, 1 mamazhitov mamazhitov    20 апр 20 23:33 snap
drwxrwxr-x, 1 mamazhitov mamazhitov    10 апр 21 15:37 work
drwxr-xr-x, 1 mamazhitov mamazhitov     0 апр 20 22:39 Видео
drwxr-xr-x, 1 mamazhitov mamazhitov    14 апр 24 19:04 Документы
drwxr-xr-x, 1 mamazhitov mamazhitov 1082 апр 25 11:30 Загрузки
drwxr-xr-x, 1 mamazhitov mamazhitov   436 апр 25 12:36 'записи ос'
drwxr-xr-x, 1 mamazhitov mamazhitov   324 апр 25 13:05 Изображения
drwxr-xr-x, 1 mamazhitov mamazhitov     0 апр 20 22:39 Музыка
drwxr-xr-x, 1 mamazhitov mamazhitov     0 апр 20 22:39 Общедоступные
drwxr-xr-x, 1 mamazhitov mamazhitov     0 апр 20 22:39 'Рабочий стол'
drwxr-xr-x, 1 mamazhitov mamazhitov     0 апр 20 22:39 Шаблоны
[mamazhitov@fedora ~]$ !236:s/ls/cd
man cd
```

Figure 18:

