

Лабораторная работа №6

Операционные системы

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Цели и задачи работы

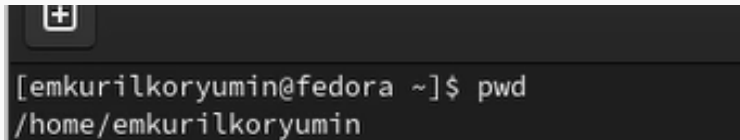
Цель лабораторной работы

Приобретение практических навыков взаимодействия пользователя с системой посредством командной строки.

Задачи лабораторной работы

- 1 Определить имя и путь домашнего каталога
- 2 Изучить команду `ls`.
- 3 Выполнить действия с каталогами.
- 4 Получить дополнительные сведения при помощи справки по командам.
- 5 Изучить команду `history`.

Процесс выполнения лабораторной работы

A terminal window with a dark background. In the top-left corner, there is a small icon of a square with a plus sign inside. The terminal shows a command prompt with the text "[emkurilkoryumin@fedora ~]\$ pwd" followed by the output "/home/emkurilkoryumin" on the next line.

```
[emkurilkoryumin@fedora ~]$ pwd
/home/emkurilkoryumin
```

Рис. 1: Путь к домашнему каталогу

Опции команды ls

```
[emkurilkoryumin@fedora ~]$ cd /tmp
[emkurilkoryumin@fedora tmp]$ ls
dbus-5dGJXco4
dbus-FMkKshN3
systemd-private-acf90ad8e6984319b7d4a20745669f83-bolt.service-y8QHPb
systemd-private-acf90ad8e6984319b7d4a20745669f83-chronyd.service-M746J3
systemd-private-acf90ad8e6984319b7d4a20745669f83-colord.service-cgia7x
systemd-private-acf90ad8e6984319b7d4a20745669f83-dbus-broker.service-ZrpR86
systemd-private-acf90ad8e6984319b7d4a20745669f83-fwupd.service-6f56aX
systemd-private-acf90ad8e6984319b7d4a20745669f83-geoclue.service-aBXjzR
systemd-private-acf90ad8e6984319b7d4a20745669f83-low-memory-monitor.service-PRBL7v
systemd-private-acf90ad8e6984319b7d4a20745669f83-ModemManager.service-04YmR8
systemd-private-acf90ad8e6984319b7d4a20745669f83-power-profiles-daemon.service-2zJVHx
systemd-private-acf90ad8e6984319b7d4a20745669f83-rtkit-daemon.service-NSKCLo
systemd-private-acf90ad8e6984319b7d4a20745669f83-switcheroo-control.service-8ZHyq1
systemd-private-acf90ad8e6984319b7d4a20745669f83-systemd-logind.service-BTSSDC
systemd-private-acf90ad8e6984319b7d4a20745669f83-systemd-oomd.service-WGe7wt
systemd-private-acf90ad8e6984319b7d4a20745669f83-systemd-resolved.service-1LU3sG
systemd-private-acf90ad8e6984319b7d4a20745669f83-upower.service-mXsona
Temp-910e23cc-ce6e-4d9b-b3bb-b29b29cb897a
```

Рис. 2: Команда ls

Опции команды ls

```
[emkurilkoryumin@fedora tmp]$ ls -l
итого 0
srw-rw-rw-. 1 root      root      0 map  6 09:07 dbus-5dGJXco4
srw-rw-rw-. 1 root      root      0 map  6 09:07 dbus-FMkKshN3
drwx----- 3 root      root     60 map  6 23:54 systemd-private-acf90ad8e6984319b7d4a20745669f83-bo1
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-chr
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-col
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-dbu
pR86
drwx----- 3 root      root     60 map 16 13:00 systemd-private-acf90ad8e6984319b7d4a20745669f83-fwu
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-geo
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-low
vice-PRBL7v
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-Mod
4YmR8
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-pow
service-2zJVHx
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-rtk
SKCLo
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-swi
vice-8ZNyq1
drwx----- 3 root      root     60 map  6 09:07 systemd-private-acf90ad8e6984319b7d4a20745669f83-sys
```

Рис. 3: Команда ls -l


```
[emkurilkoryumin@fedora tmp]$ cd var/spool
bash: cd: var/spool: Нет такого файла или каталога
[emkurilkoryumin@fedora tmp]$ cd /var/spool
[emkurilkoryumin@fedora spool]$ ls
abrt  abrt-upload  cups  lpd  mail  plymouth
[emkurilkoryumin@fedora spool]$ ls -F
abrt/  abrt-upload/  cups/  lpd/  mail/  plymouth/
[emkurilkoryumin@fedora spool]$ ls -laF
итого 0
drwxr-xr-x. 1 root root 68 апр 14 2023 ./
drwxr-xr-x. 1 root root 200 фев 23 17:51 ../
drwxr-x--x. 1 root abrt 504 мар 2 00:38 abrt/
drwx-----. 1 abrt abrt 0 июн 30 2023 abrt-upload/
drwx--x---. 1 root lp 6 окт 30 03:00 cups/
drwxr-xr-x. 1 root root 0 янв 19 2023 lpd/
drwxrwxr-x. 1 root mail 36 сен 28 21:46 mail/
drwxr-xr-x. 1 root root 0 янв 20 2023 plymouth/
```

Рис. 4: Каталог /var/spool

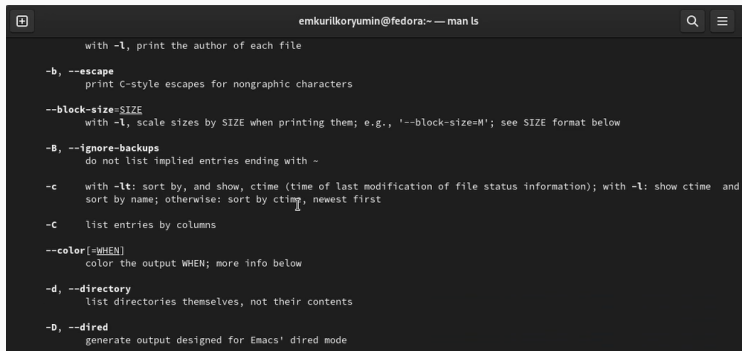
```
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin      650 мар  7 19:49 package.json
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin       94 мар  6 09:45 package-lock.json
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin 31184131 сен  9 2023 pandoc-3.1.8-linux-amd64.tar.gz
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin 8452920 сен 24 03:22 pandoc-crossref-Linux.tar.xz
drwx-----. 1 emkurilkoryumin emkurilkoryumin       50 мар  6 18:45 .password-store/
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin       30 мар  6 18:34 README.md
drwx-----. 1 emkurilkoryumin emkurilkoryumin      228 мар  7 20:05 .ssh/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin       18 окт 11 13:57 .texlive2023/
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-clipboard-tty2-control.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-clipboard-tty2-service.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-draganddrop-tty2-control.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-draganddrop-tty2-service.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-hostversion-tty2-control.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-seamless-tty2-control.pid
-rw-r-----. 1 emkurilkoryumin emkurilkoryumin        5 мар  6 09:06 .vboxclient-seamless-tty2-service.pid
-rw-r--r--. 1 emkurilkoryumin emkurilkoryumin      165 окт  8 19:03 .wget-hsts
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin       84 мар  7 21:33 work/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin        0 сен 28 21:46 Видео/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin        0 окт 28 01:07 Документы/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin      388 мар 16 13:02 Загрузки/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin      172 дек 15 23:11 Изображения/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin        0 сен 28 21:46 Музыка/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin        0 сен 28 21:46 Общедоступные/
drwxr-xr-x. 1 emkurilkoryumin emkurilkoryumin        0 сен 28 21:46 'Рабочий стол'/
```

Рис. 5: Файлы в домашнем каталоге

```
[emkurilkoryumin@fedora ~]$ mkdir newdir
[emkurilkoryumin@fedora ~]$ ls
3.1.8      git-extended  os-intro      pandoc-3.1.8-linux-amd64.tar.gz
bin        git_repo     package.json  pandoc-crossref-Linux.tar.xz
CHANGELOG.md newdir       package-lock.json README.md
[emkurilkoryumin@fedora ~]$ cd ~/newdir/
[emkurilkoryumin@fedora newdir]$ mkdir morefun
[emkurilkoryumin@fedora newdir]$ ls
morefun
[emkurilkoryumin@fedora newdir]$ mkdir letters memos misk
[emkurilkoryumin@fedora newdir]$ ls
letters memos misk morefun
[emkurilkoryumin@fedora newdir]$ rmdir letters/ memos/ misk/
[emkurilkoryumin@fedora newdir]$ ls
morefun
[emkurilkoryumin@fedora newdir]$ cd
```

Рис. 6: Действия с каталогами

Опции команды ls



A terminal window titled "emkurilkoryumin@fedora:~ — man ls" displays the manual page for the 'ls' command. The window has a dark background with light-colored text. The content shows various options for the 'ls' command, including their short and long forms, and their functions. The options listed are: -l (long listing format), -b (escape non-graphic characters), --block-size=SIZE (scale sizes by SIZE), -B (ignore backups), -c (sort by ctime), -C (list by columns), --color[=WHEN] (color output), -d, --directory (list directories), and -D, --dired (dired mode output).

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

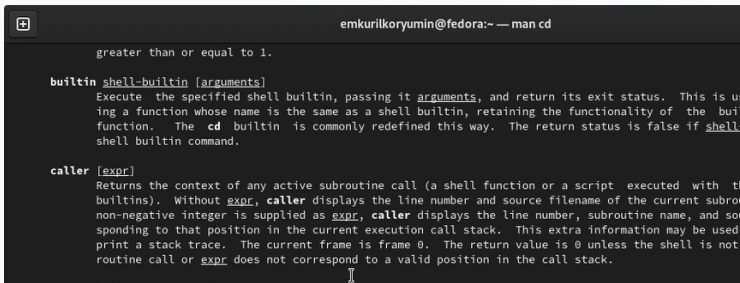
-C    list entries by columns

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

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

-D, --dired
    generate output designed for Emacs' dired mode
```

Рис. 7: Команда ls



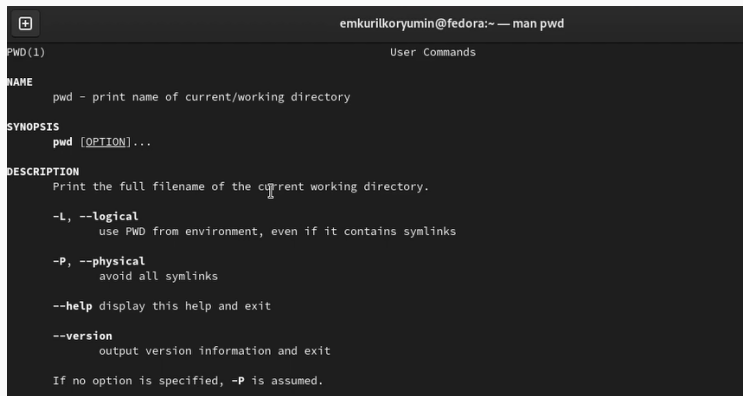
```
emkurilkoryumin@fedora:~ — man cd

greater than or equal to 1.

builtin shell-builtin [arguments]
Execute the specified shell builtin, passing it arguments, and return its exit status. This is useful for
creating a function whose name is the same as a shell builtin, retaining the functionality of the builtin
function. The cd builtin is commonly redefined this way. The return status is false if shell-builtin
is not a shell builtin command.

caller [expr]
Returns the context of any active subroutine call (a shell function or a script executed with the sh
builtin). Without expr, caller displays the line number and source filename of the current subroutine
call. If a non-negative integer is supplied as expr, caller displays the line number, subroutine name, and source
filename corresponding to that position in the current execution call stack. This extra information may be used
to print a stack trace. The current frame is frame 0. The return value is 0 unless the shell is not a POSIX
compatible shell or expr does not correspond to a valid position in the call stack.
```

Рис. 8: Справка по команде cd



```
emkurilkoryumin@fedora:~ — man pwd
PWD(1) User Commands

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

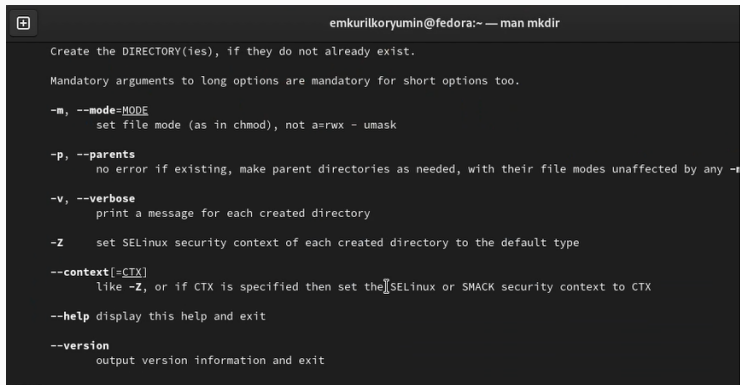
    -P, --physical
        avoid all symlinks

    --help display this help and exit

    --version
        output version information and exit

    If no option is specified, -P is assumed.
```

Рис. 9: Справка по команде pwd



```
emkurilkoryumin@fedora:~ — man mkdir

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

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

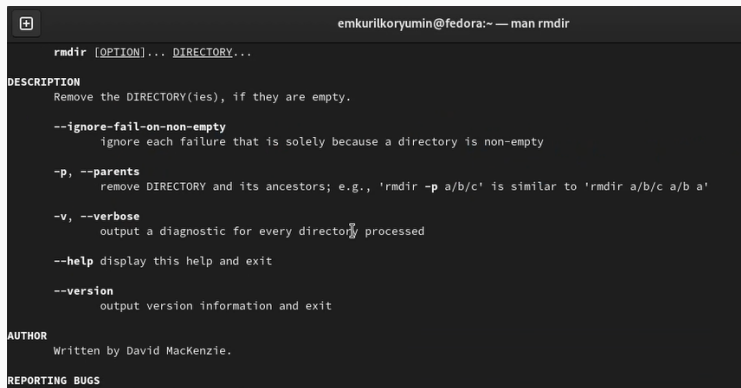
-Z      set SELinux security context of each created directory to the default type

--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
```

Рис. 10: Справка по команде mkdir



```
emkurilkoryumin@fedora:~ — man rmdir

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
```

Рис. 11: Справка по команде rmdir


```
emkurilkoryumin@fedora:~ — man rm

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
    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
    responding command line argument

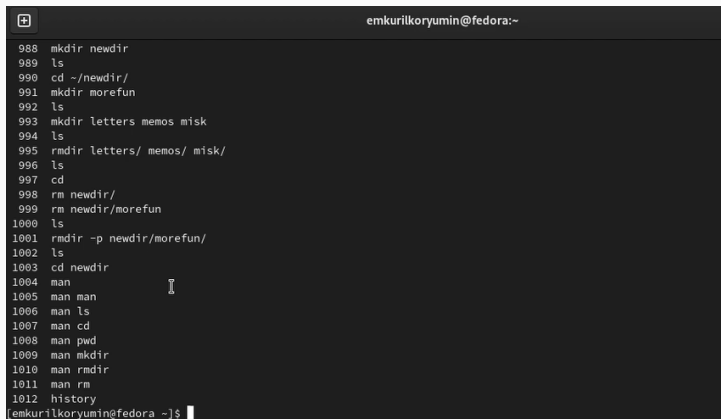
--no-preserve-root
    do not treat '/' specially

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

-r, -R, --recursive
    remove directories and their contents recursively
```

Рис. 12: Справка по команде rm

История командной строки

A terminal window with a dark background and light text. The title bar at the top shows a plus icon and the text 'emkurilkoryumin@fedora:~'. The terminal displays a list of 12 commands, each preceded by a line number from 988 to 1012. The commands are: mkdir newdir, ls, cd ~/newdir/, mkdir morefun, ls, mkdir letters memos misk, ls, rmdir letters/ memos/ misk/, ls, cd, rm newdir/, rm newdir/morefun, ls, rmdir -p newdir/morefun/, ls, cd newdir, man, man man, man ls, man cd, man pwd, man mkdir, man rmdir, man rm, and history. The cursor is at the end of the last line, which is '[emkurilkoryumin@fedora ~]\$'.

```
emkurilkoryumin@fedora:~  
988 mkdir newdir  
989 ls  
990 cd ~/newdir/  
991 mkdir morefun  
992 ls  
993 mkdir letters memos misk  
994 ls  
995 rmdir letters/ memos/ misk/  
996 ls  
997 cd  
998 rm newdir/  
999 rm newdir/morefun  
1000 ls  
1001 rmdir -p newdir/morefun/  
1002 ls  
1003 cd newdir  
1004 man  
1005 man man  
1006 man ls  
1007 man cd  
1008 man pwd  
1009 man mkdir  
1010 man rmdir  
1011 man rm  
1012 history  
[emkurilkoryumin@fedora ~]$
```

Рис. 13: Команда history

Выводы по проделанной работе

Я приобрел практические навыки взаимодействия пользователя с системой посредством командной строки.