

**№4**

Unix

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Linux

- .

shell: /bin/sh;

/bin/csh; /bin/ksh.

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- man
- cd
- pwd
- ls
- mkdir
- rm
- history











```
/afs/.dk.sci.pfu.edu.ru/home/a/g/agbuter  
agbuterin@dk3n31 ~ $ cd /tmp  
agbuterin@dk3n31 /tmp $
```

. 1:



/tmp

```

agbuterin@dk3n31 /tmp $ ls
agbuterin
gnome-desktop-thumbnailer-270EJ2
gnome-desktop-thumbnailer-NRPEJ2
krb5cc_5429_Kus6XX
krb5cc_5429_yc7L7L
portage
pulse-PKdhtXMmr18n
root
screen
sddm-:0-xisSmC
sddm-auth-c0e9531d-7836-41d2-a405-05482733cd2b
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-colord.service-1wtoUK
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-polkit.service-Ts0CSm
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-power-profiles-daemon.service-LcXfyF
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-logind.service-Urwhlb
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-resolved.service-JzWvyr
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-timesyncd.service-6mh9du
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-upower.service-ZVHImA
Temp-bac43251-d2f1-4210-af0f-b6bd3f684fab
tmpaddon
tmux-0
agbuterin@dk3n31 /tmp $

```

. 2:

/tmp

/tmp

ls

```

agbuterin@dk3n31 /tmp $ ls -a
.
..
agbuterin
.font-unix
gnome-desktop-thumbnailer-270EJ2
gnome-desktop-thumbnailer-NRPEJ2
.ICE-unix
krb5cc_5429_Kus6XX
krb5cc_5429_yc7L7L
portage
pulse-PKdhtXMmr18n
root
screen
sddm-;0-xisSmC
sddm-auth-c0e9531d-7836-41d2-a405-05482733cd2b
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-color.service-lwtoUK
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-polkit.service-Ts0CSm
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-power-profiles-daemon.service-LcXfyF
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-logind.service-Urwh1b
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-resolved.service-JzWvyr
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-timesyncd.service-6mh9du
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-upower.service-ZVHImA
Temp-bac43251-d2f1-4210-af0f-b6bd3f684fab
tmpaddon
tmux-0
.X11-unix
.X1-lock
.X2-lock
.XIM-unix
agbuterin@dk3n31 /tmp $

```

. 3: ls

**ls -a   ls -F**

---

# ls -a

ls

-a

```
agbuterin@dk3n31 /tmp $ ls -f
.
..
Temp-bac43251-d2f1-4210-af0f-b6bd3f684fab
gnome-desktop-thumbnailer-NRPEJ2
gnome-desktop-thumbnailer-270EJ2
tmpaddon
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-power-profiles-daemon.service-LcXfy
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-colord.service-lwtoUK
.X2-lock
.X1-lock
agbuterin
krb5cc_5429_yc7L7L
krb5cc_5429_Kus6XX
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-upower.service-ZVHImA
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-polkit.service-Ts0CSm
sddm-:0-xisSmC
sddm-auth-c0e9531d-7836-41d2-a405-05482733cd2b
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-logind.service-Urwh1b
root
tmux-0
pulse-PKdhtXMmr18n
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-timesyncd.service-6mh9du
systemd-private-2dcfbd21b8ab4f02b332a6e09fc27eff-systemd-resolved.service-JzWvyr
.font-unix
.XIM-unix
.ICE-unix
.X11-unix
screen
portage
agbuterin@dk3n31 /tmp $
```

. 4: ls -a



ls -F

```
agbuterin@dk3n31 /tmp $ ls /var/spool  
cups
```

. 5: ls -F

, /var/spool cron

```
agbuterin@dk3n31 /tmp $ ls /var/spool
cups
agbuterin@dk3n31 /tmp $ cd
agbuterin@dk3n31 ~ $ ls
public      work      Документы  Изображения  Общедоступные  Шаблоны
public_html Видео     Загрузки   Музыка        'Рабочий стол'
```

. 6: /var/spool

```
agbuterin@dk3n31 ~ $ ls -l
итого 21
drwxr-xr-x 3 agbuterin root    2048 сен  5 17:39 public
lrwxr-xr-x 1 agbuterin root      18 фев 15 01:22 public_html -> public/public_html
drwxr-xr-x 4 agbuterin studsci 2048 ноя 23 18:26 work
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 Видео
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 Документы
drwxr-xr-x 2 agbuterin studsci 2048 фев 28 16:06 Загрузки
drwxr-xr-x 3 agbuterin studsci 2048 сен 14 12:53 Изображения
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 Музыка
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 Общедоступные
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 'Рабочий стол'
drwxr-xr-x 2 agbuterin studsci 2048 сен 14 12:51 Шаблоны
agbuterin@dk3n31 ~ $
```

. 7:

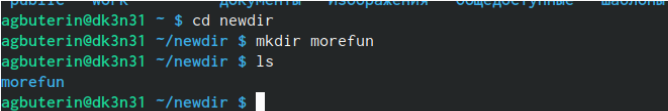
ls -l

```
agbuterin@dk3n31 ~ $ mkdir newdir
agbuterin@dk3n31 ~ $ ls
newdir  public_html  Видео      Загрузки    Музыка      'Рабочий стол'
public  work        Документы  Изображения  Общедоступные  Шаблоны
agbuterin@dk3n31 ~ $
```

. 8:



newdir.

A terminal window with a dark background and light green text. At the top, there is a horizontal navigation bar with several items: 'public', 'work', 'документы', 'изображения', 'общедоступные', and 'шаблоны'. Below this, the terminal shows a series of commands and their outputs. The user 'agbuterin@dk3n31' is in the root directory '~'. They run 'cd newdir', then 'mkdir morefun', then 'ls', which outputs 'morefun'. Finally, they run 'ls' again, and the prompt returns without output.

```
agbuterin@dk3n31 ~ $ cd newdir
agbuterin@dk3n31 ~/newdir $ mkdir morefun
agbuterin@dk3n31 ~/newdir $ ls
morefun
agbuterin@dk3n31 ~/newdir $
```

. 9:

newdir

~/newdir

morefun.

```
agbuterin@dk3n31 ~/newdir $ ls
morefun
agbuterin@dk3n31 ~/newdir $ mkdir letters nemos nisk
agbuterin@dk3n31 ~/newdir $ ls
letters morefun nemos nisk
agbuterin@dk3n31 ~/newdir $
```

. 10:

morefun

letters, memos, misk.

```
agbuterin@dk3n31 ~/newdir $ ls
morefun
agbuterin@dk3n31 ~/newdir $ mkdir letters memos misk
agbuterin@dk3n31 ~/newdir $ ls
letters morefun memos misk
agbuterin@dk3n31 ~/newdir $
```

. 11:



## 3.4

~/newdir/morefun

```
agbuterin@dk3n31 ~/newdir $ mkdir letters nemos nisk
agbuterin@dk3n31 ~/newdir $ ls
letters  morefun  nemos  nisk
agbuterin@dk3n31 ~/newdir $ rm -r letters nemos nisk
agbuterin@dk3n31 ~/newdir $ ls
morefun
agbuterin@dk3n31 ~/newdir $ rm -r morefun
agbuterin@dk3n31 ~/newdir $ cd
agbuterin@dk3n31 ~ $ ~
```

. 12: newdir



man , ls -

```
agbuterin@dk3n31 ~ $ rm -r newdir
agbuterin@dk3n31 ~ $ ls
public      work      Документы  Изображения  Общедоступные  Шаблоны
public_html Видео     Загрузки   Музыка        'Рабочий стол'
```

. 13: man ls

```
LS(1) User Commands LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default). Sort entries alpha-
  betically 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 -lt: sort by, and show, ctime (time of last change of file status informa-
    tion); with -li: show ctime and sort by name; otherwise: sort by ctime, newest first

  -C
    list entries by columns

  --color[=WHEN]
    color the output WHEN; more info below

  -d, --directory
    list directories themselves, not their contents

  -D, --dired
```

Manual page ls(1) line 1 (press h for help or q to quit)

. 14: man ls

```

cd(1P)                                POSIX Programmer's Manual                                cd(1P)
PROLOG
This manual page is part of the POSIX Programmer's Manual. The Linux implementation of
this interface may differ (consult the corresponding Linux manual page for details of
Linux behavior), or the interface may not be implemented on Linux.
NAME
cd - change the working directory
SYNOPSIS
cd [-L|-P] [directory]
cd -
DESCRIPTION
The cd utility shall change the working directory of the current shell execution environ-
ment (see section 2.14, Shell Execution Environment) by executing the following steps in
sequence. (In the following steps, the symbol curpath represents an intermediate value
used to simplify the description of the algorithm used by cd. There is no requirement
that curpath be made visible to the application.)
1. If no directory operand is given and the HOME environment variable is empty or unde-
fined, the default behavior is implementation-defined and no further steps shall be
taken.
2. If no directory operand is given and the HOME environment variable is set to a non-
empty value, the cd utility shall behave as if the directory named in the HOME envi-
ronment variable was specified as the directory operand.
3. If the directory operand begins with a <slash> character, set curpath to the operand
and proceed to step 7.
4. If the first component of the directory operand is dot or dot-dot, proceed to step 6.
5. Starting with the first pathname in the <colon>-separated pathnames of CDPATH (see the
ENVIRONMENT VARIABLES section) if the pathname is non-null, test if the concatenation
of that pathname, a <slash> character if that pathname did not end with a <slash>
character, and the directory operand names a directory. If the pathname is null, test
if the concatenation of dot, a <slash> character, and the operand names a directory.
In either case, if the resulting string names an existing directory, set curpath to
that string and proceed to step 7. Otherwise, repeat this step with the next pathname
in CDPATH until all pathnames have been tested.
6. Set curpath to the directory operand.
Manual page cd(1p) line 1 (press h for help or q to quit)

```

## . 15: -R, -recursive

ls -R



man

ls,

-

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## -time-style

```
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, with their file modes unaffected by any -m option.

  -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

AUTHOR
  Written by David MacKenzie.

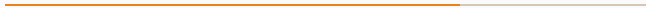
REPORTING BUGS
  GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
  Report any translation bugs to <https://translationproject.org/team/>

SEE ALSO
  mkdir(2)

  Full documentation <https://www.gnu.org/software/coreutils/mkdir>
  Manual page mkdir(1) line 1 (press h for help or q to quit)
```

. 16: -time-style=TIME\_STYLE





man

: cd, pwd, mkdir, rmdir, rm.

.

```

rmrdir(1)                                User Commands                                rmrdir(1)

NAME
rmrdir - remove empty directories

SYNOPSIS
rmrdir [OPTION]... DIRECTORY...

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

--ignore-fail-on-non-empty
    ignore each failure to remove a non-empty directory

-p, --parents
    remove DIRECTORY and its ancestors; e.g., 'rmrdir -p a/b' is similar to 'rmrdir 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/>

SEE ALSO
rmrdir(2)

Full documentation <https://www.gnu.org/software/coreutils/rmrdir>
or available locally via: info '(coreutils) rmrdir invocation'

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There is NO WARRANTY, to the extent permitted by law.

Manual page rmrdir(1) line 1 (press h for help or q to quit)

```

## . 17: man cd

```

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 sep-

Manual page rm(1) line 1 (press h for help or q to quit)

```

. 18: man pwd

```
145 cd ~/work/study/2022-2023/"Операционные системы"
146 gh repo create study_2022-2023_os-intro --template=yasadharna/course-directory-student-template --public
147 git clone --recursive git@github.com:AG@uterin/study_2022-2023_os-intro.git
148 ls
149 cd study_2022-2023_os-intro
150 rm package.json
151 echo os-intro > COURSE
152 make prepare
153 git add .
154 git commit -am 'feat(main): make course structure'
155 git commit -am 'feat(main): make course structure'
156 git push
157 cd
158 make
159 cd
160 pwd
161 cd /tmp
162 ls
163 ls -a
164 ls -f
165 ls /var/spool
166 cd
167 ls
168 ls -l
169 mkdir newdir
170 ls
171 cd newdir
172 mkdir morefun
173 ls
174 mkdir letters nemos nisk
175 ls
176 rm -r letters nemos nisk
177 ls
178 rm -r morefun
179 cd
180 rm -r newdir
181 ls
182 man ls
183 man cd
184 man pes
185 man mkdir
186 man rmdir
187 man rm
188 history
user@ubuntu:~$
```

. 19: man mkdir









history



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