

# Лабораторная работа №5. Анализ файловой системы Linux. Команды для работы с файлами и каталогами

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Подготовил:

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- Ознакомиться с файловой системой Linux, её структурой, именами и содержанием каталогов.
- Приобрести практические навыки по применению команд для работы с файлами и каталогами, по управлению процессами (и работами), по проверке использования диска и обслуживанию файловой системы.

Файловая система – это инструмент, позволяющий операционной системе и программам обращаться к нужным файлам и работать с ними. Каталог – это объект в файловой системе, упрощающий организацию файлов. Типичная файловая система содержит большое количество файлов и каталоги помогают упорядочить ее путем их группировки. Права доступа – совокупность правил, регламентирующих порядок и условия доступа субъекта к объектам информационной системы (информации, ее носителям, процессам и другим ресурсам).

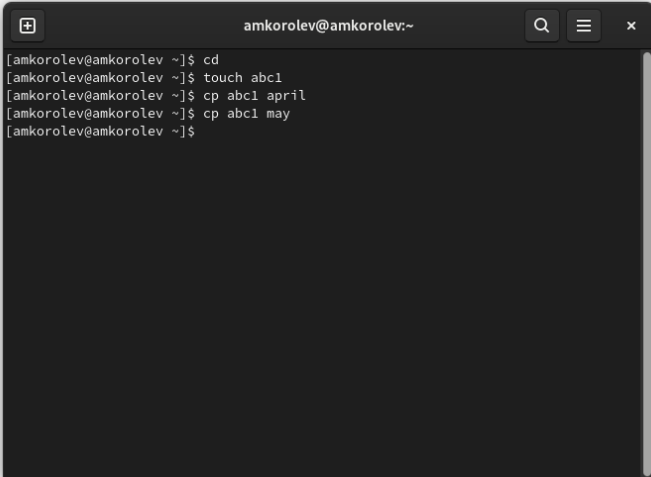
Выполнение лабораторной работы:

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1. Выполняем все примеры,  
приведённые в первой части  
описания лабораторной работы.

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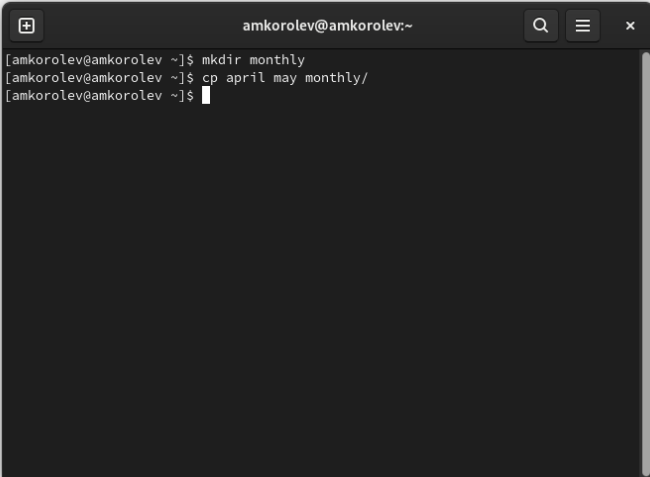
## 1.1. Копируем файл в текущем каталоге. Скопируем файл ~/abc1 в файл april и в файл may:

A terminal window with a dark background and light text. The title bar at the top shows the username and host 'amkorolev@amkorolev:~' along with search, menu, and close icons. The terminal content shows a series of commands and their outputs: 'cd' returns the current directory '~'; 'touch abc1' creates a new file; 'cp abc1 april' copies the file to 'april'; and 'cp abc1 may' copies the file to 'may'. Each command is followed by a new prompt line.

```
[amkorolev@amkorolev ~]$ cd
[amkorolev@amkorolev ~]$ touch abc1
[amkorolev@amkorolev ~]$ cp abc1 april
[amkorolev@amkorolev ~]$ cp abc1 may
[amkorolev@amkorolev ~]$
```

Figure 1: Скопировать файл ~/abc1 в файл april и в файл may

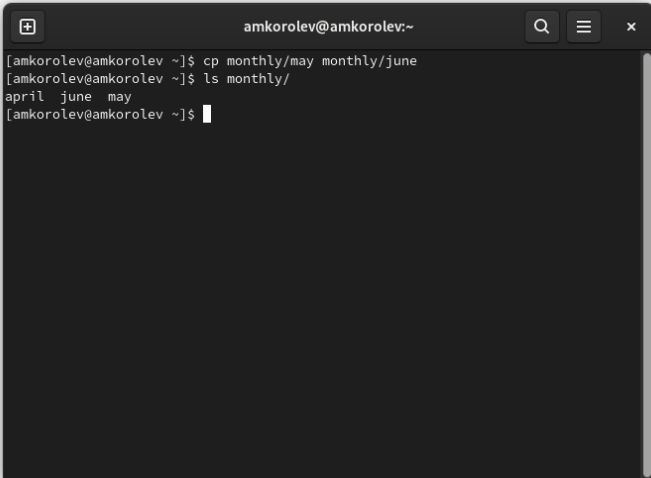
Копирование нескольких файлов в каталог. Скопировать файлы april и may в каталог monthly:

A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left side of the title bar is a square button with a plus sign. On the right side are three buttons: a magnifying glass (search), a hamburger menu (three horizontal lines), and a close button (an 'x'). The terminal content shows three lines of text: the first line is '[amkorolev@amkorolev ~]\$ mkdir monthly', the second line is '[amkorolev@amkorolev ~]\$ cp april may monthly/', and the third line is '[amkorolev@amkorolev ~]\$' followed by a white cursor block.

```
[amkorolev@amkorolev ~]$ mkdir monthly
[amkorolev@amkorolev ~]$ cp april may monthly/
[amkorolev@amkorolev ~]$
```

Figure 2: Скопировать файлы april и may в каталог monthly

Копирование файлов в произвольном каталоге. Скопировать файл `monthly/may` в файл с именем `june`:

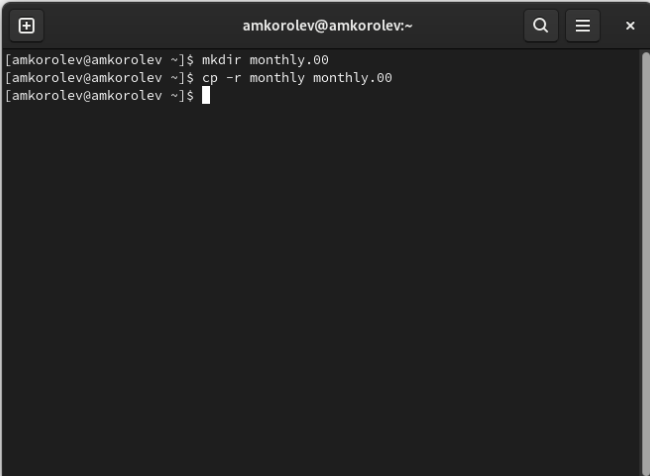
A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left is a '+' icon, and on the right are search, menu, and close icons. The terminal shows the following commands and output:

```
[amkorolev@amkorolev ~]$ cp monthly/may monthly/june  
[amkorolev@amkorolev ~]$ ls monthly/  
april  june  may  
[amkorolev@amkorolev ~]$
```

Figure 3: Скопировать файл `monthly/may` в файл с именем `june`



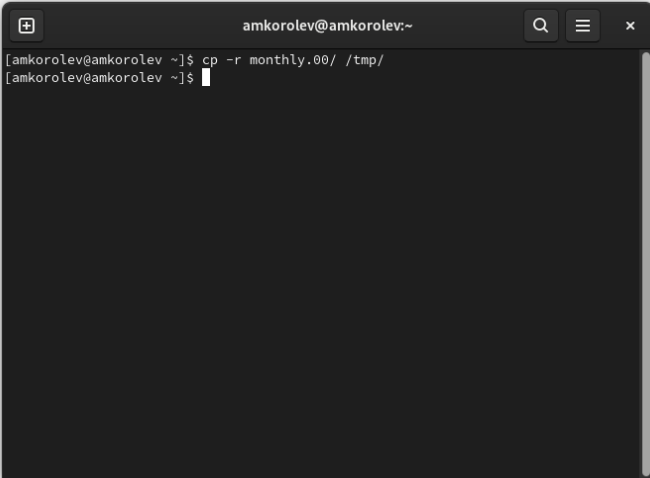
Копирование каталогов в текущем каталоге. Скопировать каталог monthly в каталог monthly.00:

A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left of the title bar is a square button with a plus sign, and on the right are three buttons: a magnifying glass, a hamburger menu, and a close 'x' button. The terminal shows three lines of text: the first line is '[amkorolev@amkorolev ~]\$ mkdir monthly.00', the second line is '[amkorolev@amkorolev ~]\$ cp -r monthly monthly.00', and the third line is '[amkorolev@amkorolev ~]\$' followed by a white cursor block.

```
[amkorolev@amkorolev ~]$ mkdir monthly.00
[amkorolev@amkorolev ~]$ cp -r monthly monthly.00
[amkorolev@amkorolev ~]$
```

Figure 4: Скопировать каталог monthly в каталог monthly.00

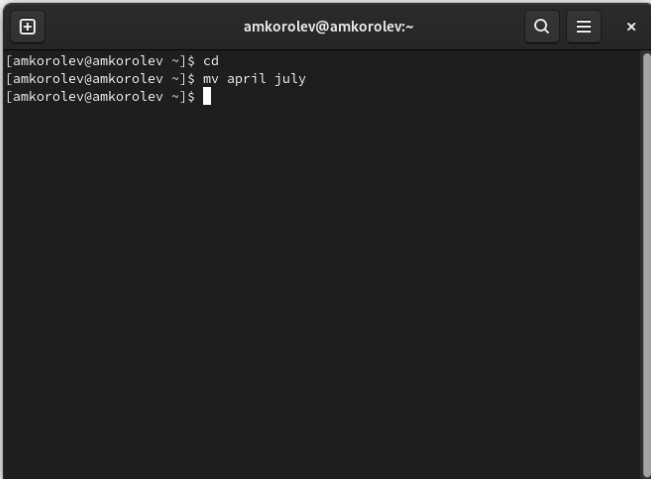
## Копирование каталогов в произвольном каталоге. Скопировать каталог monthly.00 в каталог /tmp

A terminal window with a dark background and light text. The title bar at the top shows the username and host 'amkorolev@amkorolev:~' along with search, menu, and close icons. The terminal content shows two lines of text: the first line is the command 'cp -r monthly.00/ /tmp/' and the second line is the prompt '[amkorolev@amkorolev ~]\$' followed by a cursor. The window has a scrollbar on the right side.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ cp -r monthly.00/ /tmp/  
[amkorolev@amkorolev ~]$
```

Figure 5: Скопировать каталог monthly.00 в каталог /tmp

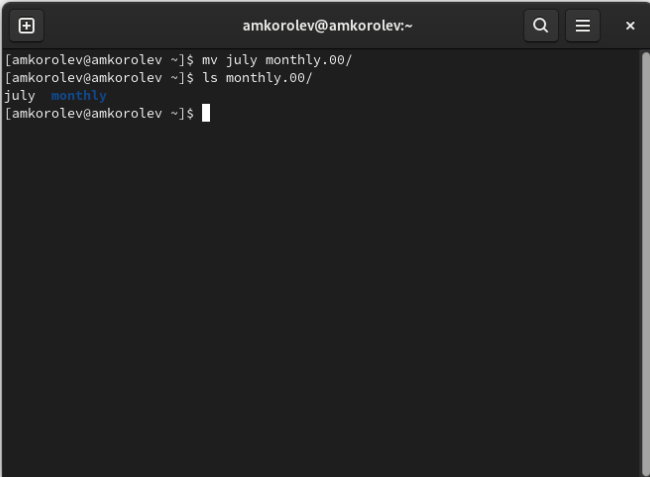
## 1.2. Переименование файлов в текущем каталоге. Изменить название файла april на july в домашнем каталоге:

A terminal window with a dark background and light text. The title bar at the top shows the username and host 'amkorolev@amkorolev:~' along with search, menu, and close icons. The terminal content shows three lines of text: the first line is the prompt '[amkorolev@amkorolev ~]\$' followed by the command 'cd'; the second line is the prompt '[amkorolev@amkorolev ~]\$' followed by the command 'mv april july'; the third line is the prompt '[amkorolev@amkorolev ~]\$' followed by a cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
[amkorolev@amkorolev ~]$ cd
[amkorolev@amkorolev ~]$ mv april july
[amkorolev@amkorolev ~]$
```

Figure 6: Изменить название файла april на july в домашнем каталоге

Перемещение файлов в другой каталог. Переместить файл july в каталог monthly.00:

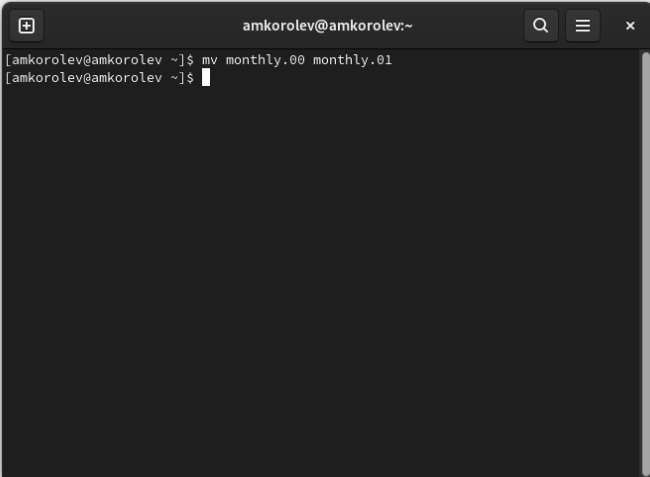
A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left of the title bar is a '+' icon, and on the right are icons for search (magnifying glass), a menu (three horizontal lines), and a close button (x). The terminal content shows the following sequence of commands and output:

```
[amkorolev@amkorolev ~]$ mv july monthly.00/  
[amkorolev@amkorolev ~]$ ls monthly.00/  
july  monthly  
[amkorolev@amkorolev ~]$
```

The output 'july monthly' shows 'july' in white and 'monthly' in blue, indicating a directory listing. A cursor is visible at the end of the last command line.

Figure 7: Переместить файл july в каталог monthly.00

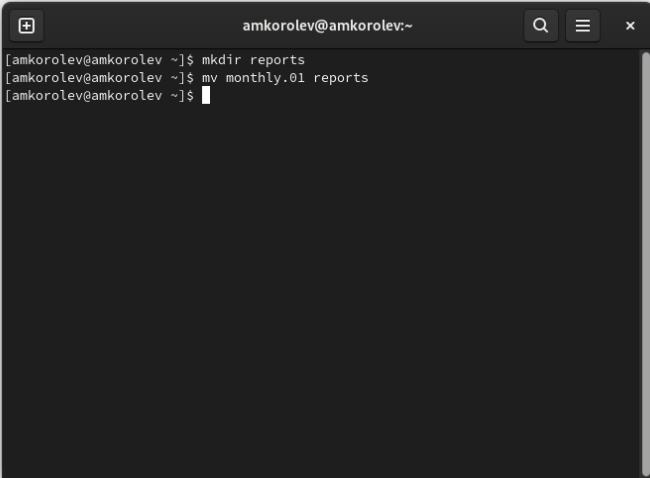
## Переименование каталогов в текущем каталоге. Переименовать каталог monthly.00 в monthly.01

A terminal window with a dark background. The title bar shows 'amkorolev@amkorolev:~' and standard window controls. The terminal text shows the command 'mv monthly.00 monthly.01' being executed successfully, followed by a new prompt line.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mv monthly.00 monthly.01  
[amkorolev@amkorolev ~]$
```

Figure 8: Переименовать каталог monthly.00 в monthly.01

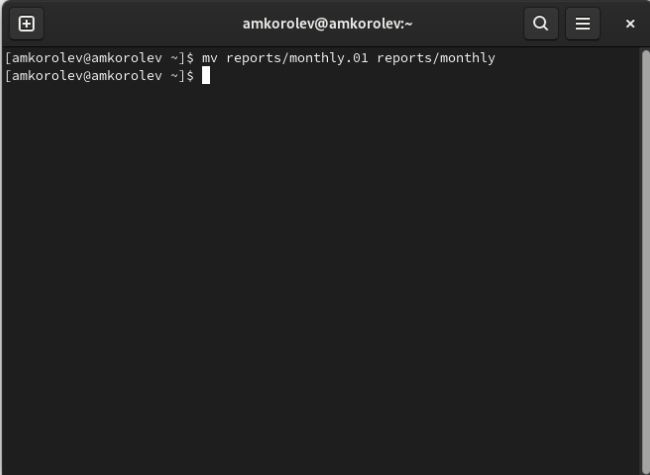
Перемещение каталога в другой каталог. Переместить каталог monthly.01 в каталог reports:

A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left of the title bar is a '+' icon, and on the right are search, menu, and close icons. The terminal content shows three lines of text: the first line is the prompt '[amkorolev@amkorolev ~]\$' followed by the command 'mkdir reports'; the second line is the prompt '[amkorolev@amkorolev ~]\$' followed by the command 'mv monthly.01 reports'; the third line is the prompt '[amkorolev@amkorolev ~]\$' followed by a cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
[amkorolev@amkorolev ~]$ mkdir reports
[amkorolev@amkorolev ~]$ mv monthly.01 reports
[amkorolev@amkorolev ~]$
```

Figure 9: Переместить каталог monthly.01 в каталог reports

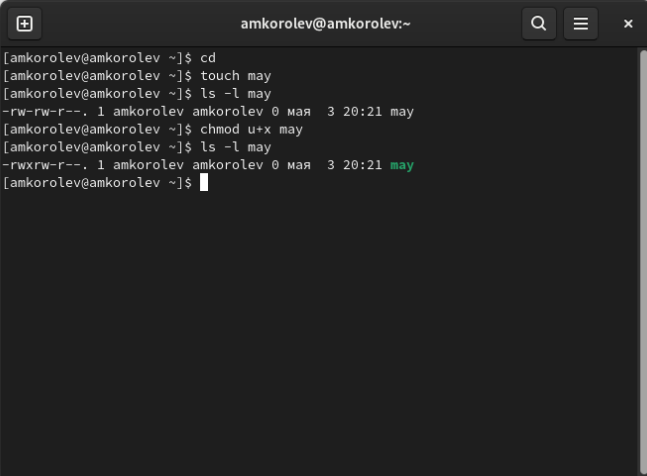
Переименование каталога, не являющегося текущим. Переименовать каталог `reports/monthly.01` в `reports/monthly`:

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~'. The window contains two lines of text: a command prompt followed by the command 'mv reports/monthly.01 reports/monthly', and a second line with the prompt and a cursor.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mv reports/monthly.01 reports/monthly  
[amkorolev@amkorolev ~]$
```

Figure 10: Переименовать каталог `reports/monthly.01` в `reports/monthly`

### 1.3. Требуется создать файл ~/may с правом выполнения для владельца:

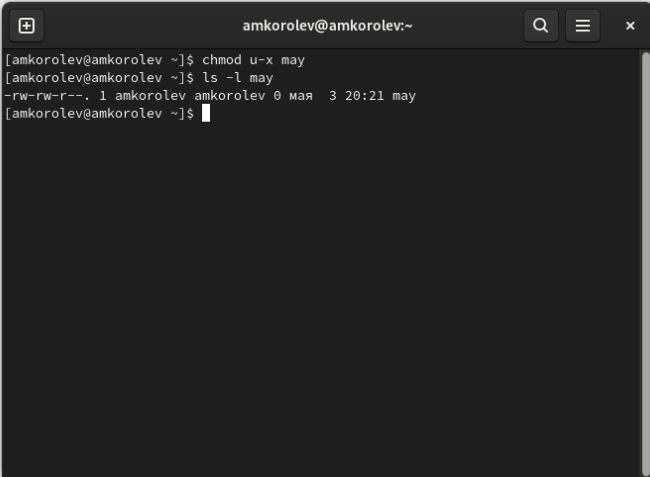


```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ cd  
[amkorolev@amkorolev ~]$ touch may  
[amkorolev@amkorolev ~]$ ls -l may  
-rw-rw-r--. 1 amkorolev amkorolev 0 мая  3 20:21 may  
[amkorolev@amkorolev ~]$ chmod u+x may  
[amkorolev@amkorolev ~]$ ls -l may  
-rwxrw-r--. 1 amkorolev amkorolev 0 мая  3 20:21 may  
[amkorolev@amkorolev ~]$
```

Figure 11: 1 cd 2 touch may 3 ls -l may 4 chmod u+x may 5 ls -l may



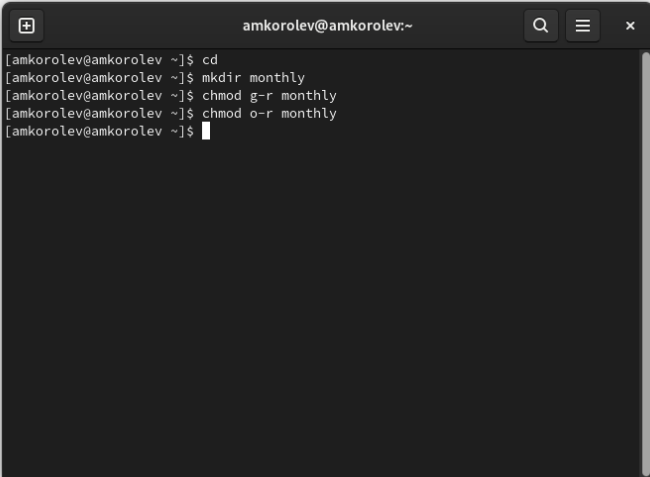
Требуется лишить владельца файла ~/may права на выполнение:

A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left is a window control button with a plus sign. On the right are search, menu, and close buttons. The terminal content shows the following commands and output:

```
[amkorolev@amkorolev ~]$ chmod u-x may
[amkorolev@amkorolev ~]$ ls -l may
-rw-rw-r--. 1 amkorolev amkorolev 0 мая  3 20:21 may
[amkorolev@amkorolev ~]$
```

Figure 12: 1 chmod u-x may 2 ls -l may

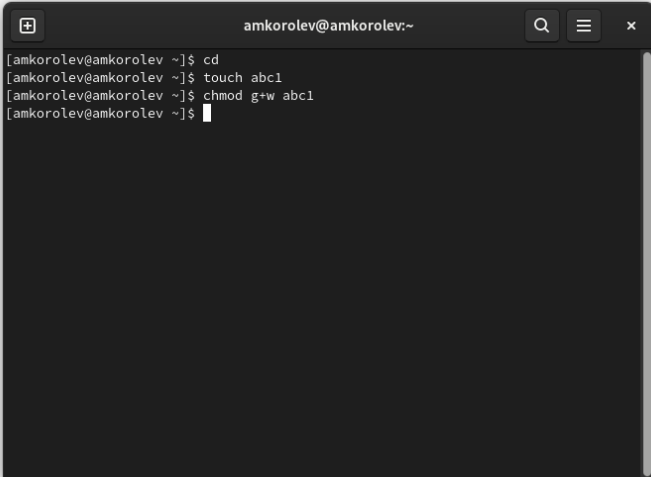
Требуется создать каталог `monthly` с запретом на чтение для членов группы и всех остальных пользователей:



```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ cd  
[amkorolev@amkorolev ~]$ mkdir monthly  
[amkorolev@amkorolev ~]$ chmod g-r monthly  
[amkorolev@amkorolev ~]$ chmod o-r monthly  
[amkorolev@amkorolev ~]$
```

Figure 13: 1 cd 2 mkdir monthly 3 chmod g-r, o-r monthly

Требуется создать файл ~/abc1 с правом записи для членов группы:

A terminal window with a dark background and light text. The title bar at the top shows 'amkorolev@amkorolev:~' and standard window controls (search, menu, close). The terminal content shows a sequence of three commands: 'cd', 'touch abc1', and 'chmod g+w abc1', each followed by a new prompt line. The cursor is visible at the end of the third line.

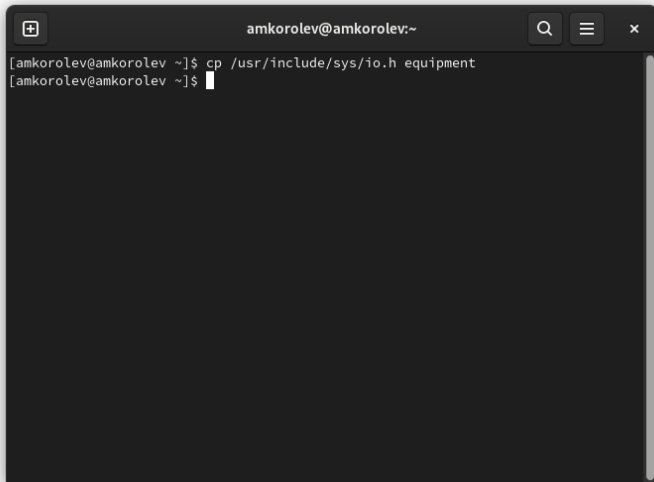
```
[amkorolev@amkorolev ~]$ cd  
[amkorolev@amkorolev ~]$ touch abc1  
[amkorolev@amkorolev ~]$ chmod g+w abc1  
[amkorolev@amkorolev ~]$
```

Figure 14: 1 cd 2 touch abc1 3 chmod g+w abc1

2. Выполните следующие действия,  
зафиксировав в отчёте по  
лабораторной работе  
используемые при этом команды и  
результаты их выполнения:

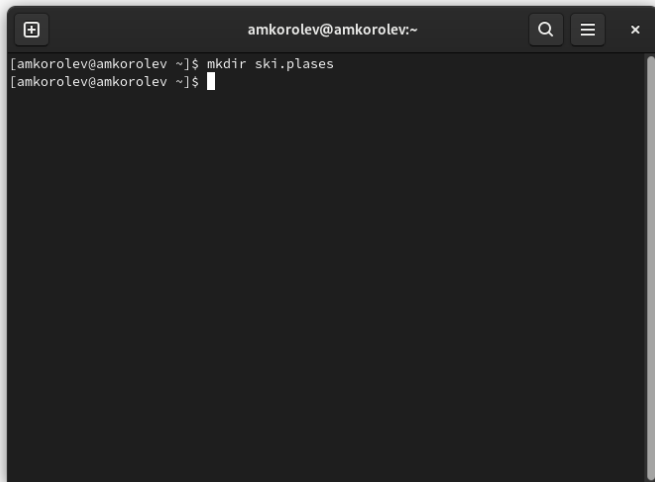
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2.1. Скопируйте файл `/usr/include/sys/io.h` в домашний каталог и назовите его `equipment`. Если файла `io.h` нет, то используйте любой другой файл в каталоге `/usr/include/sys/` вместо него.

A terminal window with a dark background and light text. The title bar at the top shows the user 'amkorolev@amkorolev' and the home directory '~'. On the right side of the title bar are icons for search, menu, and close. The terminal content shows two lines of text: the first line is a command prompt followed by the command 'cp /usr/include/sys/io.h equipment', and the second line is a new command prompt with a cursor. The window has a vertical scrollbar on the right side.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ cp /usr/include/sys/io.h equipment  
[amkorolev@amkorolev ~]$
```

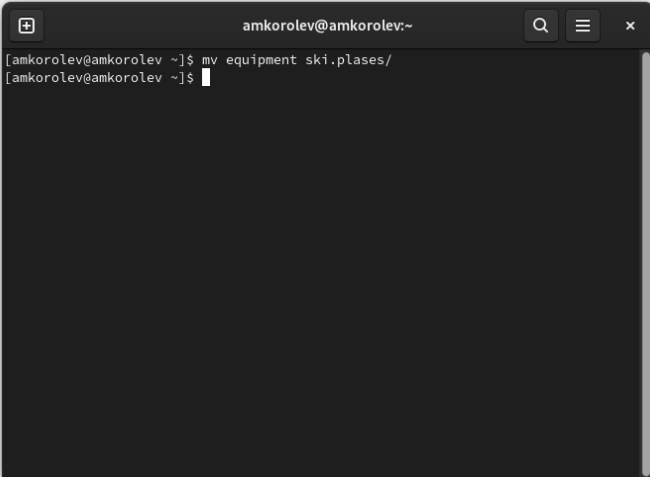
## 2.2. В домашнем каталоге создайте директорию ~/ski.plases.

A terminal window with a dark background. The title bar at the top shows 'amkorolev@amkorolev:~' and standard window controls (search, menu, close). The terminal content shows the command 'mkdir ski.plases' being entered and executed, with a cursor on the line below.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mkdir ski.plases  
[amkorolev@amkorolev ~]$
```

Figure 16: В домашнем каталоге создайте директорию ~/ski.plases.

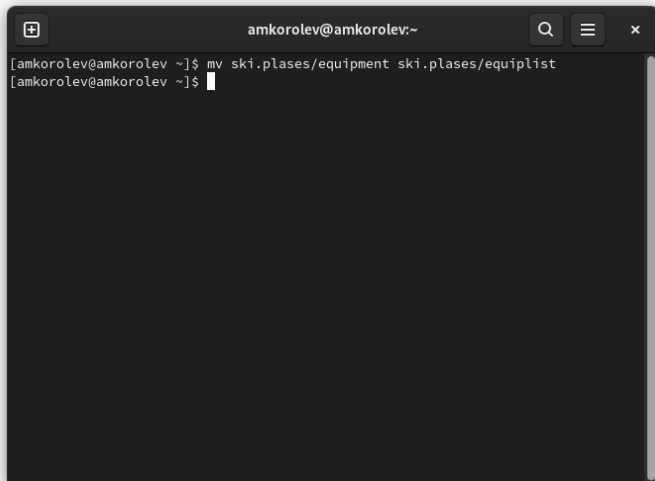
## 2.3. Переместите файл equipment в каталог ~/ski.plases.

A terminal window with a dark background. The title bar shows 'amkorolev@amkorolev:~' and standard window controls. The terminal content shows the command 'mv equipment ski.plases/' being entered and executed, followed by a new prompt line.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mv equipment ski.plases/  
[amkorolev@amkorolev ~]$
```

Figure 17: Переместите файл equipment в каталог ~/ski.plases.

## 2.4. Переименуйте файл ~/ski.plases/equipment в ~/ski.plases/equiplist.

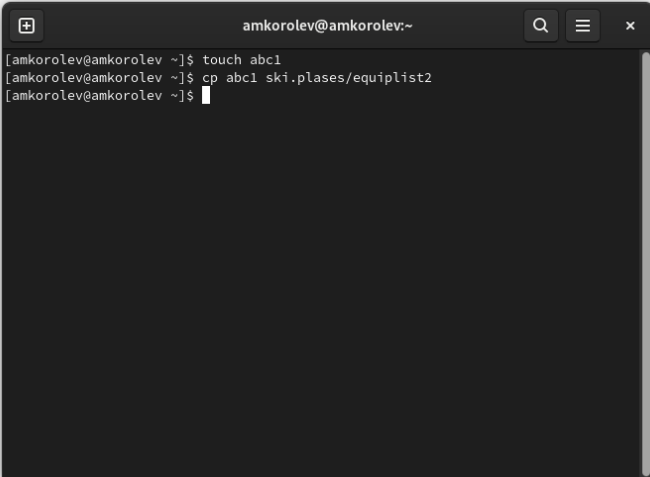
A terminal window with a dark background and light text. The title bar at the top reads 'amkorolev@amkorolev:~'. On the left of the title bar is a square icon with a plus sign. On the right are three icons: a magnifying glass, a hamburger menu, and a close button (an 'x'). The terminal content shows two lines of text. The first line is a command prompt '[amkorolev@amkorolev ~]\$' followed by the command 'mv ski.plases/equipment ski.plases/equiplist'. The second line is another command prompt '[amkorolev@amkorolev ~]\$' followed by a cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mv ski.plases/equipment ski.plases/equiplist  
[amkorolev@amkorolev ~]$
```

Figure 18: Переименуйте файл ~/ski.plases/equipment в ~/ski.plases/equiplist.



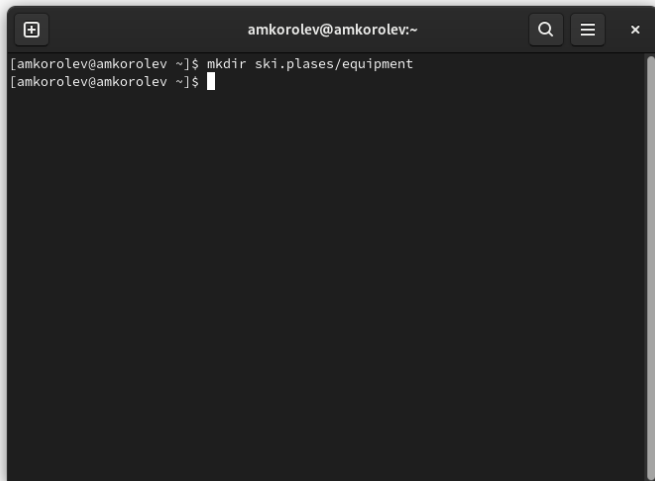
2.5. Создайте в домашнем каталоге файл `abc1` и скопируйте его в каталог `~/ski.plases`, назовите его `equiplist2`.

A terminal window with a dark background and light text. The title bar at the top reads "amkorolev@amkorolev:~". On the left of the title bar is a square button with a plus sign, and on the right are three buttons: a magnifying glass (search), a hamburger menu (three horizontal lines), and a close button (an 'x'). The terminal shows three lines of text: the first line is a prompt "[amkorolev@amkorolev ~]\$ touch abc1" followed by a new line; the second line is a prompt "[amkorolev@amkorolev ~]\$ cp abc1 ski.plases/equiplist2" followed by a new line; the third line is a prompt "[amkorolev@amkorolev ~]\$" followed by a cursor (a vertical bar) on the next line.

```
[amkorolev@amkorolev ~]$ touch abc1
[amkorolev@amkorolev ~]$ cp abc1 ski.plases/equiplist2
[amkorolev@amkorolev ~]$
```

**Figure 19:** Создайте в домашнем каталоге файл `abc1` и скопируйте его в каталог `~/ski.plases`, назовите его `equiplist2` 22/46

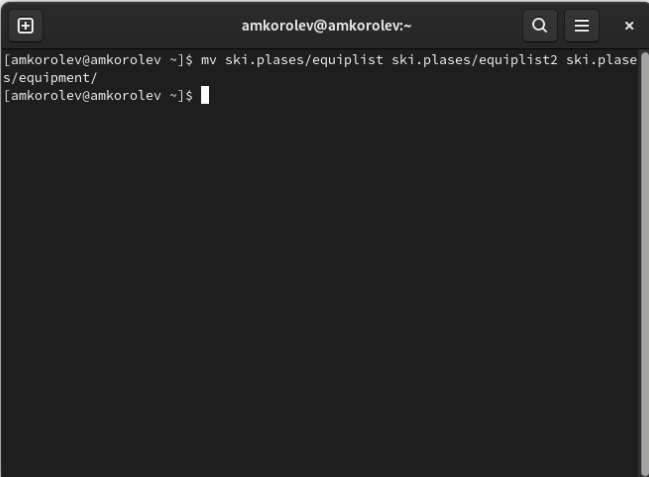
## 2.6. Создайте каталог с именем equipment в каталоге ~/ski.plases.

A terminal window with a dark background. The title bar at the top shows the username and host 'amkorolev@amkorolev:~' along with search, menu, and close icons. The terminal content shows two lines of text: the first line is the command 'mkdir ski.plases/equipment' and the second line is the prompt '[amkorolev@amkorolev ~]\$' followed by a cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mkdir ski.plases/equipment  
[amkorolev@amkorolev ~]$
```

Figure 20: Создайте каталог с именем equipment в каталоге ~/ski.plases.

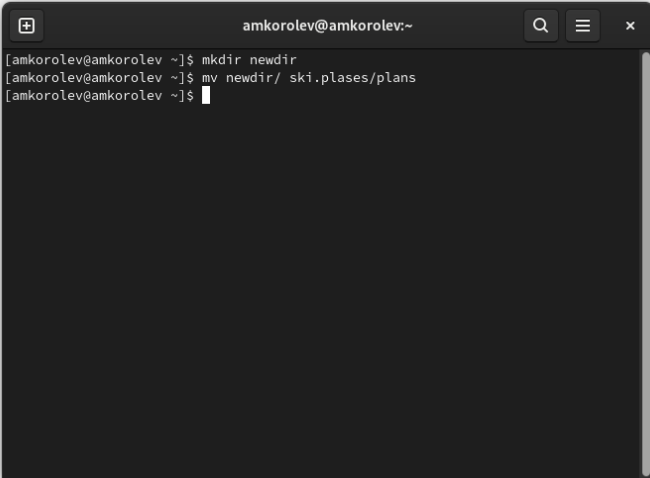
2.7. Переместите файлы `~/ski.plases/equiplist` и `equiplist2` в каталог `~/ski.plases/equipment`.

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~'. There are search, menu, and close buttons on the right. The terminal text shows a command to move files from 'ski.plases/' to 'ski.plases/equipment/'.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mv ski.plases/equiplist ski.plases/equiplist2 ski.plases/equipment/  
[amkorolev@amkorolev ~]$
```

**Figure 21:** Переместите файлы `~/ski.plases/equiplist` и `equiplist2` в каталог `~/ski.plases/equipment`.

2.8. Создайте и переместите каталог `~/newdir` в каталог `~/ski.places` и назовите его `plans`.

A terminal window with a dark background and light text. The title bar at the top reads "amkorolev@amkorolev:~". On the left of the title bar is a square button with a plus sign, and on the right are three buttons: a magnifying glass (search), a hamburger menu (three horizontal lines), and a close button (an 'x'). The terminal shows three lines of commands and their prompts: the first line is "[amkorolev@amkorolev ~]\$ mkdir newdir", the second is "[amkorolev@amkorolev ~]\$ mv newdir/ ski.places/plans", and the third is "[amkorolev@amkorolev ~]\$ " followed by a white cursor. A vertical scrollbar is visible on the right side of the terminal window.

```
amkorolev@amkorolev:~  
[amkorolev@amkorolev ~]$ mkdir newdir  
[amkorolev@amkorolev ~]$ mv newdir/ ski.places/plans  
[amkorolev@amkorolev ~]$
```

**Figure 22:** Создайте и переместите каталог `~/newdir` в каталог `~/ski.places` и назовите его `plans`.

3. Определим опции команды `chmod`, необходимые для того, чтобы присвоить перечисленным ниже файлам выделенные права доступа, считая, что в начале таких прав нет:

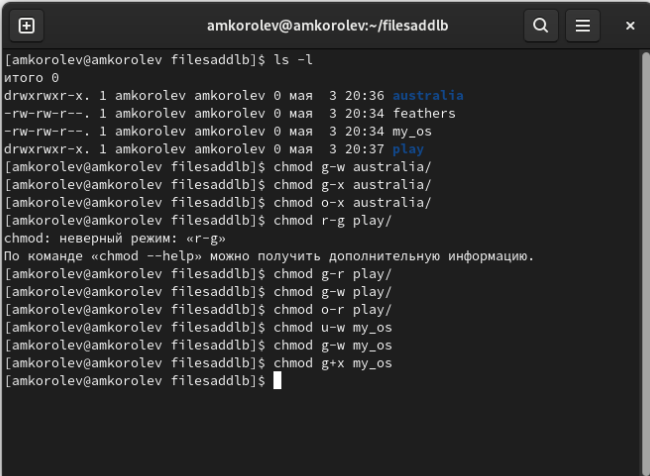
3.1. `drwxr-r-` ... `australia`

3.2. `drwx-x-x` ... `play`

3.3. `-r-xr-r-` ... `my_os`

3.4. `-rw-rw-r-` ... `feathers`

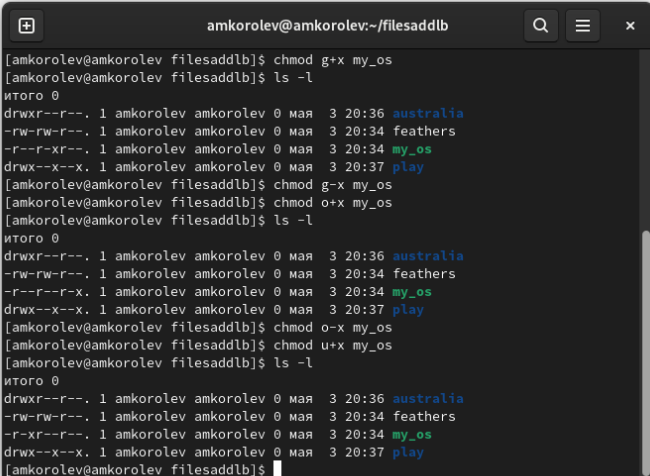
## Присваиваем файлам права доступа:



```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxrwxr-x. 1 amkorolev amkorolev 0 мая 3 20:36 australia
-rw-rw-r--. 1 amkorolev amkorolev 0 мая 3 20:34 feathers
-rw-rw-r--. 1 amkorolev amkorolev 0 мая 3 20:34 my_os
drwxrwxr-x. 1 amkorolev amkorolev 0 мая 3 20:37 play
[amkorolev@amkorolev filesaddlb]$ chmod g-w australia/
[amkorolev@amkorolev filesaddlb]$ chmod g-x australia/
[amkorolev@amkorolev filesaddlb]$ chmod o-x australia/
[amkorolev@amkorolev filesaddlb]$ chmod r-g play/
chmod: неверный режим: «r-g»
По команде «chmod --help» можно получить дополнительную информацию.
[amkorolev@amkorolev filesaddlb]$ chmod g-r play/
[amkorolev@amkorolev filesaddlb]$ chmod g-w play/
[amkorolev@amkorolev filesaddlb]$ chmod o-r play/
[amkorolev@amkorolev filesaddlb]$ chmod u-w my_os
[amkorolev@amkorolev filesaddlb]$ chmod g-w my_os
[amkorolev@amkorolev filesaddlb]$ chmod g+x my_os
[amkorolev@amkorolev filesaddlb]$
```

Figure 23: Присваиваем файлам права доступа

## Присваиваем файлам права доступа:



```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ chmod g+x my_os
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxr--r--. 1 amkorolev amkorolev 0 мая 3 20:36 australia
-rw-rw-r--. 1 amkorolev amkorolev 0 мая 3 20:34 feathers
-r--r-xr--. 1 amkorolev amkorolev 0 мая 3 20:34 my_os
drwx--x--x. 1 amkorolev amkorolev 0 мая 3 20:37 play
[amkorolev@amkorolev filesaddlb]$ chmod g-x my_os
[amkorolev@amkorolev filesaddlb]$ chmod o+x my_os
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxr--r--. 1 amkorolev amkorolev 0 мая 3 20:36 australia
-rw-rw-r--. 1 amkorolev amkorolev 0 мая 3 20:34 feathers
-r--r--r-x. 1 amkorolev amkorolev 0 мая 3 20:34 my_os
drwx--x--x. 1 amkorolev amkorolev 0 мая 3 20:37 play
[amkorolev@amkorolev filesaddlb]$ chmod o-x my_os
[amkorolev@amkorolev filesaddlb]$ chmod u+x my_os
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxr--r--. 1 amkorolev amkorolev 0 мая 3 20:36 australia
-rw-rw-r--. 1 amkorolev amkorolev 0 мая 3 20:34 feathers
-r-xr--r--. 1 amkorolev amkorolev 0 мая 3 20:34 my_os
drwx--x--x. 1 amkorolev amkorolev 0 мая 3 20:37 play
[amkorolev@amkorolev filesaddlb]$
```

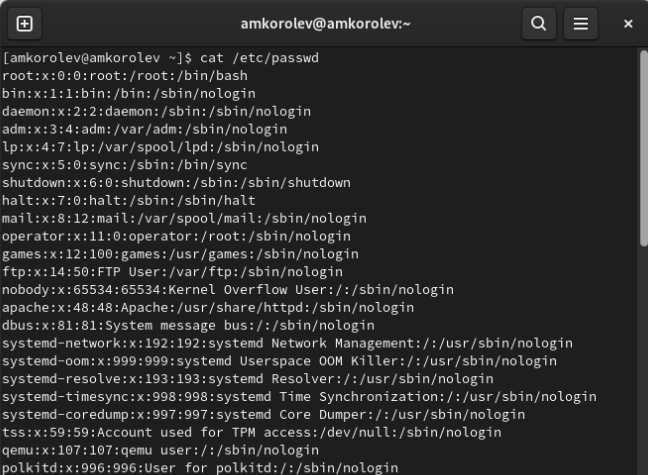
Figure 24: Присваиваем файлам права доступа

Проделайте приведённые ниже  
упражнения, записывая в отчёт по  
лабораторной работе  
используемые при этом команды:

---



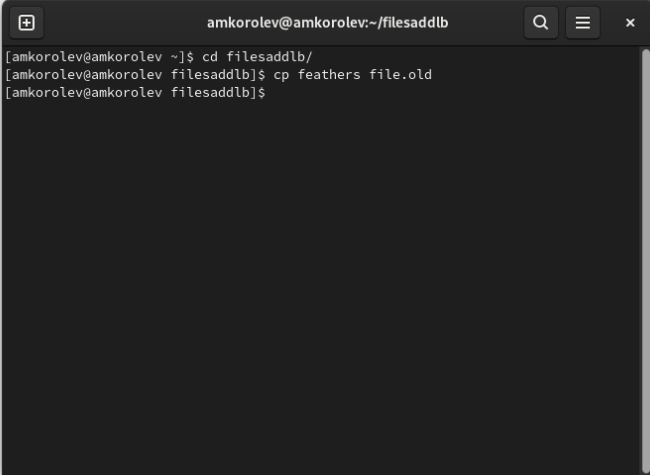
## 4.1. Просмотрите содержимое файла /etc/passwd.

A terminal window with a dark background. The title bar shows the user 'amkorolev@amkorolev:~'. The command prompt is '[amkorolev@amkorolev ~]\$' and the command entered is 'cat /etc/passwd'. The output is a list of system and user accounts in the format 'username:x:uid:gid:full\_name:home\_directory:shell'.

```
[amkorolev@amkorolev ~]$ cat /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
games:x:12:100:games:/usr/games:/sbin/nologin
ftp:x:14:50:FTP User:/var/ftp:/sbin/nologin
nobody:x:65534:65534:Kernel Overflow User:/:/sbin/nologin
apache:x:48:48:Apache:/usr/share/httpd:/sbin/nologin
dbus:x:81:81:System message bus:/:/sbin/nologin
systemd-network:x:192:192:systemd Network Management:/:/usr/sbin/nologin
systemd-oom:x:999:999:systemd Userspace OOM Killer:/:/usr/sbin/nologin
systemd-resolve:x:193:193:systemd Resolver:/:/usr/sbin/nologin
systemd-timesync:x:998:998:systemd Time Synchronization:/:/usr/sbin/nologin
systemd-coredump:x:997:997:systemd Core Dumper:/:/usr/sbin/nologin
tss:x:59:59:Account used for TPM access:/dev/null:/sbin/nologin
qemu:x:107:107:qemu user:/:/sbin/nologin
polkitd:x:996:996:User for polkitd:/:/sbin/nologin
```

Figure 25: cat /etc/passwd.

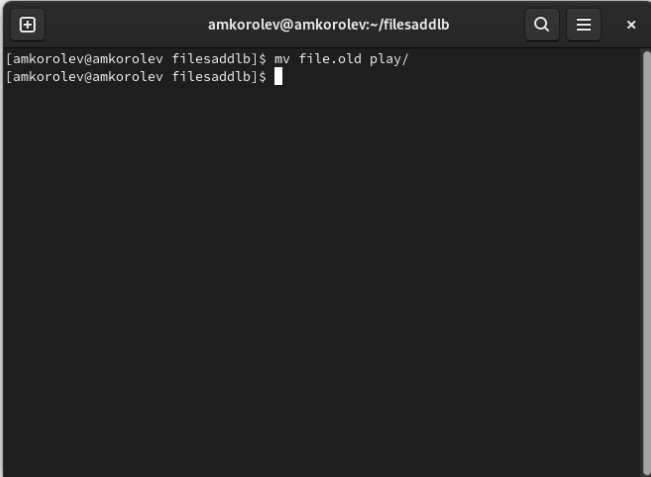
## 4.2. Скопируйте файл ~/feathers в файл ~/file.old

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The terminal contains three lines of text: the first line shows the user changing to the 'filesaddlb' directory, the second line shows the user copying 'feathers' to 'file.old', and the third line shows the prompt after the command is executed.

```
amkorolev@amkorolev:~/filesaddlb  
[amkorolev@amkorolev ~]$ cd filesaddlb/  
[amkorolev@amkorolev filesaddlb]$ cp feathers file.old  
[amkorolev@amkorolev filesaddlb]$
```

Figure 26: cp feathers file.old

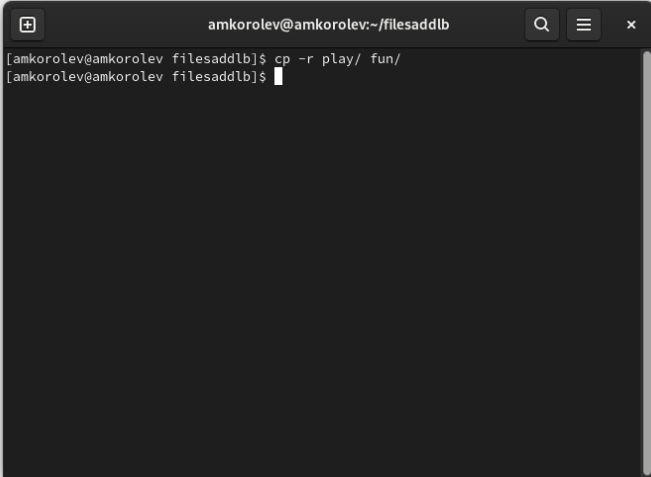
### 4.3. Переместите файл ~/file.old в каталог ~/play

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The terminal contains two lines of text: the first line shows the command 'mv file.old play/' being entered, and the second line shows the prompt after the command has been executed, with a cursor at the end.

```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ mv file.old play/
[amkorolev@amkorolev filesaddlb]$
```

Figure 27: mv file.old play

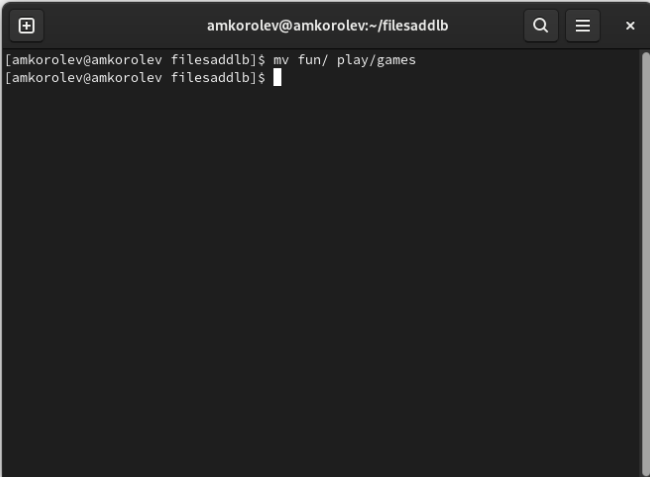
#### 4.4. Скопируйте каталог ~/play в каталог ~/fun.

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The terminal contains two lines of text: the first line shows the command 'cp -r play/ fun/' being entered, and the second line shows the prompt after the command has been executed.

```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ cp -r play/ fun/
[amkorolev@amkorolev filesaddlb]$
```

Figure 28: `cp -r play/ fun/`

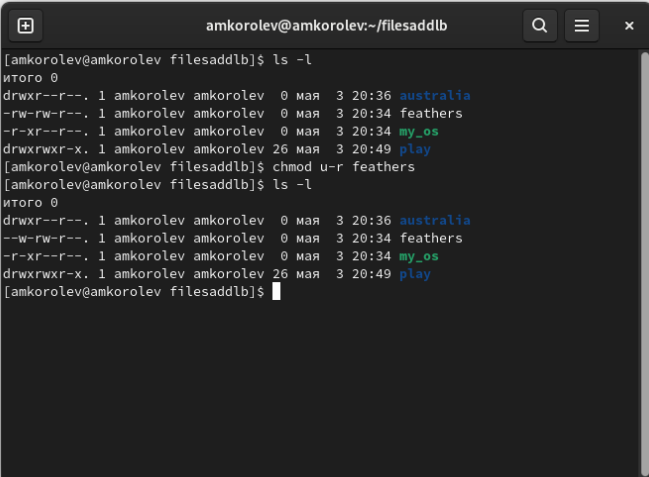
#### 4.5. Переместите каталог ~/fun в каталог ~/play и назовите его games.

A terminal window with a dark background. The title bar at the top shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The window contains two lines of text: the first line shows the command 'mv fun/ play/games' being executed, and the second line shows the prompt '[amkorolev@amkorolev filesaddlb]\$' with a cursor. The window has standard macOS-style window controls (a plus icon on the left, and search, menu, and close icons on the right) and a vertical scrollbar on the right side.

```
amkorolev@amkorolev:~/filesaddlb  
[amkorolev@amkorolev filesaddlb]$ mv fun/ play/games  
[amkorolev@amkorolev filesaddlb]$
```

Figure 29: mv fun/ play/games

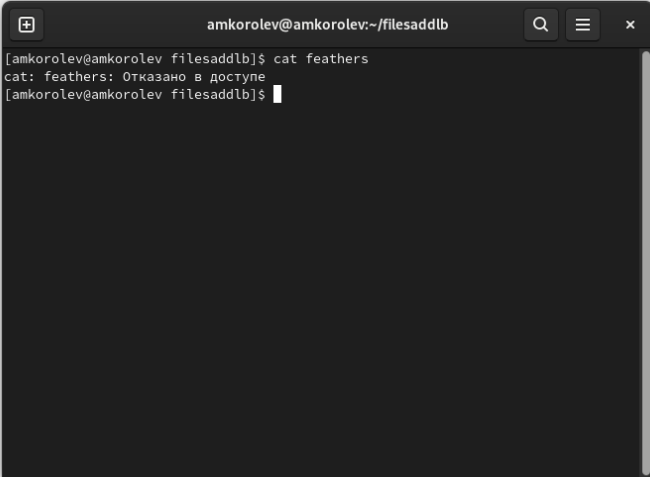
## 4.6. Лишите владельца файла ~/feathers права на чтение.



```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxr--r--. 1 amkorolev amkorolev  0 мая  3 20:36 australia
-rw-rw-r--. 1 amkorolev amkorolev  0 мая  3 20:34 feathers
-r-xr--r--. 1 amkorolev amkorolev  0 мая  3 20:34 my_os
drwxrwxr-x. 1 amkorolev amkorolev 26 мая  3 20:49 play
[amkorolev@amkorolev filesaddlb]$ chmod u-r feathers
[amkorolev@amkorolev filesaddlb]$ ls -l
итого 0
drwxr--r--. 1 amkorolev amkorolev  0 мая  3 20:36 australia
--w-rw-r--. 1 amkorolev amkorolev  0 мая  3 20:34 feathers
-r-xr--r--. 1 amkorolev amkorolev  0 мая  3 20:34 my_os
drwxrwxr-x. 1 amkorolev amkorolev 26 мая  3 20:49 play
[amkorolev@amkorolev filesaddlb]$
```

Figure 30: chmod u-r feathers

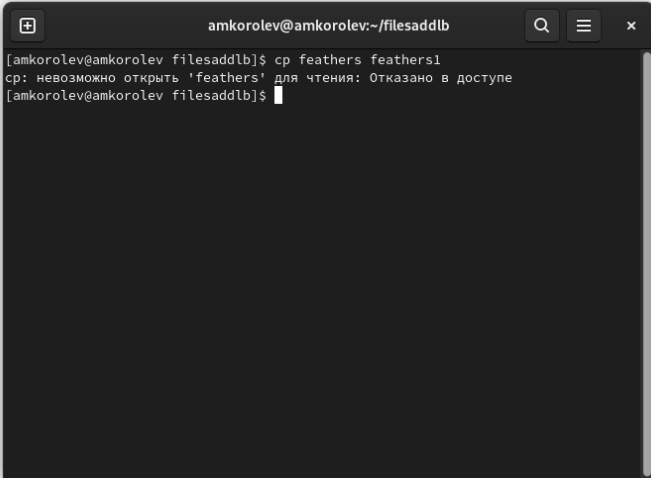
## 4.7. Что произойдёт, если вы попытаетесь просмотреть файл ~/feathers командой cat?



```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ cat feathers
cat: feathers: Отказано в доступе
[amkorolev@amkorolev filesaddlb]$
```

Figure 31: cat feathers

## 4.8. Что произойдёт, если вы попытаетесь скопировать файл ~/feathers?

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The window contains the following text:

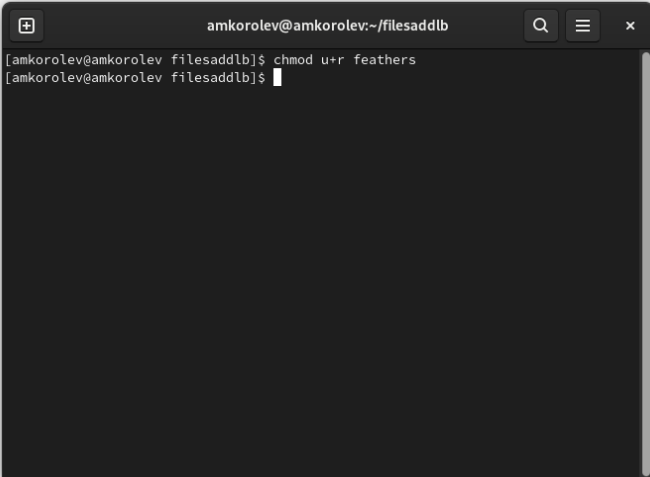
```
[amkorolev@amkorolev filesaddlb]$ cp feathers feathers1  
cp: невозможно открыть 'feathers' для чтения: Отказано в доступе  
[amkorolev@amkorolev filesaddlb]$
```

The terminal window has a title bar with a plus icon on the left, the text 'amkorolev@amkorolev:~/filesaddlb' in the center, and search, menu, and close icons on the right. The command prompt shows the user is in the 'filesaddlb' directory. The command 'cp feathers feathers1' is entered, followed by an error message in Russian: 'cp: невозможно открыть 'feathers' для чтения: Отказано в доступе'. The prompt returns to the shell.

Figure 32: cp feathers feathers1



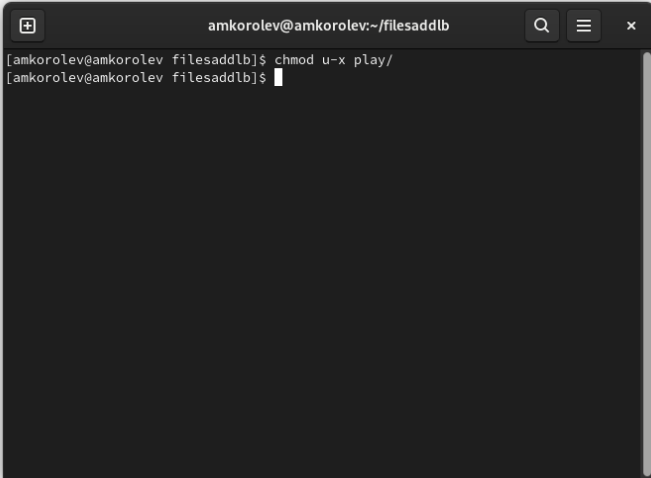
#### 4.9. Дайте владельцу файла ~/feathers право на чтение.

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The terminal contains two lines of text: the first line is the command 'chmod u+r feathers' and the second line is the prompt '[amkorolev@amkorolev filesaddlb]\$' followed by a cursor. The window has standard macOS-style window controls (red, yellow, green buttons) and a search icon, a menu icon, and a close icon in the top right corner.

```
amkorolev@amkorolev:~/filesaddlb  
[amkorolev@amkorolev filesaddlb]$ chmod u+r feathers  
[amkorolev@amkorolev filesaddlb]$
```

Figure 33: chmod u+r feathers

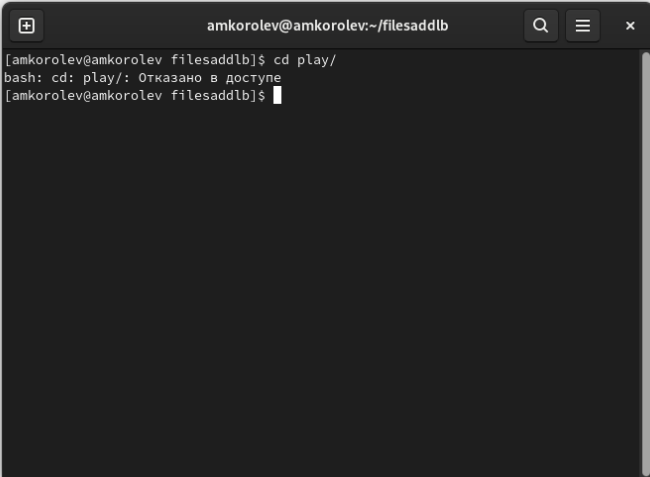
## 4.10. Лишите владельца каталога ~/play права на выполнение.

A terminal window with a dark background. The title bar at the top shows 'amkorolev@amkorolev:~/filesaddlb' and standard window controls (search, menu, close). The terminal content shows two lines of text: the first line is '[amkorolev@amkorolev filesaddlb]\$ chmod u-x play/' and the second line is '[amkorolev@amkorolev filesaddlb]\$' followed by a white cursor. A vertical scrollbar is visible on the right side of the terminal area.

```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ chmod u-x play/
[amkorolev@amkorolev filesaddlb]$
```

Figure 34: chmod u-x play/

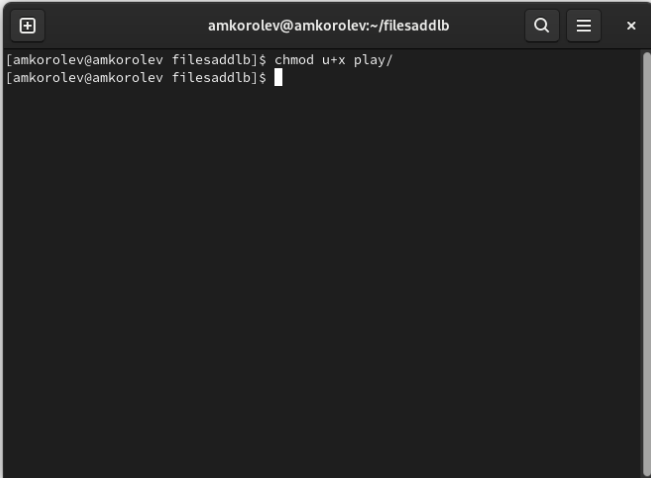
## 4.11. Перейдите в каталог ~/play. Что произошло?

A terminal window with a dark background. The title bar shows the user 'amkorolev' at host 'amkorolev' in the directory '~/filesaddlb'. The terminal text shows the user entering 'cd play/' and receiving an error message in Russian: 'bash: cd: play/: Отказано в доступе'.

```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ cd play/
bash: cd: play/: Отказано в доступе
[amkorolev@amkorolev filesaddlb]$
```

Figure 35: cd play/

#### 4.12. Дайте владельцу каталога ~/play право на выполнение.

A terminal window with a dark background. The title bar at the top shows 'amkorolev@amkorolev:~/filesaddlb' and standard window controls (minimize, maximize, close). The terminal content shows two lines of text: '[amkorolev@amkorolev filesaddlb]\$ chmod u+x play/' followed by a new line with '[amkorolev@amkorolev filesaddlb]\$' and a cursor. A vertical scrollbar is visible on the right side of the terminal area.

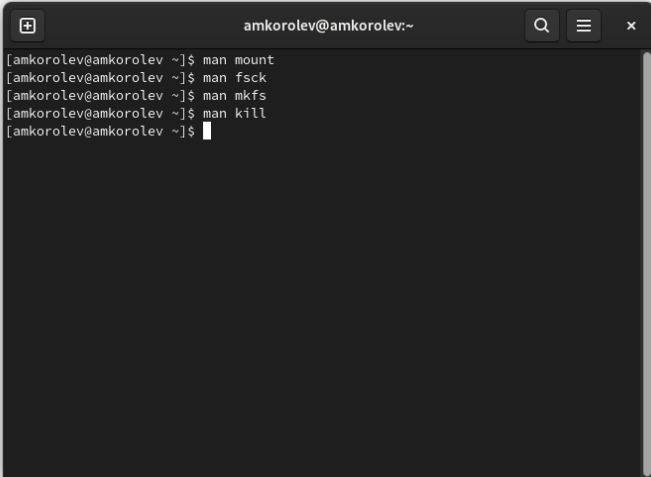
```
amkorolev@amkorolev:~/filesaddlb
[amkorolev@amkorolev filesaddlb]$ chmod u+x play/
[amkorolev@amkorolev filesaddlb]$
```

Figure 36: chmod u+x play/

5. Прочитайте man по командам  
mount, fsck, mkfs, kill и кратко их  
охарактеризуйте, приведя примеры.

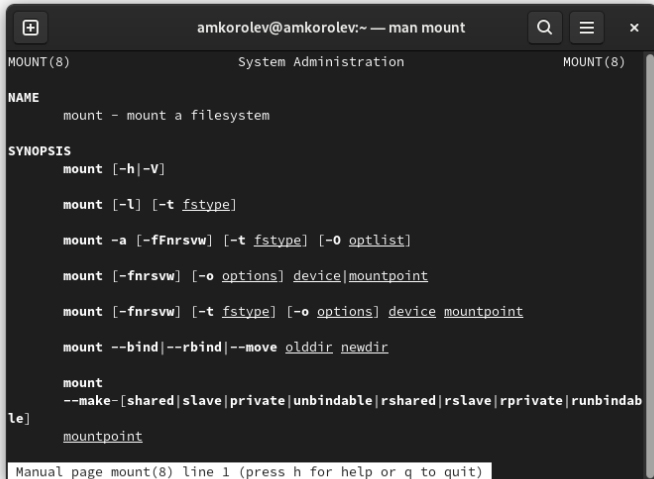
---

## Команды man mount; man fsck; man mkfs; man kill

A terminal window with a dark background and light text. The title bar at the top shows 'amkorolev@amkorolev:~' and standard window controls (search, menu, close). The terminal content shows a series of 'man' commands being entered at the prompt. The prompt is '[amkorolev@amkorolev ~]\$'. The commands are 'man mount', 'man fsck', 'man mkfs', and 'man kill'. The last line shows the prompt again with a cursor, indicating the command has been entered but not yet executed.

```
[amkorolev@amkorolev ~]$ man mount
[amkorolev@amkorolev ~]$ man fsck
[amkorolev@amkorolev ~]$ man mkfs
[amkorolev@amkorolev ~]$ man kill
[amkorolev@amkorolev ~]$
```

Figure 37: Команды man mount; man fsck; man mkfs; man kill



```
amkorolev@amkorolev:~ — man mount
MOUNT(8)                                System Administration                                MOUNT(8)

NAME
    mount - mount a filesystem

SYNOPSIS
    mount [-h|-V]

    mount [-l] [-t fstype]

    mount -a [-fFnrsvw] [-t fstype] [-O optlist]

    mount [-fnrsvw] [-o options] device|mountpoint

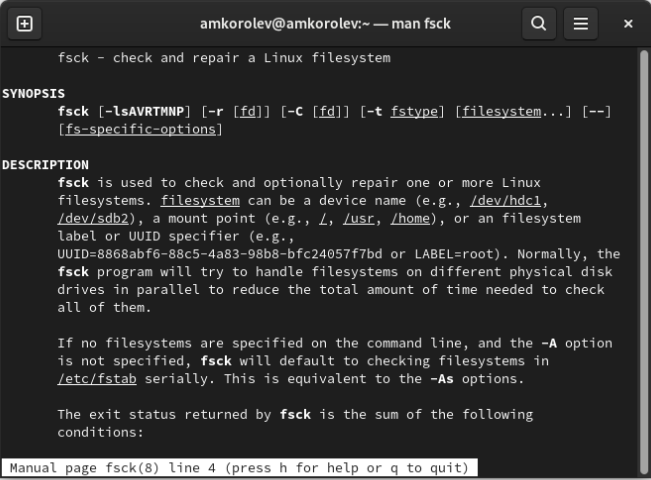
    mount [-fnrsvw] [-t fstype] [-o options] device mountpoint

    mount --bind|--rbind|--move olddir newdir

    mount
    --make-[shared|slave|private|unbindable|rshared|rslave|rprivate|runbindable]
mountpoint

Manual page mount(8) line 1 (press h for help or q to quit)
```

Figure 38: man mount



The screenshot shows a terminal window with the title bar "amkorolev@amkorolev:~ — man fsck". The window contains the man page for the `fsck` command. The text is as follows:

```
fsck - check and repair a Linux filesystem
```

**SYNOPSIS**

```
fsck [-lsAVRTMNP] [-r [fd]] [-C [fd]] [-t fstype] [filesystem...] [--]
[fs-specific-options]
```

**DESCRIPTION**

**fsck** is used to check and optionally repair one or more Linux filesystems. filesystem can be a device name (e.g., /dev/hdc1, /dev/sdb2), a mount point (e.g., /, /usr, /home), or an filesystem label or UUID specifier (e.g., UUID=8868abf6-88c5-4a83-98b8-bfc24057f7bd or LABEL=root). Normally, the **fsck** program will try to handle filesystems on different physical disk drives in parallel to reduce the total amount of time needed to check all of them.

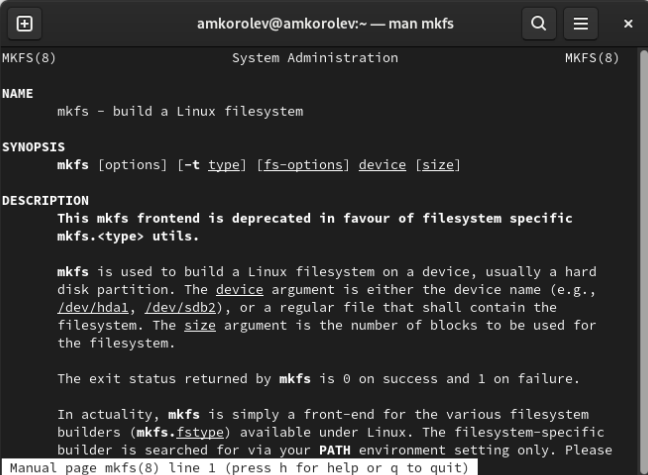
If no filesystems are specified on the command line, and the **-A** option is not specified, **fsck** will default to checking filesystems in /etc/fstab serially. This is equivalent to the **-As** options.

The exit status returned by **fsck** is the sum of the following conditions:

Manual page fsck(8) line 4 (press h for help or q to quit)

Figure 39: man fsck





```
amkorolev@amkorolev:~ — man mkfs
MKFS(8)                                System Administration                                MKFS(8)

NAME
    mkfs - build a Linux filesystem

SYNOPSIS
    mkfs [options] [-t type] [fs-options] device [size]

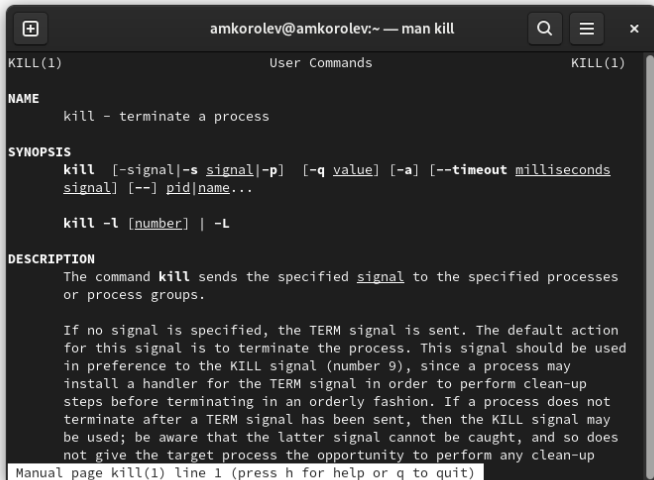
DESCRIPTION
    This mkfs frontend is deprecated in favour of filesystem specific
    mkfs.<type> utils.

    mkfs is used to build a Linux filesystem on a device, usually a hard
    disk partition. The device argument is either the device name (e.g.,
    /dev/hda1, /dev/sdb2), or a regular file that shall contain the
    filesystem. The size argument is the number of blocks to be used for
    the filesystem.

    The exit status returned by mkfs is 0 on success and 1 on failure.

    In actuality, mkfs is simply a front-end for the various filesystem
    builders (mkfs.fstype) available under Linux. The filesystem-specific
    builder is searched for via your PATH environment setting only. Please
    Manual page mkfs(8) line 1 (press h for help or q to quit)
```

Figure 40: man mkfs



```
KILL(1) User Commands KILL(1)

NAME
    kill - terminate a process

SYNOPSIS
    kill [-signal|-s signal|-p] [-q value] [-a] [--timeout milliseconds
    signal] [--] pid|name...

    kill -l [number] | -L

DESCRIPTION
    The command kill sends the specified signal to the specified processes
    or process groups.

    If no signal is specified, the TERM signal is sent. The default action
    for this signal is to terminate the process. This signal should be used
    in preference to the KILL signal (number 9), since a process may
    install a handler for the TERM signal in order to perform clean-up
    steps before terminating in an orderly fashion. If a process does not
    terminate after a TERM signal has been sent, then the KILL signal may
    be used; be aware that the latter signal cannot be caught, and so does
    not give the target process the opportunity to perform any clean-up

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

Figure 41: man kill

В процессе выполнения работы ознакомился с файловой системой Linux, ее структурой, именами и содержанием каталогов. Приобрел практические навыки по применению команд для работы с файлами и каталогами, по управлению процессами (и работами), по проверке использования диска и обслуживанию файловой системы.