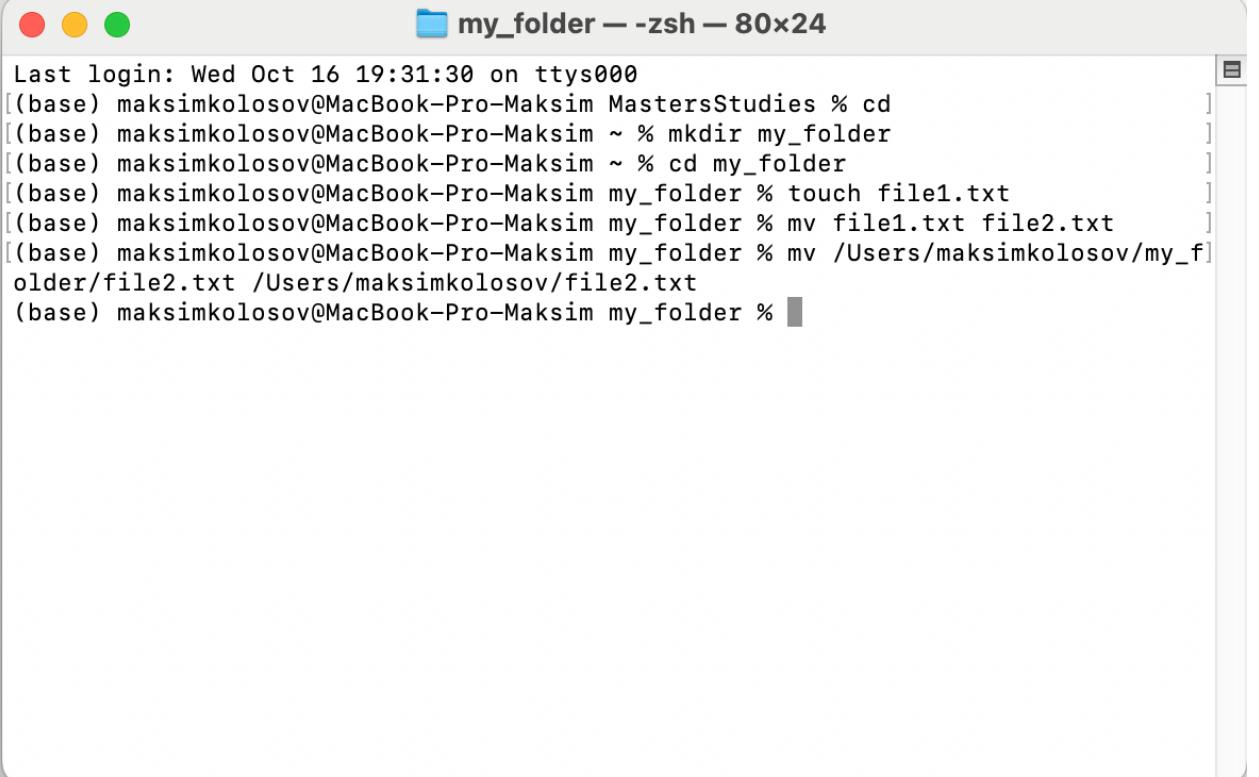
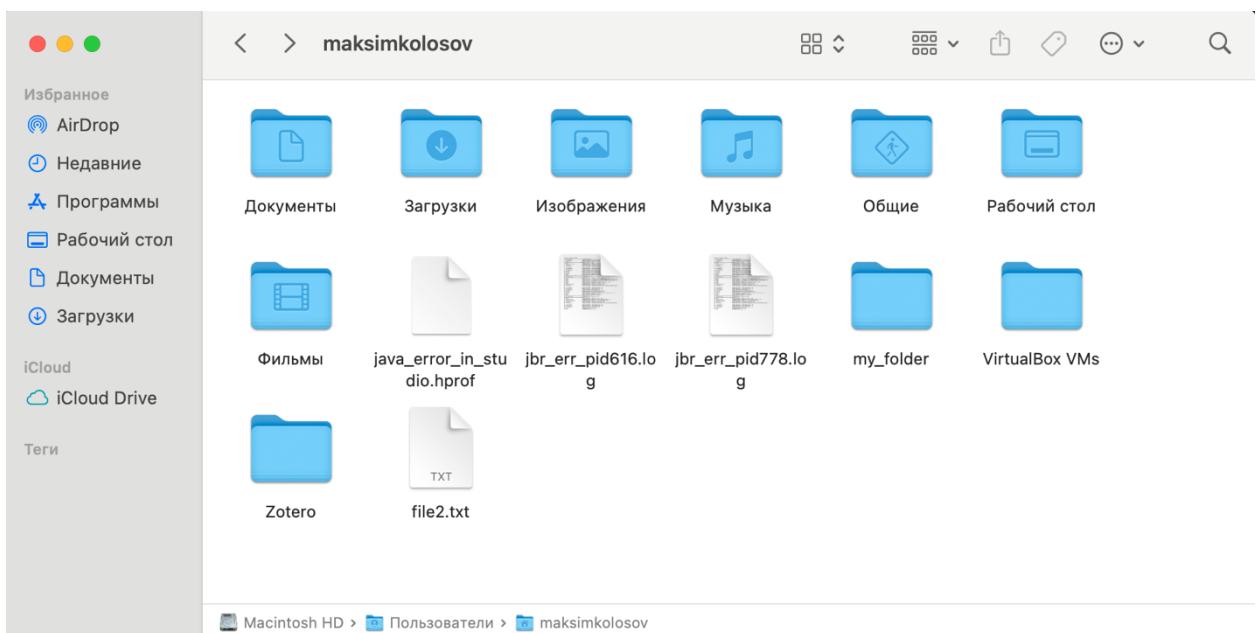


## Лабораторная работа № 2

### Кейс 1. Основные команды и навигация

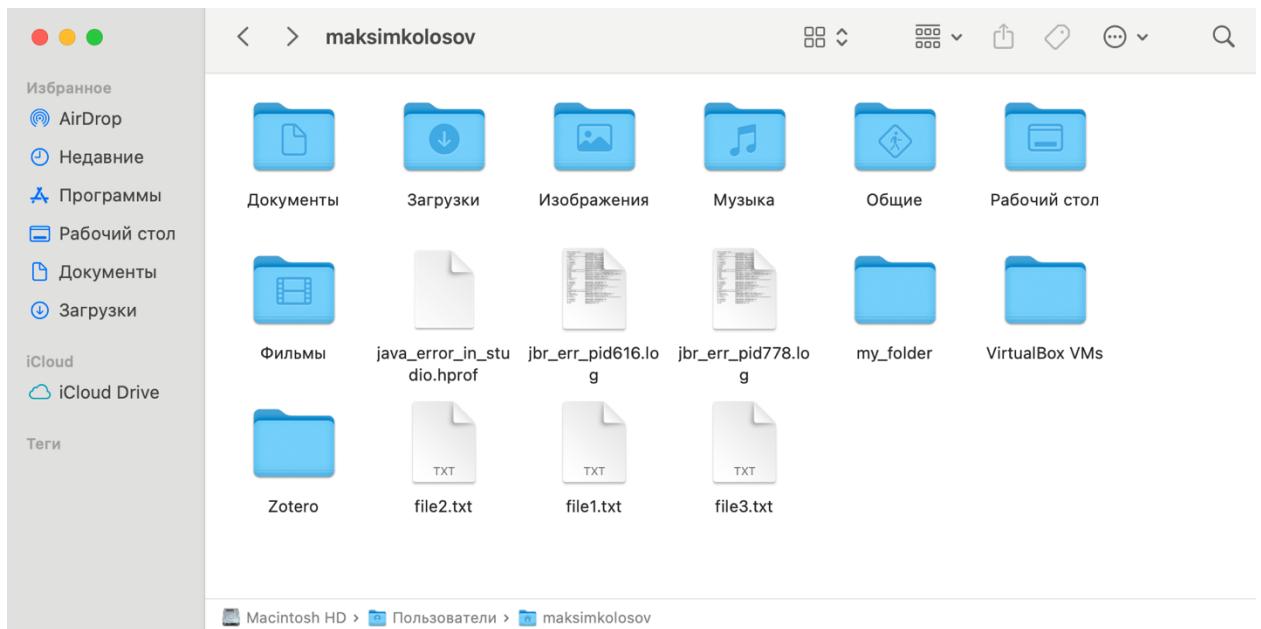


```
Last login: Wed Oct 16 19:31:30 on ttys000
(base) maksimkolosov@MacBook-Pro-Maksim MastersStudies % cd
(base) maksimkolosov@MacBook-Pro-Maksim ~ % mkdir my_folder
(base) maksimkolosov@MacBook-Pro-Maksim ~ % cd my_folder
(base) maksimkolosov@MacBook-Pro-Maksim my_folder % touch file1.txt
(base) maksimkolosov@MacBook-Pro-Maksim my_folder % mv file1.txt file2.txt
(base) maksimkolosov@MacBook-Pro-Maksim my_folder % mv /Users/maksimkolosov/my_f
older/file2.txt /Users/maksimkolosov/file2.txt
(base) maksimkolosov@MacBook-Pro-Maksim my_folder %
```

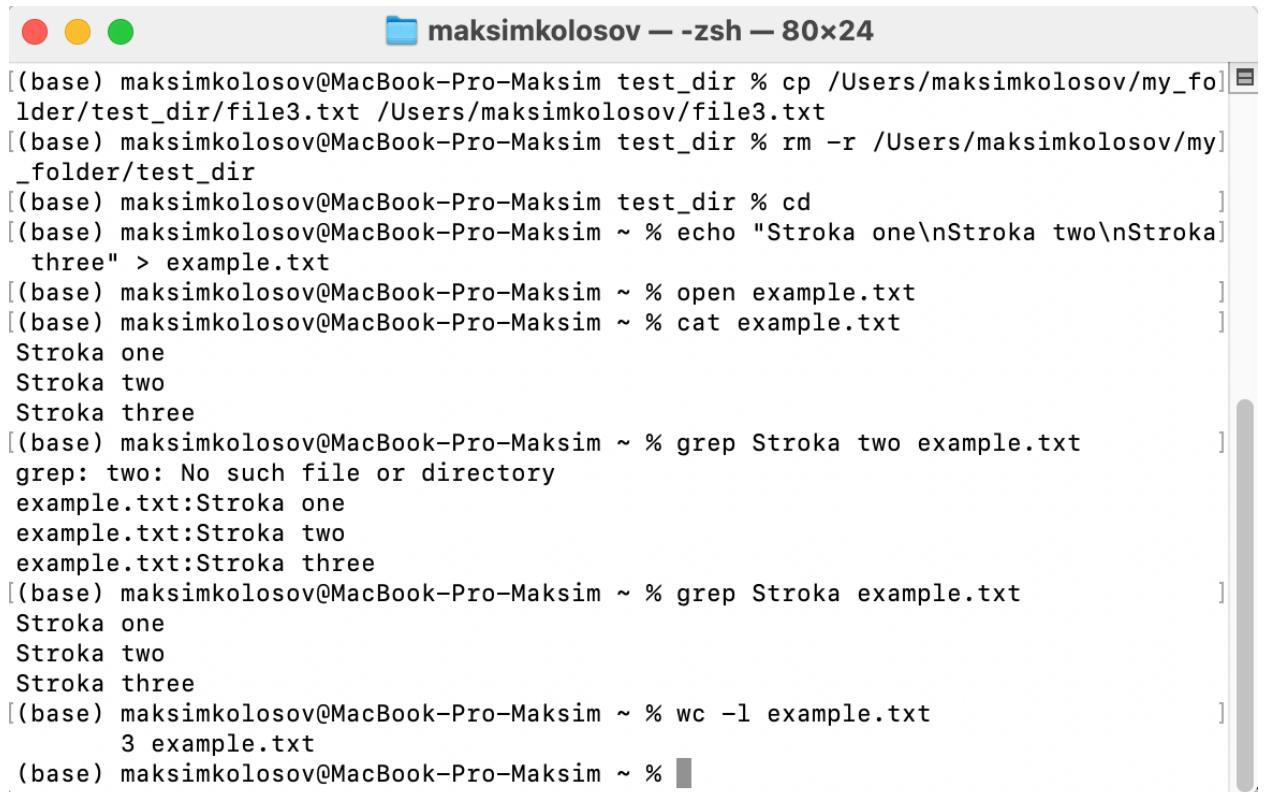


## Кейс 2. Управление файлами и каталогами

```
test_dir — -zsh — 80x24
Last login: Wed Oct 16 19:31:30 on ttys000
[(base) maksimkolosov@MacBook-Pro-Maksim MastersStudies % cd
[(base) maksimkolosov@MacBook-Pro-Maksim ~ % mkdir my_folder
[(base) maksimkolosov@MacBook-Pro-Maksim ~ % cd my_folder
[(base) maksimkolosov@MacBook-Pro-Maksim my_folder % touch file1.txt
[(base) maksimkolosov@MacBook-Pro-Maksim my_folder % mv file1.txt file2.txt
[(base) maksimkolosov@MacBook-Pro-Maksim my_folder % mv /Users/maksimkolosov/my_f
older/file2.txt /Users/maksimkolosov/file2.txt
[(base) maksimkolosov@MacBook-Pro-Maksim my_folder % mkdir test_dir
[(base) maksimkolosov@MacBook-Pro-Maksim my_folder % cd /Users/maksimkolosov/my_f
older/test_dir
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % touch file1.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % touch file2.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % touch file3.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % cp /Users/maksimkolosov/my_f
older/test_dir/file1.txt /Users/maksimkolosov/file1.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % cp /Users/maksimkolosov/my_f
older/test_dir/file2.txt /Users/maksimkolosov/file2.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % cp /Users/maksimkolosov/my_f
older/test_dir/file3.txt /Users/maksimkolosov/file3.txt
[(base) maksimkolosov@MacBook-Pro-Maksim test_dir % rm -r /Users/maksimkolosov/my_
_folder/test_dir
(base) maksimkolosov@MacBook-Pro-Maksim test_dir %
```

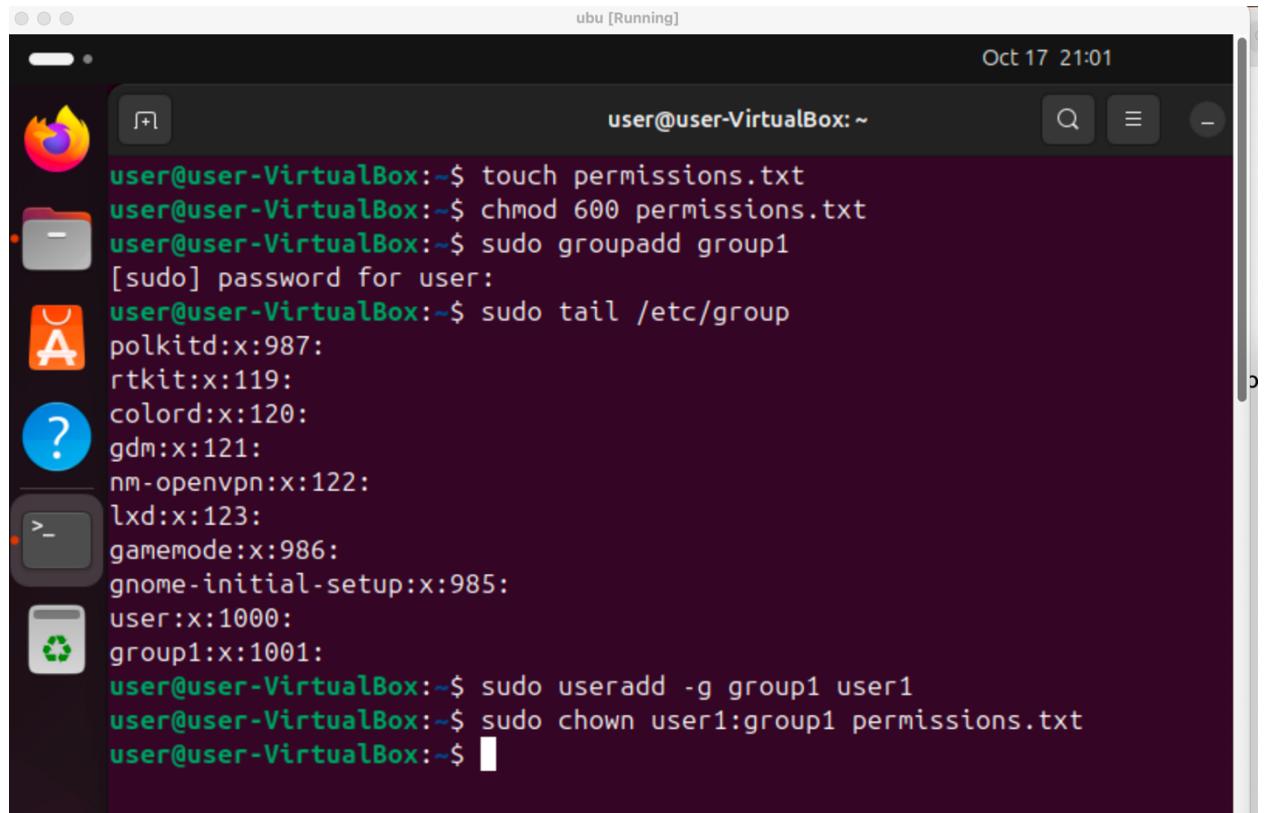


### Кейс 3. Работа с текстовыми файлами



```
(base) maksimkolosov@MacBook-Pro-Maksim test_dir % cp /Users/maksimkolosov/my_folder/test_dir/file3.txt /Users/maksimkolosov/file3.txt
(base) maksimkolosov@MacBook-Pro-Maksim test_dir % rm -r /Users/maksimkolosov/my_folder/test_dir
(base) maksimkolosov@MacBook-Pro-Maksim test_dir % cd ~
(base) maksimkolosov@MacBook-Pro-Maksim ~ % echo "Stroka one\nStroka two\nStroka three" > example.txt
(base) maksimkolosov@MacBook-Pro-Maksim ~ % open example.txt
(base) maksimkolosov@MacBook-Pro-Maksim ~ % cat example.txt
Stroka one
Stroka two
Stroka three
(base) maksimkolosov@MacBook-Pro-Maksim ~ % grep Stroka two example.txt
grep: two: No such file or directory
example.txt:Stroka one
example.txt:Stroka two
example.txt:Stroka three
(base) maksimkolosov@MacBook-Pro-Maksim ~ % grep Stroka example.txt
Stroka one
Stroka two
Stroka three
(base) maksimkolosov@MacBook-Pro-Maksim ~ % wc -l example.txt
3 example.txt
(base) maksimkolosov@MacBook-Pro-Maksim ~ %
```

### Кейс 4. Права доступа к файлам и каталогам



```
user@user-VirtualBox:~$ touch permissions.txt
user@user-VirtualBox:~$ chmod 600 permissions.txt
user@user-VirtualBox:~$ sudo groupadd group1
[sudo] password for user:
user@user-VirtualBox:~$ sudo tail /etc/group
polkitd:x:987:
rtkit:x:119:
colord:x:120:
gdm:x:121:
nm-openvpn:x:122:
lxde:x:123:
gamemode:x:986:
gnome-initial-setup:x:985:
user:x:1000:
group1:x:1001:
user@user-VirtualBox:~$ sudo useradd -g group1 user1
user@user-VirtualBox:~$ sudo chown user1:group1 permissions.txt
user@user-VirtualBox:~$
```

## Кейс 5. Управление процессами

```
maksimkolosov@MacBook-Pro-Maksim ~ % open -j /Applications/Zotero.app
maksimkolosov@MacBook-Pro-Maksim ~ % ps aux
USER          PID %CPU %MEM    VSZ   RSS TT STAT STARTED      TIME COMMAND
_windowserver  158  1,2  0,9 38004440 158264 ?? Ss  5:23   1:12.74 /System/Library/
root          128  0,6  0,1 33861868 17056 ?? Ss  5:23   0:12.23 /usr/libexec/ope
root          609  0,2  0,0 33789180 2236 ?? Ss  5:24   0:00.09 /usr/libexec/log
root          152  0,1  0,1 33891028 18944 ?? Ss  5:23   0:02.85 /usr/sbin/bluetooth
maksimkolosov 1307  0,0  1,6 38123216 260932 ?? S  6:27   0:04.77 /Applications/Zo
maksimkolosov 1303  0,0  0,0 33763868 7960 ?? S  6:27   0:00.18 /System/Library/
root          1280  0,0  0,1 33830056 15732 ?? S  6:25   0:00.50 /System/Library/
maksimkolosov 1270  0,0  0,1 34041656 24324 ?? Ss  6:25   0:00.43 /System/Library/
_spotlight     1248  0,0  0,1 33795940 10600 ?? S  6:23   0:00.17 /usr/libexec/tru

maksimkolosov@MacBook-Pro-Maksim ~ % ps aux
root          1323  0,0  0,0 34121768 1180 s000 R+  6:38   0:00.01 ps aux
maksimkolosov 1308  0,0  0,0 0       0 ?? Z  6:27   0:00.00 <defunct>
maksimkolosov 1321  0,0  0,0 33708872 2504 ?? S  6:33   0:00.02 /System/Library/CoreServices/ReportCrash
maksimkolosov 1319  0,0  0,1 34200312 18112 ?? Ss  6:33   0:00.07 /System/Library/Frameworks/Metal.framework
root          1313  0,0  0,0 33743460 3080 ?? Ss  6:29   0:00.11 /System/Library/PrivateFrameworks/Ecosy
maksimkolosov 1307  0,0  1,6 38122412 260840 ?? S  6:27   0:04.89 /Applications/Zotero.app/Contents/MacOS
(base) maksimkolosov@MacBook-Pro-Maksim ~ % kill 1307
(base) maksimkolosov@MacBook-Pro-Maksim ~ %
```

## Кейс 6. Сетевые команды

```
maksimkolosov@MacBook-Pro-Maksim ~ % ping ya.ru
Last login: Thu Oct 17 19:10:14 on ttys000
(base) maksimkolosov@MacBook-Pro-Maksim ~ % ipconfig getifaddr en0
192.168.0.100
(base) maksimkolosov@MacBook-Pro-Maksim ~ % ping ya.ru
PING ya.ru (5.255.255.242): 56 data bytes
64 bytes from 5.255.255.242: icmp_seq=0 ttl=54 time=117.572 ms
64 bytes from 5.255.255.242: icmp_seq=1 ttl=54 time=123.929 ms
64 bytes from 5.255.255.242: icmp_seq=2 ttl=54 time=124.000 ms
64 bytes from 5.255.255.242: icmp_seq=3 ttl=54 time=123.945 ms
64 bytes from 5.255.255.242: icmp_seq=4 ttl=54 time=123.989 ms
64 bytes from 5.255.255.242: icmp_seq=5 ttl=54 time=123.906 ms
```

```
maksimkolosov@MacBook-Pro-Maksim ~ % netstat tulpn
(base) maksimkolosov@MacBook-Pro-Maksim ~ % netstat tulpn
Active Internet connections
Proto Recv-Q Send-Q Local Address          Foreign Address        (state)
tcp6     0      0 fe80::aede:48ff:.49308 fe80::aede:48ff:.49620 ESTABLISHED
tcp4     0      0 192.168.0.100.49305 52.111.232.14.https ESTABLISHED
tcp6     0      0 macbook-pro-maksim.49269 ipad-maksim.49153 ESTABLISHED
tcp4     0      0 192.168.0.100.49215 52.111.232.4.https ESTABLISHED
tcp6     0      0 fe80::aede:48ff:.49202 fe80::aede:48ff:.49605 ESTABLISHED
tcp6     0      0 fe80::aede:48ff:.49201 fe80::aede:48ff:.49620 ESTABLISHED
tcp6     0      0 fe80::aede:48ff:.49191 fe80::aede:48ff:.49620 ESTABLISHED
tcp6     0      0 fe80::aede:48ff:.49190 fe80::aede:48ff:.49620 ESTABLISHED
tcp6     0      0 fe80::aede:48ff:.49189 fe80::aede:48ff:.49620 ESTABLISHED
```

## Кейс 7. Установка и управление пакетами

The image shows two screenshots of a Linux desktop environment. The top screenshot is a terminal window titled 'uba [Running]' with the command history:

```
user@user-VirtualBox:~$ cd  
user@user-VirtualBox:~$ sudo apt install nano  
[sudo] password for user:  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
nano is already the newest version (7.2-2build1).  
nano set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.  
user@user-VirtualBox:~$ nano --version  
GNU nano, version 7.2  
(C) 2023 the Free Software Foundation and various contributors  
Compiled options: --disable-libmagic --enable-utf8
```

The bottom screenshot shows the 'nano' text editor window titled 'GNU nano 7.2' with the status bar message 'New Buffer'. The status bar also displays keyboard shortcuts for various commands.

```
[ Welcome to nano. For basic help, type Ctrl+G. ]  
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute  
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify
```

```
user@user-VirtualBox:~$ sudo apt remove nano
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages will be REMOVED:
  nano
0 upgraded, 0 newly installed, 1 to remove and 3 not upgraded.
After this operation, 856 kB disk space will be freed.
Do you want to continue? [Y/n] y
(Reading database ... 186072 files and directories currently installed.)
Removing nano (7.2-2build1) ...
update-alternatives: using /usr/bin/vim.tiny to provide /usr/bin/editor (editor) in auto mode
Processing triggers for install-info (7.1-3build2) ...
Processing triggers for man-db (2.12.0-4build2) ...
user@user-VirtualBox:~$
```

## Кейс 8. Резервное копирование и архивация

```
[(base) maksimkolosov@MacBook-Pro-Maksim ~ % tar -czf Archive.tgz FolderWithFilesToCompress
[(base) maksimkolosov@MacBook-Pro-Maksim ~ % tar -xvf Archive.tgz -C /Users/maksimkolosov/
v/my_folder
x FolderWithFilesToCompress/
x FolderWithFilesToCompress/file2.txt
x FolderWithFilesToCompress/file3.txt
x FolderWithFilesToCompress/file1.txt
(base) maksimkolosov@MacBook-Pro-Maksim ~ %
```