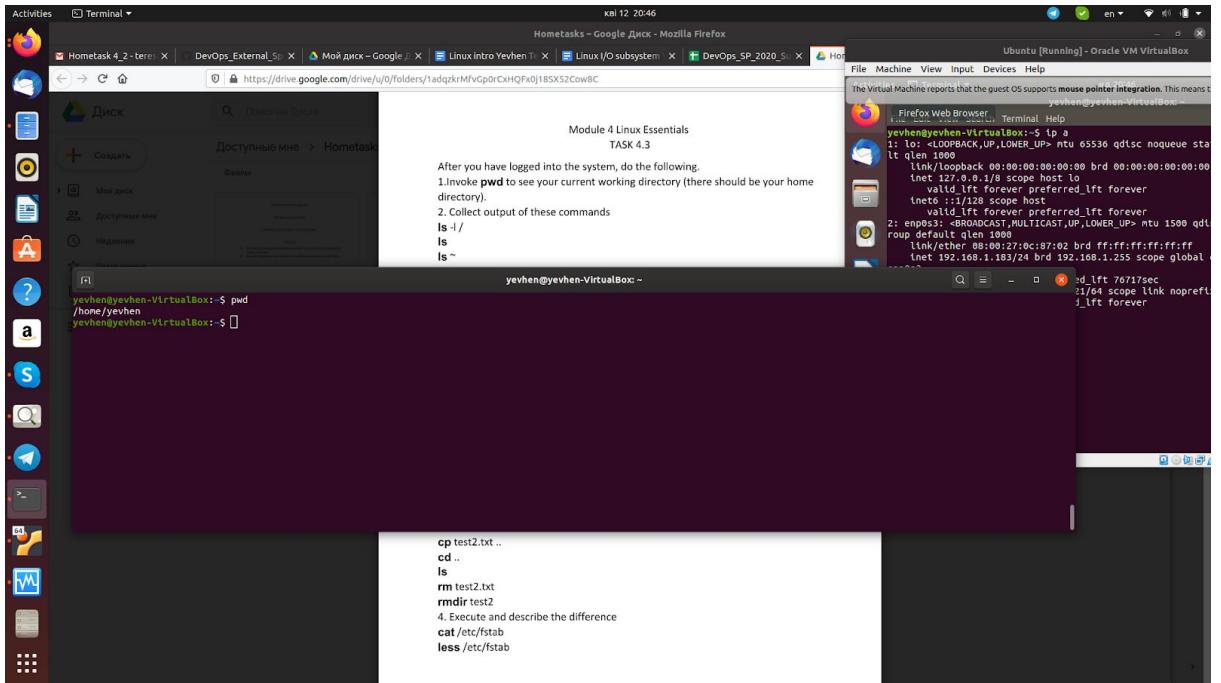


Linux Essentials

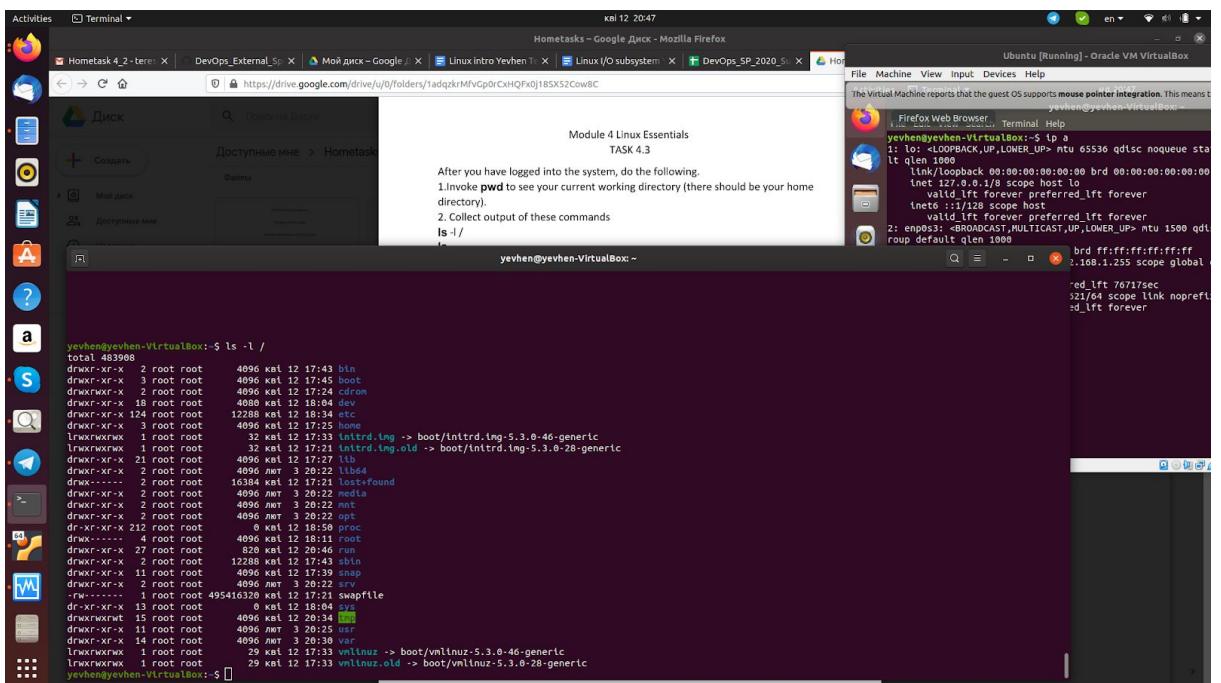
Linux I/O subsystem

1. Show pwd to see your current working directory

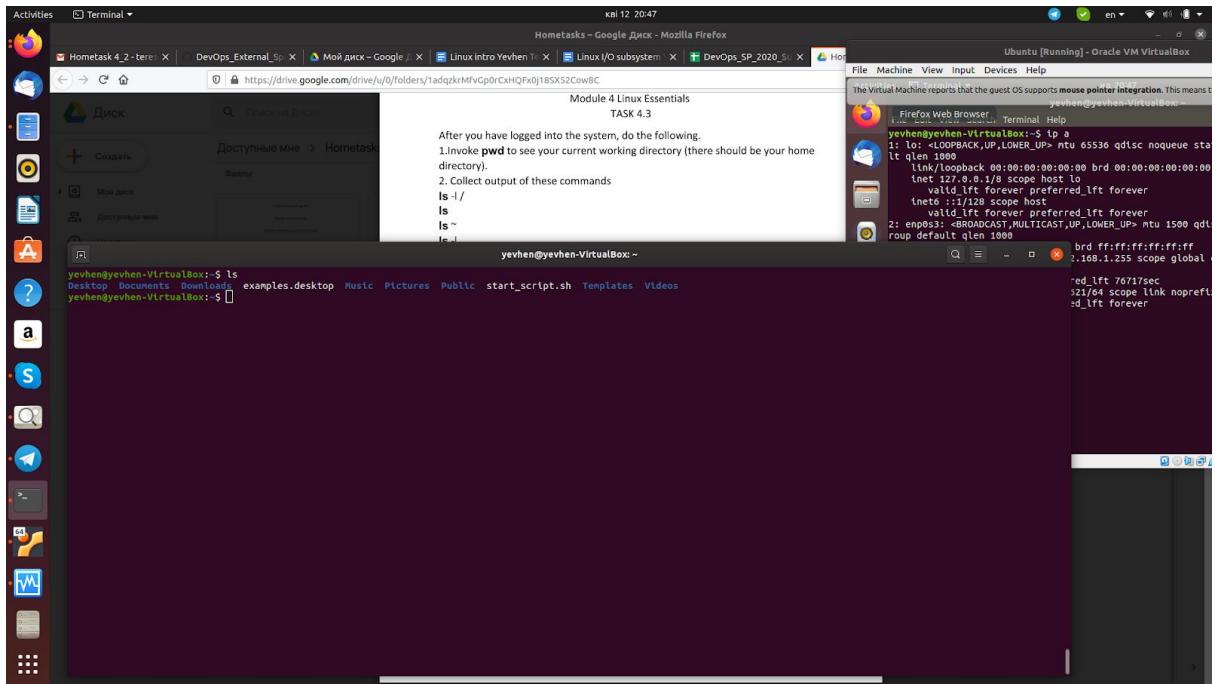


2. Collect output of these commands

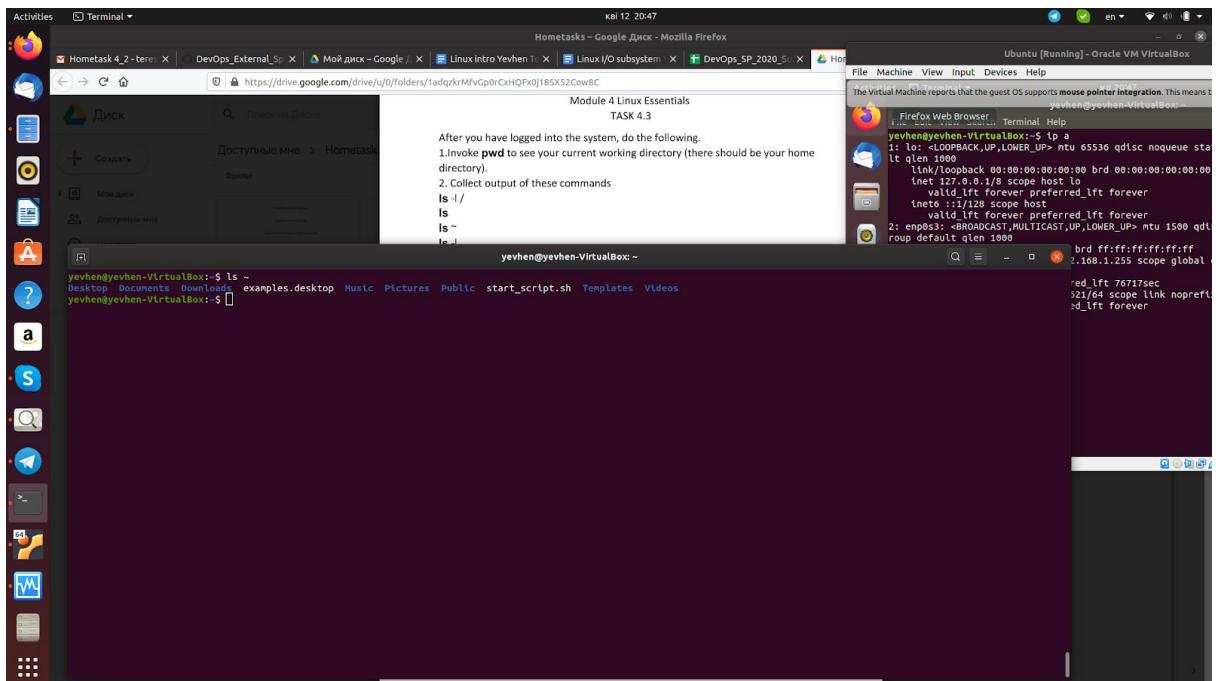
ls -l /



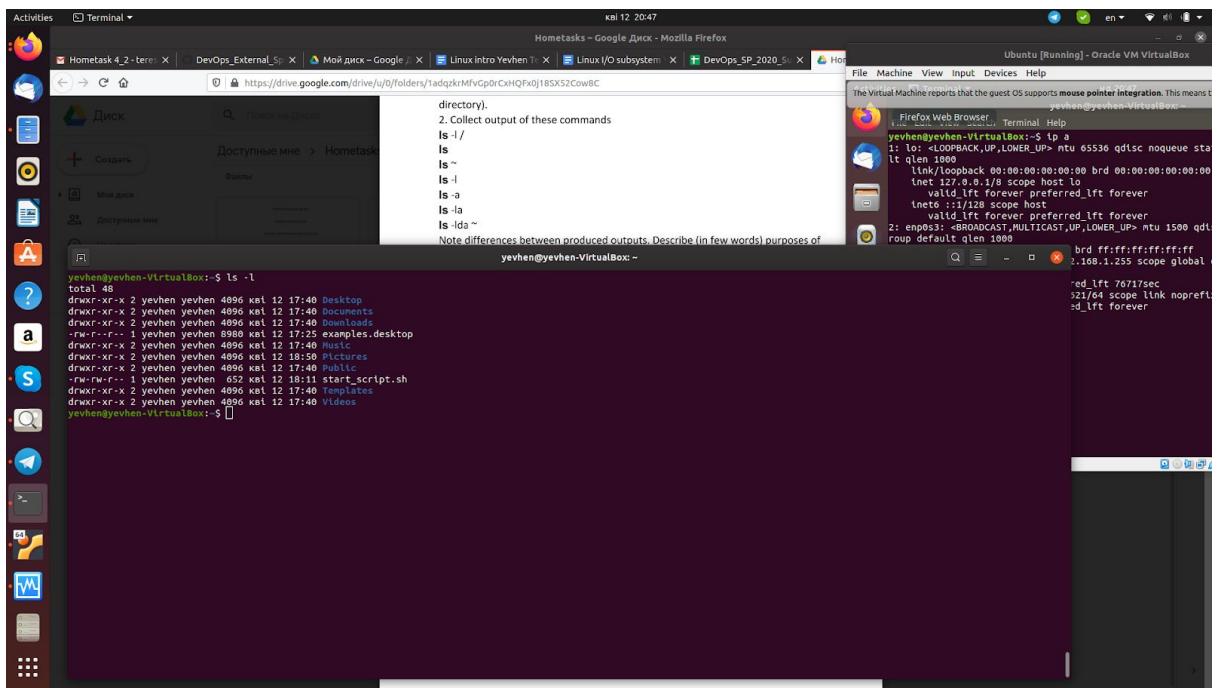
|s



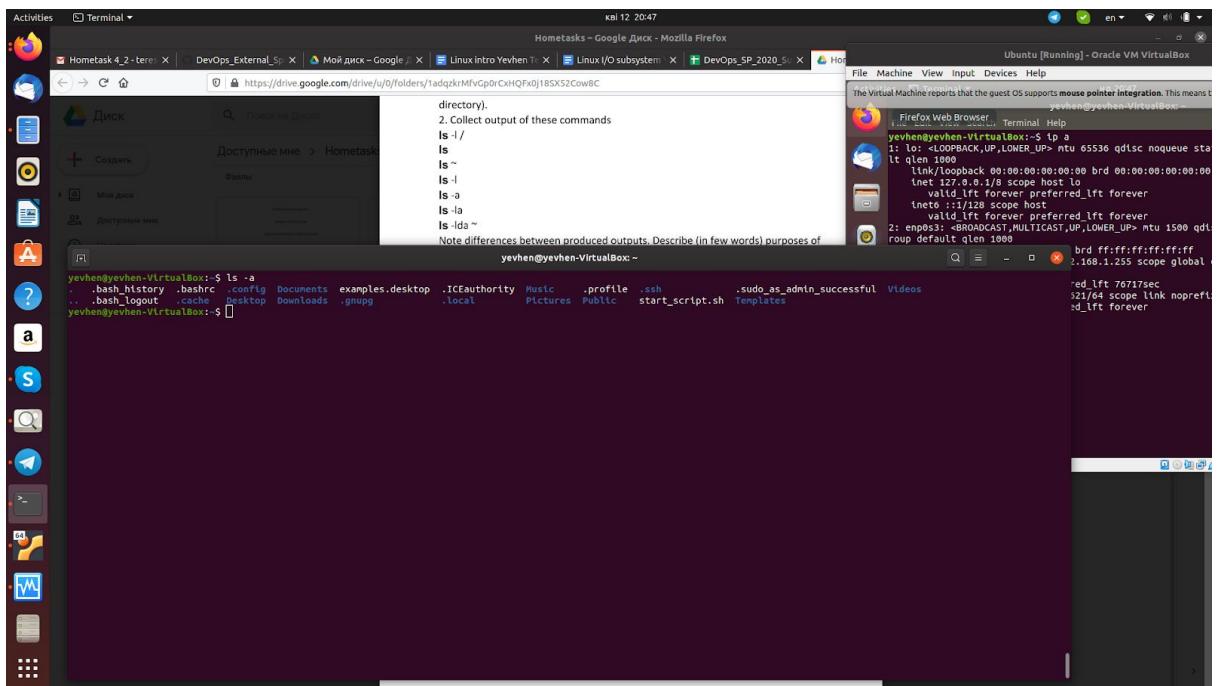
|s ~



ls -l



ls -a



ls -la

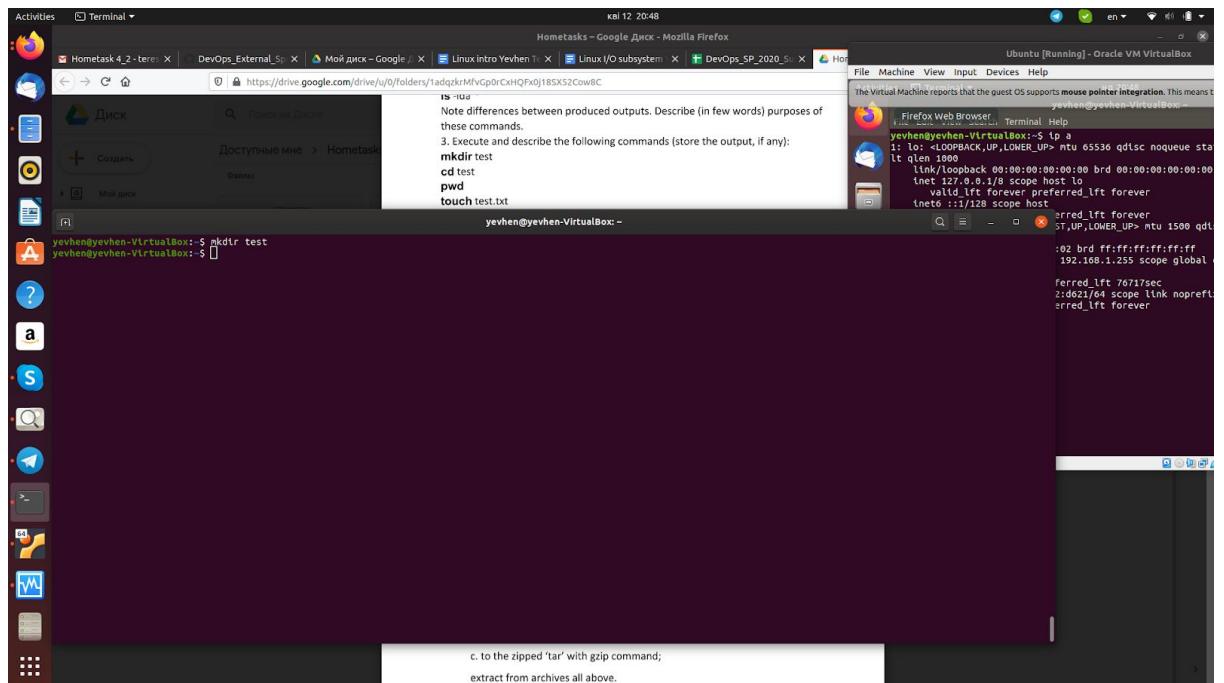
```
Activities Terminal kai 12 20:47
Hometasks - Google Диск - Mozilla Firefox
Ubuntu [Running] - Oracle VM VirtualBox
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means you can drag and drop files between the host and guest operating systems.
File Machine View Input Devices Help
yevhen@yevhen-VirtualBox:~$ ls -la
yevhen@yevhen-VirtualBox:~$ ls -l/
yevhen@yevhen-VirtualBox:~$ ls
yevhen@yevhen-VirtualBox:~$ ls ~
yevhen@yevhen-VirtualBox:~$ ls -l
yevhen@yevhen-VirtualBox:~$ ls -la
yevhen@yevhen-VirtualBox:~$ ls -l~
yevhen@yevhen-VirtualBox:~$ Note differences between produced outputs. Describe (in few words) purposes of
yevhen@yevhen-VirtualBox:~$ yevhen@yevhen-VirtualBox:~$ ls -la
total 96
drwxr-xr-x 15 yevhen yevhen 4096 paź 12 18:11 .
drwxr-xr-x 1 yevhen yevhen 4096 paź 12 18:11 ..
drwxr-xr-x 1 yevhen yevhen 4096 paź 19:59 .bash_history
-rw-r--r-- 1 yevhen yevhen 220 paź 12 17:25 .bash_logout
-rw-r--r-- 1 yevhen yevhen 3771 paź 12 17:25 .bashrc
drwxr-xr-x 12 yevhen yevhen 4096 paź 12 18:36 .cache
drwxr-xr-x 1 yevhen yevhen 4096 paź 12 18:36 .config
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 .dropbox
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 .Documents
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 Downloads
-rw-r--r-- 1 yevhen yevhen 8980 paź 12 17:25 examples.desktop
drwxr-xr-x 1 yevhen yevhen 4096 paź 12 17:40 .gnome
drwxr-xr-x 1 yevhen yevhen 4448 paź 12 18:05 .IceAuthority
drwxr-xr-x 3 yevhen yevhen 4096 paź 12 17:40 .local
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 Music
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 18:50 Pictures
-rw-r--r-- 1 yevhen yevhen 807 paź 12 17:25 .profile
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 Public
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:55 .script
-rw-r--r-- 1 yevhen yevhen 652 paź 12 18:11 start_script.sh
-rw-r--r-- 1 yevhen yevhen 0 paź 12 17:48 .sudo_as_admin_successful
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 Templates
drwxr-xr-x 2 yevhen yevhen 4096 paź 12 17:40 Videos
yevhen@yevhen-VirtualBox:~$
```

ls -lda~

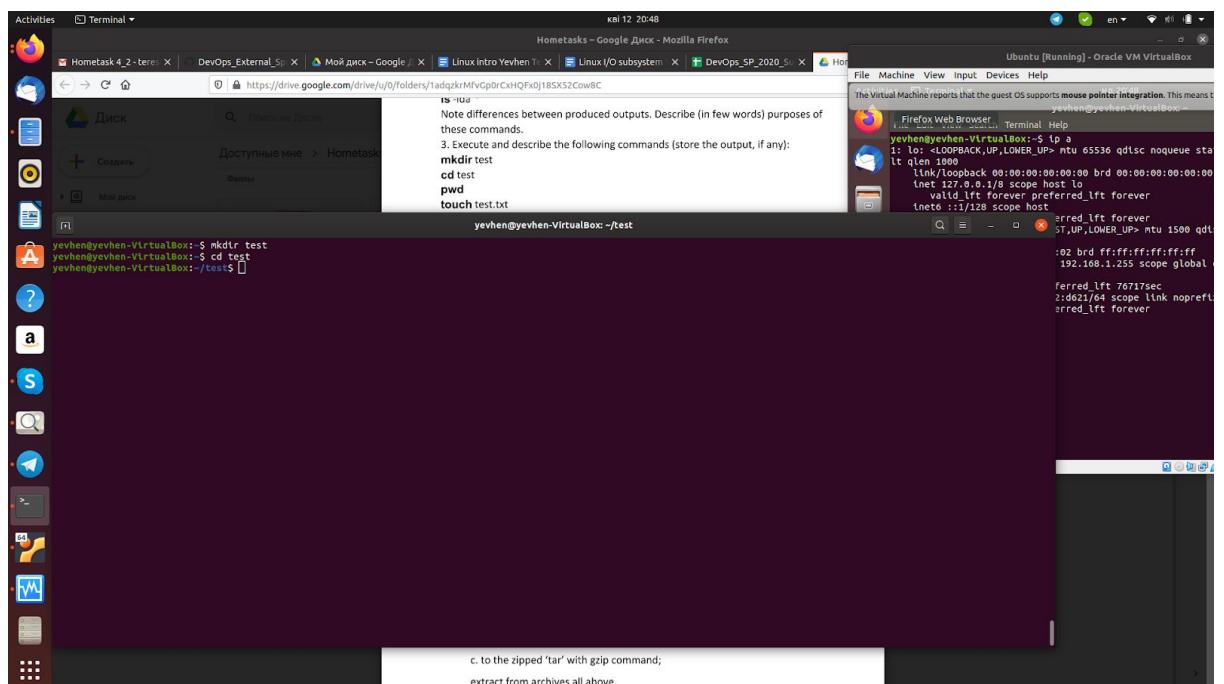
```
Activities Terminal kai 12 20:47
Hometasks - Google Диск - Mozilla Firefox
Ubuntu [Running] - Oracle VM VirtualBox
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means you can drag and drop files between the host and guest operating systems.
File Machine View Input Devices Help
yevhen@yevhen-VirtualBox:~$ ls -lda
yevhen@yevhen-VirtualBox:~$ ls -l/
yevhen@yevhen-VirtualBox:~$ ls
yevhen@yevhen-VirtualBox:~$ ls ~
yevhen@yevhen-VirtualBox:~$ ls -l
yevhen@yevhen-VirtualBox:~$ ls -la
yevhen@yevhen-VirtualBox:~$ ls -l~
yevhen@yevhen-VirtualBox:~$ Note differences between produced outputs. Describe (in few words) purposes of
yevhen@yevhen-VirtualBox:~$ yevhen@yevhen-VirtualBox:~$ ls -lda
drwxr-xr-x 15 yevhen yevhen 4096 paź 12 18:11 /home/yevhen
yevhen@yevhen-VirtualBox:~$
```

3. Execute and describe the following commands

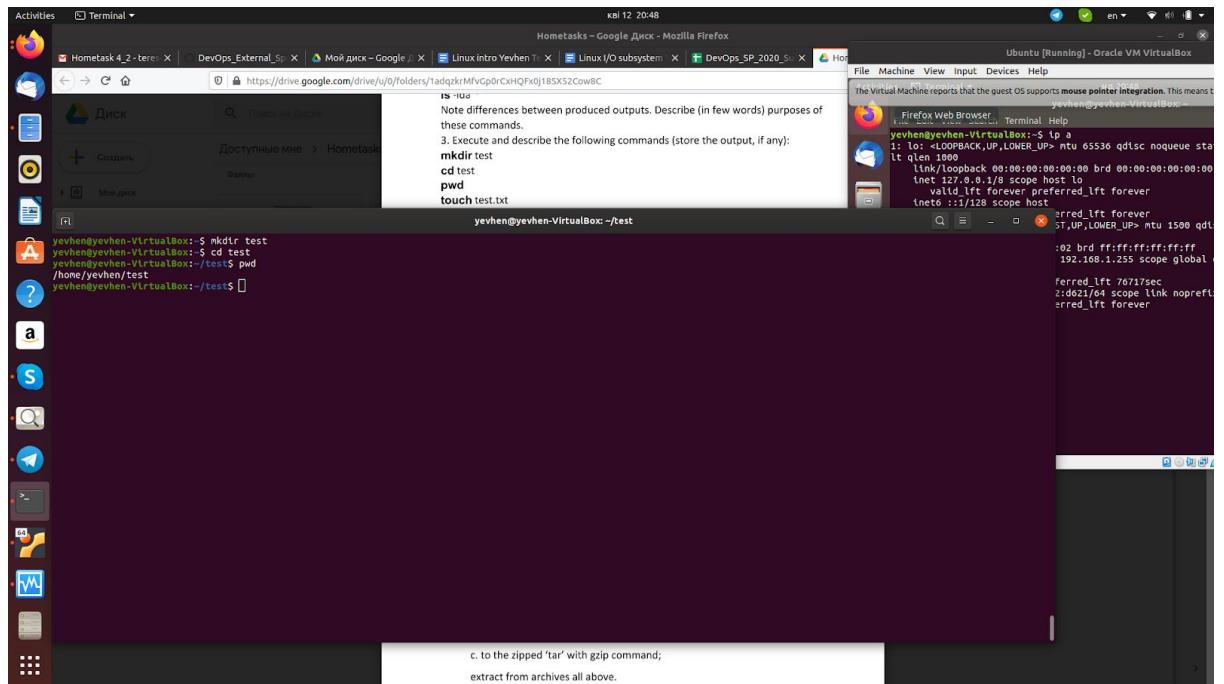
`mkdir test`



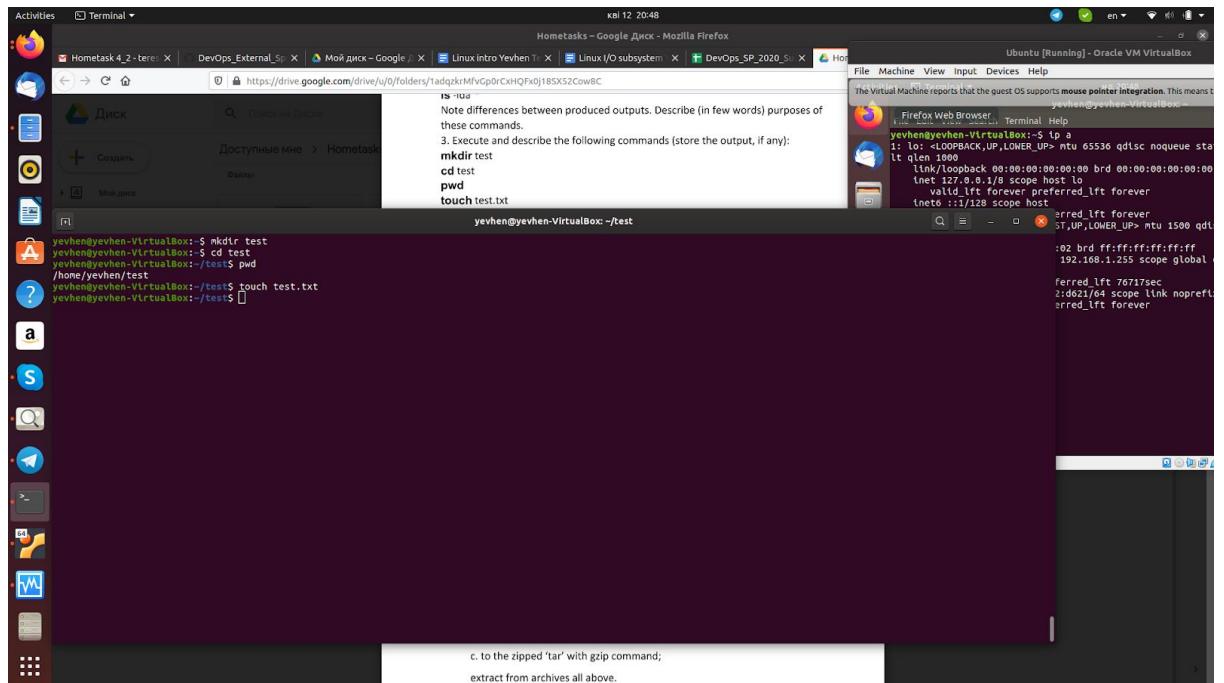
`cd test`



pwd



touch test.txt



`ls -l test.txt`

A screenshot of a Linux desktop environment. On the left is a dock with icons for various applications like a browser, file manager, and terminal. In the center is a terminal window titled 'Terminal' with the command history:
cd test
pwd
touch test.txt
ls -l test.txt
mkdir test2
mv test.txt test2
cd test2

The terminal shows the user's commands and their output. The user then runs 'ls -l test.txt' again, which shows the file was moved to 'test2'. The desktop background is dark, and there are other windows visible in the background.

`mkdir test2`

A screenshot of a Linux desktop environment, identical to the one above. The terminal window shows the same sequence of commands:
cd test
pwd
touch test.txt
ls -l test.txt
mkdir test2
mv test.txt test2
cd test2

The terminal shows the user's commands and their output. The user then runs 'ls -l test.txt' again, which shows the file was moved to 'test2'. The desktop background is dark, and there are other windows visible in the background.

mv test.txt test2

```
Activities Terminal kai 12 20:49
Hometasks - Google Диск - Mozilla Firefox
Hometasks - Google Диск - Mozilla Firefox
File Machine View Input Devices Help
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means you can drag and drop files between the host and guest operating systems.
yevhen@yevhen-VirtualBox ~
yevhen@yevhen-VirtualBox:~$ cd test
yevhen@yevhen-VirtualBox:~/test$ pwd
/home/yevhen/test
yevhen@yevhen-VirtualBox:~/test$ touch test.txt
yevhen@yevhen-VirtualBox:~/test$ ls -l test.txt
-rw-rw-r-- 1 yevhen yevhen 0 kai 12 20:48 test.txt
yevhen@yevhen-VirtualBox:~/test$ mkdir test2
yevhen@yevhen-VirtualBox:~/test$ mv test.txt test2/
yevhen@yevhen-VirtualBox:~/test$ cd test2
yevhen@yevhen-VirtualBox:~/test/test2$
```

cd test2

```
Activities Terminal kai 12 20:49
Hometasks - Google Диск - Mozilla Firefox
Hometasks - Google Диск - Mozilla Firefox
File Machine View Input Devices Help
The Virtual Machine reports that the guest OS supports mouse pointer integration. This means you can drag and drop files between the host and guest operating systems.
yevhen@yevhen-VirtualBox ~
yevhen@yevhen-VirtualBox:~$ cd test
yevhen@yevhen-VirtualBox:~/test$ pwd
/home/yevhen/test
yevhen@yevhen-VirtualBox:~/test$ touch test.txt
yevhen@yevhen-VirtualBox:~/test$ ls -l test.txt
-rw-rw-r-- 1 yevhen yevhen 0 kai 12 20:48 test.txt
yevhen@yevhen-VirtualBox:~/test$ mkdir test2
yevhen@yevhen-VirtualBox:~/test$ mv test.txt test2/
yevhen@yevhen-VirtualBox:~/test$ cd test2/
yevhen@yevhen-VirtualBox:~/test/test2$
```

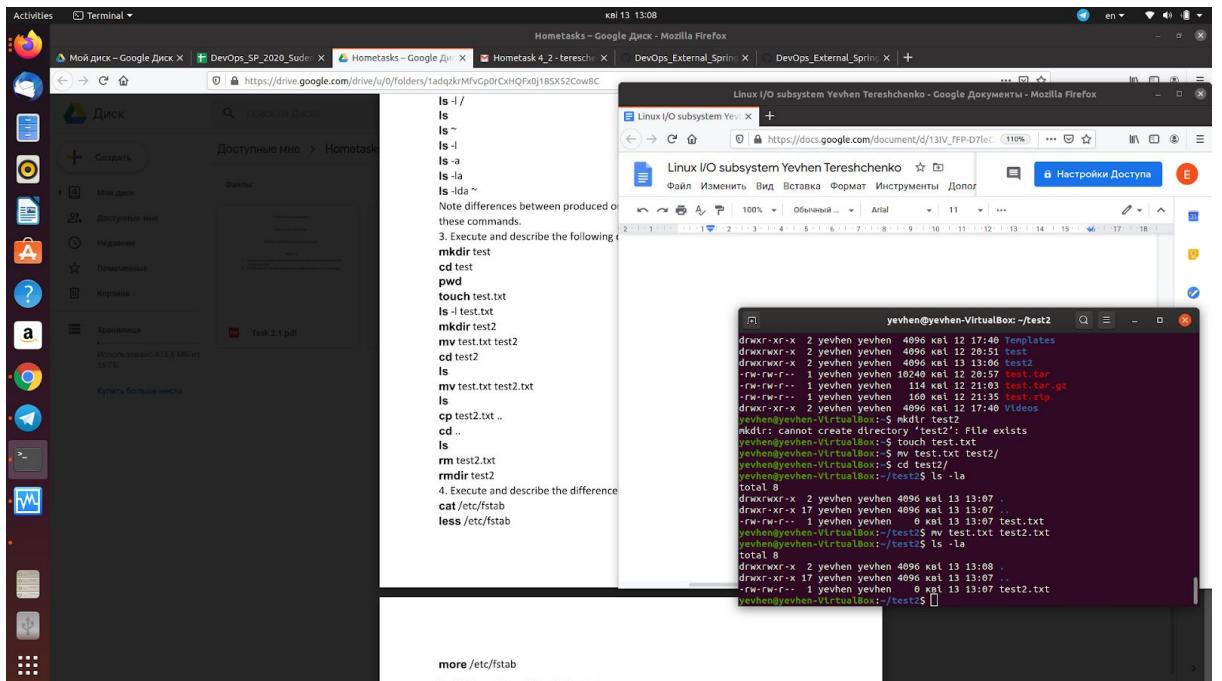
Is

```
mv test.txt test2.txt
```

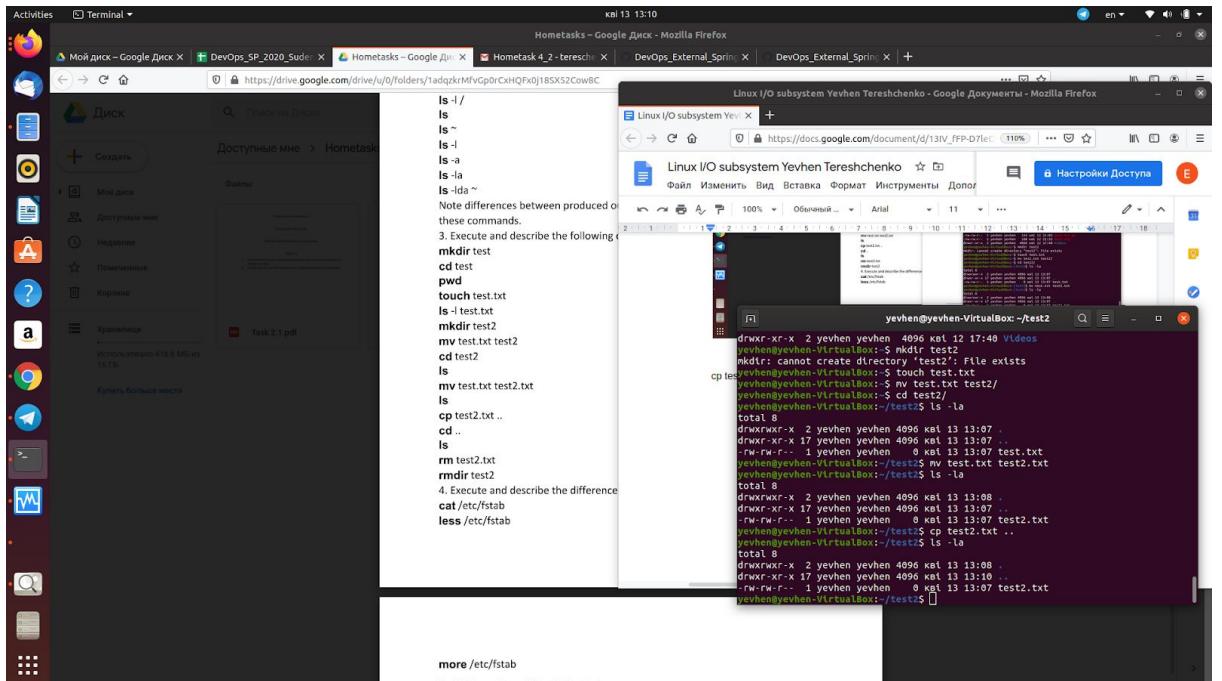
The screenshot shows a Linux desktop environment with several windows open:

- File Manager:** Shows a tree view of "Документы" (Documents) containing "Hometasks" and "Task 2.1.pdf".
- Terminal 1:** A standard terminal window titled "Linux I/O subsystem Yevhen Tereshchenko - Google Документы - Mozilla Firefox". It displays the contents of a Google Doc titled "Linux I/O subsystem Yevhen Tereshchenko".
- Terminal 2:** A terminal window titled "yevhen@yevhen-VirtualBox: ~ - test2". It shows a series of file operations (mkdir, touch, mv, rm) and directory navigation commands.
- Bottom Terminal:** A terminal window titled "more /etc/fstab". It displays the contents of the /etc/fstab file.

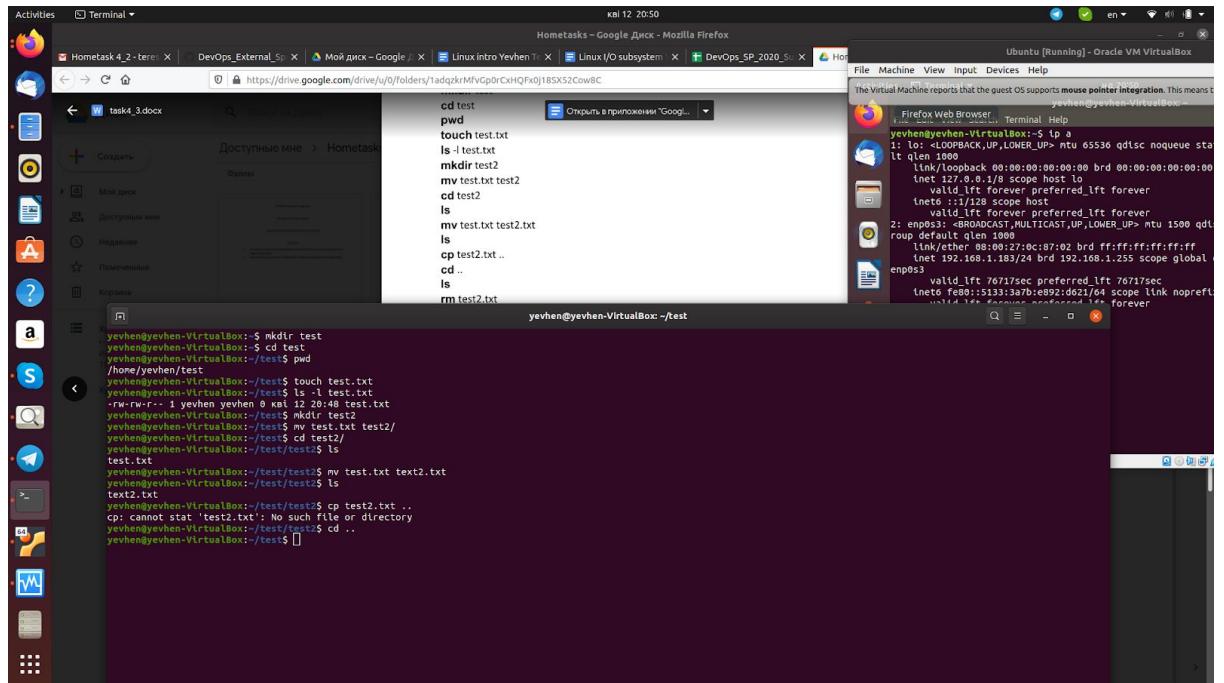
ls



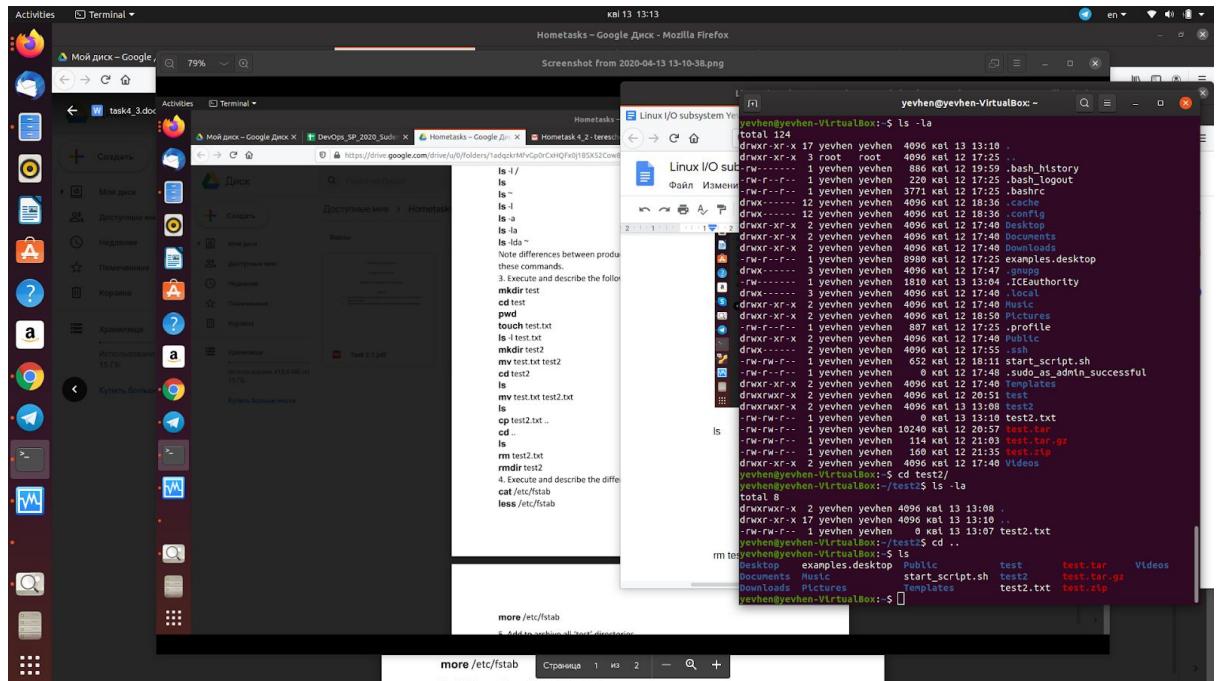
cp test2.txt ..



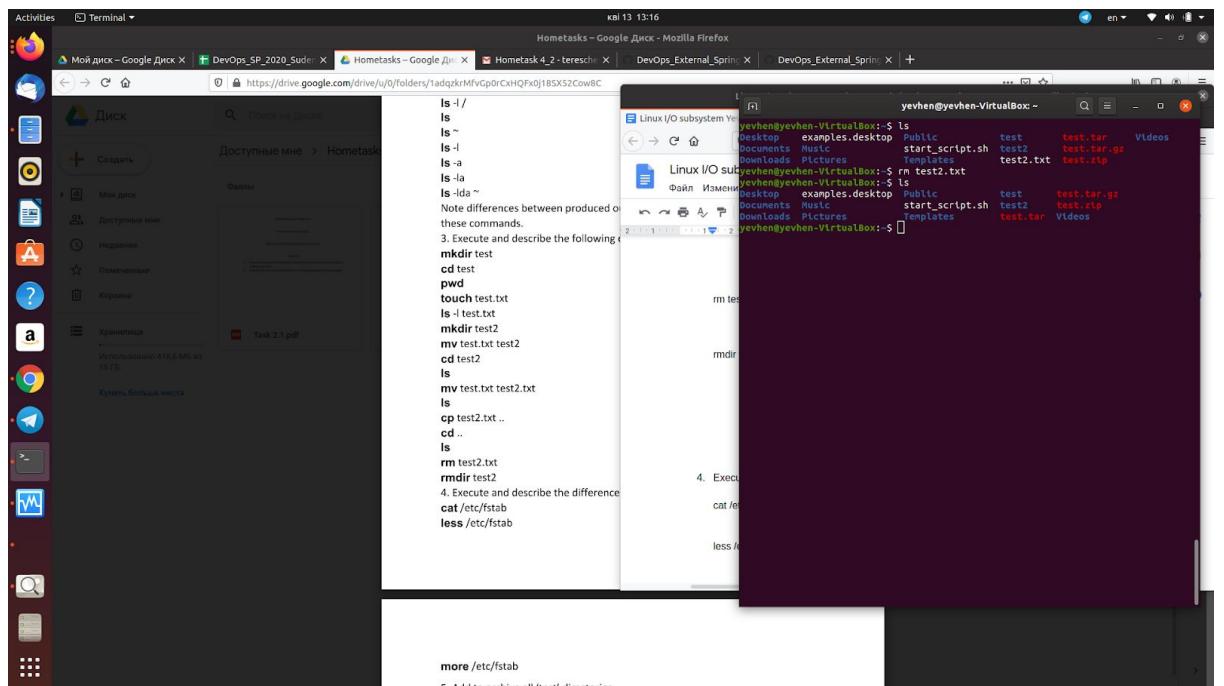
```
cd ..
```



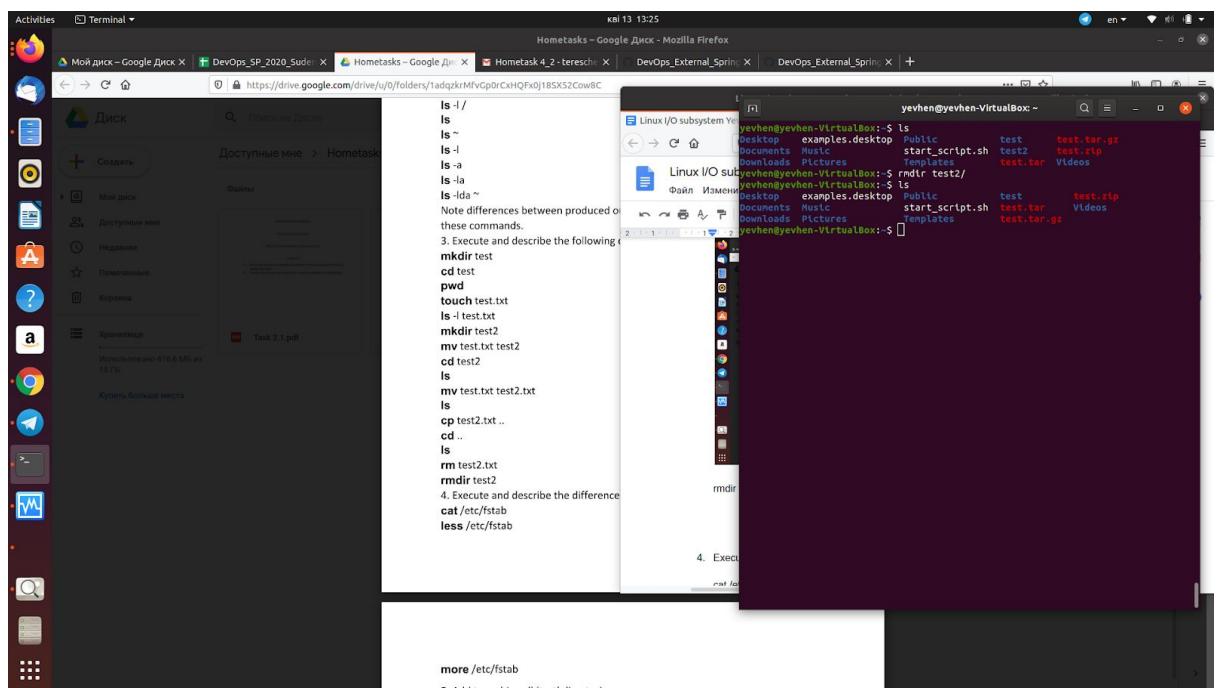
```
ls
```



`rm test2.txt`

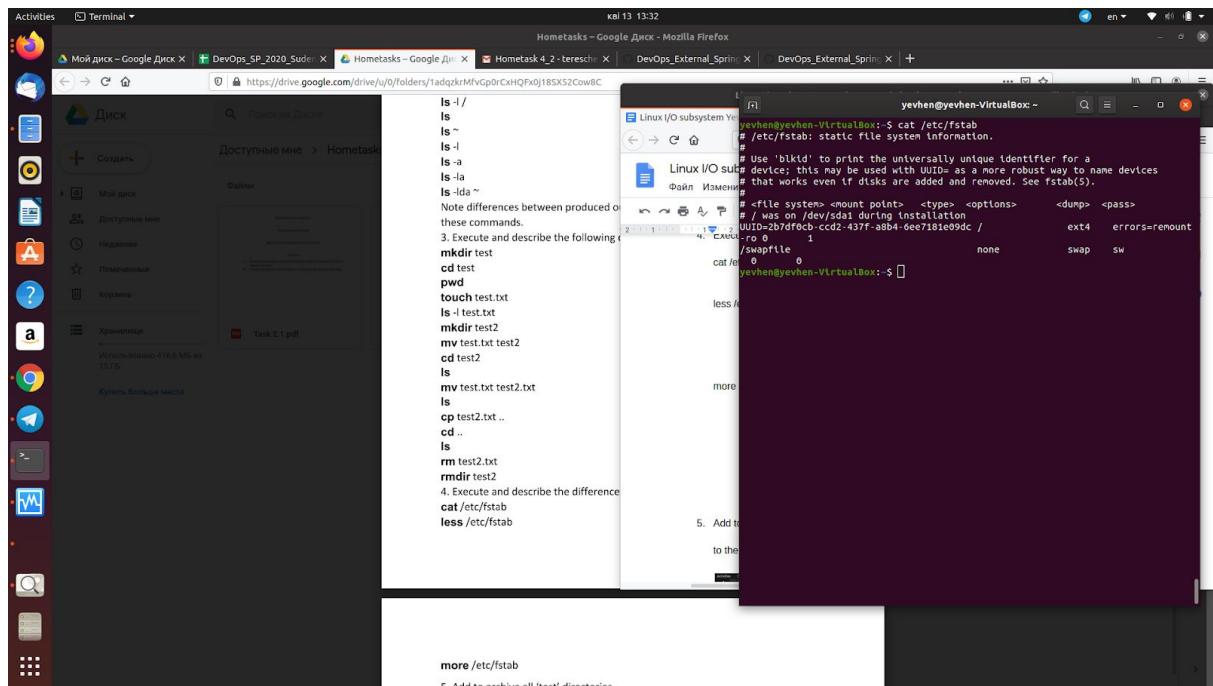


`rmdir test2`



4. Execute and describe the difference

```
cat /etc/fstab
```



less /etc/fstab

```
Linux I/O subsystem Y
yevhen@yevhen-VirtualBox:~$ less /etc/fstab
yevhen@yevhen-VirtualBox:~$ 
```

The terminal window shows the following content:

```
more /etc/fstab
E Add to archive all current discrepancies
```

```
ls -l /
ls
ls ~
ls -l
ls -a
ls -la
ls -lra ~
Note differences between produced by these commands.
3. Execute and describe the following commands:
mkdir test
cd test
pwd
touch test.txt
ls -l test.txt
mkdir test2
mv test.txt test2
cd test2
ls
mv test.txt test2.txt
ls
cp test2.txt ..
cd ..
ls
rm test2.txt
rmdir test2
4. Execute and describe the difference between cat /etc/fstab and less /etc/fstab
```

```
Linux I/O subsystem Y
yevhen@yevhen-VirtualBox:~$ less /etc/fstab
yevhen@yevhen-VirtualBox:~$ 
```

The terminal window shows the following content:

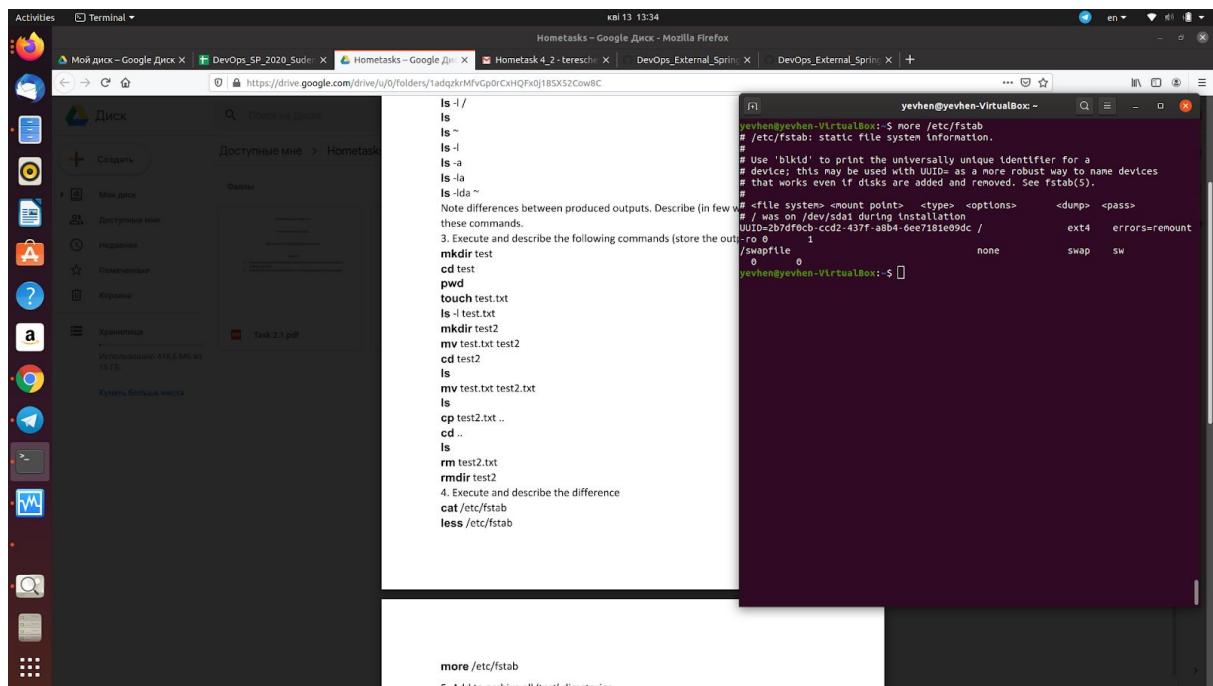
```
more /etc/fstab
E Add to archive all current discrepancies
```

```
ls -l /
ls
ls ~
ls -l
ls -a
ls -la
ls -lra ~
Note differences between produced by these commands.
3. Execute and describe the following commands:
mkdir test
cd test
pwd
touch test.txt
ls -l test.txt
mkdir test2
mv test.txt test2
cd test2
ls
mv test.txt test2.txt
ls
cp test2.txt ..
cd ..
ls
rm test2.txt
rmdir test2
4. Execute and describe the difference between cat /etc/fstab and less /etc/fstab
```

On the right side of the terminal window, the /etc/fstab file is displayed in a scrollable pane:

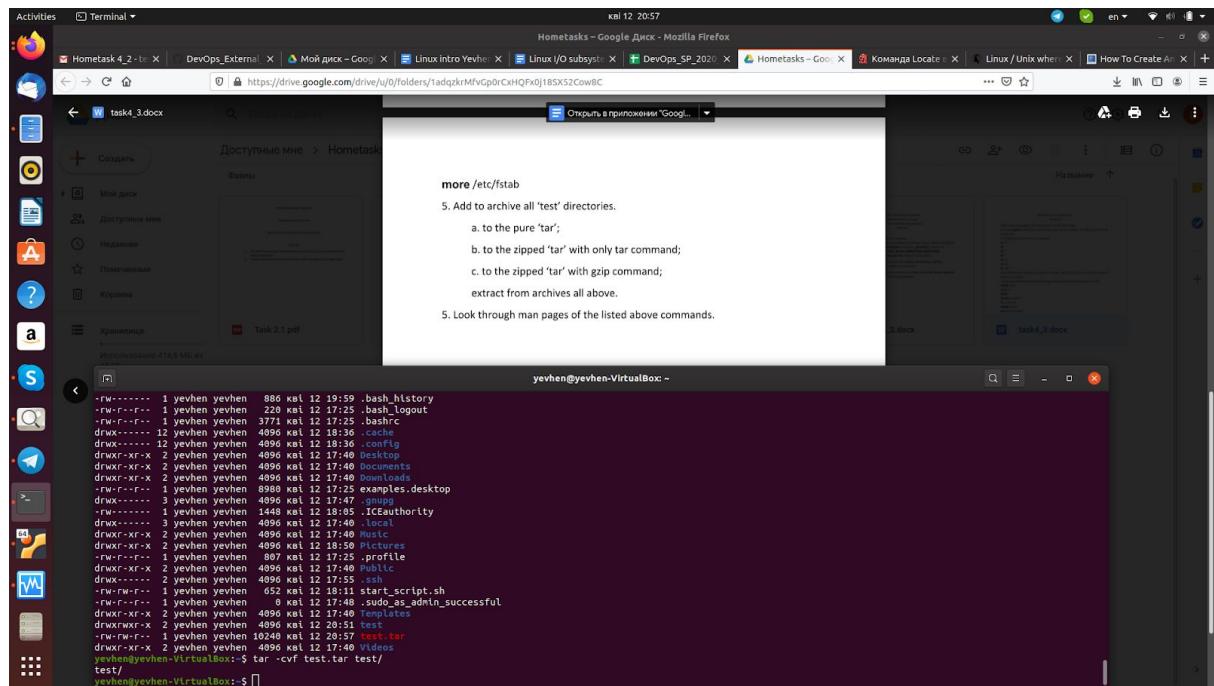
```
# /etc/fstab: static file system information.
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
#  <mount point> <type> <options> <dump> <pass>
# / was on /dev/sda1 during installation
UUID=2b7d0fc0-cc02-437f-a804-0ee7181e09dc / ext4 errors=remount
less /etc/fstab
0 1
/swapfile none swap sw
/swapfile 0 0
/etc/fstab (END)
```

more /etc/fstab

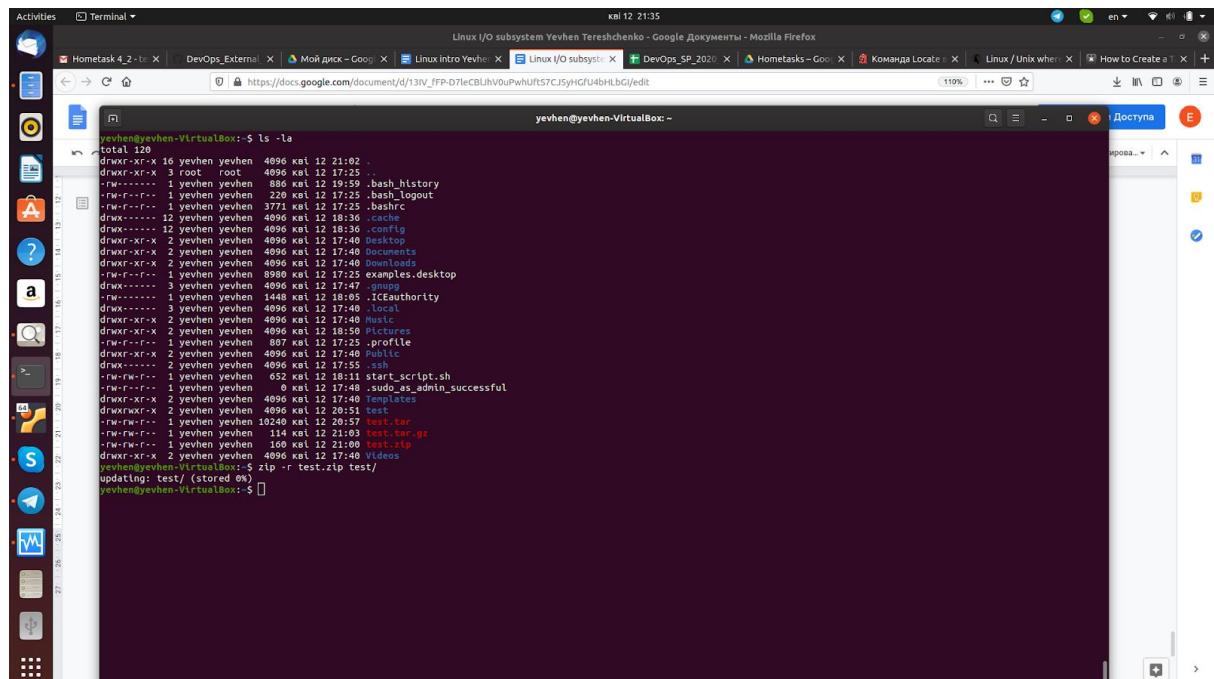


5. Add to archive all test directories

to the pure 'tar'



zipper 'tar'



```
tar -cvzf test.tar.gz
```

A screenshot of a Linux desktop environment. On the left is a dock with icons for various applications like a browser, file manager, and terminal. In the center is a terminal window titled 'Terminal'. The terminal shows the command 'tar -cvzf test.tar.gz' being run, followed by a list of files and their permissions from the current directory. The output ends with 'yevhen@yevhen-VirtualBox:~\$'. Above the terminal, there's a browser window showing a Google Drive folder containing a PDF file named 'Task 2.1.pdf'.

```
-rw-r--r-- 1 yevhen yevhen 3771 квт 12 17:25 .bashrc
drwxr-xr-x 12 yevhen yevhen 4096 квт 12 18:15 .cache
drwxr-xr-x 12 yevhen yevhen 4096 квт 12 18:36 .config
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 Desktop
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 Documents
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 Downloads
drwxr-xr-x 1 yevhen yevhen 8980 квт 12 17:40 examples.desktop
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 .local
drwxr-xr-x 3 yevhen yevhen 1448 квт 12 18:05 .ICEauthority
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 .local
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 Music
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 .profile
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 .Xauthority
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:55 .ssh
-rw-rw-r-- 1 yevhen yevhen 652 квт 12 18:11 start_script.sh
-rw-rw-r-- 1 yevhen yevhen 0 квт 12 17:48 .sudo_as_admin_successful
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 .Templates
drwxrwxr-x 2 yevhen yevhen 4096 квт 12 20:51 .Trash
-rw-rw-r-- 1 yevhen yevhen 10240 квт 12 20:57 test.tar
-rw-rw-r-- 1 yevhen yevhen 114 квт 12 21:02 test.tar.gz
-rw-rw-r-- 1 yevhen yevhen 160 квт 12 21:00 test.zip
drwxr-xr-x 2 yevhen yevhen 4096 квт 12 17:40 Videos
yevhen@yevhen-VirtualBox:~$ tar -cvzf test.tar.gz test/
yevhen@yevhen-VirtualBox:~$
```

man tar

A screenshot of a Linux desktop environment. On the left is a dock with icons for various applications like a browser, file manager, and terminal. In the center is a terminal window titled 'Terminal'. The terminal shows the 'man tar' command being run, displaying the GNU Tar Manual. The manual page includes sections for NAME, SYNOPSIS, and NOTES. The notes section contains a note about the manpage being a short description of GNU tar and directing users to the full manual for details. The terminal window has a dark background and light-colored text.

```
TAR(1)
NAME
    tar - an archiving utility
SYNOPSIS
    Traditional usage
        tar [A|c|r|t|u|x][GnSkUNOnpsMBlaJzZhPlRvwo] [ARG...]
    UNIX-style usage
        tar -A [OPTIONS] ARCHIVE ARCHIVE
        tar -c [-f ARCHIVE] [OPTIONS] [FILE...]
        tar -d [-f ARCHIVE] [OPTIONS] [FILE...]
        tar -t [-f ARCHIVE] [OPTIONS] [MEMBER...]
        tar -r [-f ARCHIVE] [OPTIONS] [FILE...]
        tar -u [-f ARCHIVE] [OPTIONS] [FILE...]
        tar -x [-f ARCHIVE] [OPTIONS] [MEMBER...]
    GNU-style usage
        tar (--catenate|--concatenate) [OPTIONS] ARCHIVE ARCHIVE
        tar --create [--file ARCHIVE] [OPTIONS] [FILE...]
        tar (--diff)--compare [--file ARCHIVE] [OPTIONS] [FILE...]
        tar --delete [--file ARCHIVE] [OPTIONS] [MEMBER...]
        tar --append [-f ARCHIVE] [OPTIONS] [FILE...]
        tar --list [-f ARCHIVE] [OPTIONS] [MEMBER...]
        tar --test-label [-f ARCHIVE] [OPTIONS] [LABEL...]
        tar --update [--file ARCHIVE] [OPTIONS] [FILE...]
        tar --update [-f ARCHIVE] [OPTIONS] [FILE...]
        tar (--extract)--get [-f ARCHIVE] [OPTIONS] [MEMBER...]
NOTE
    This manpage is a short description of GNU tar. For a detailed discussion, including examples and usage recommendations, refer to the GNU Tar Manual available in
    textinfo format. If the info reader and the tar documentation are properly installed on your system, the command
    Manual page tar(1) line 1 (press h for help or q to quit)
```

man less

The screenshot shows a terminal window with a dark theme. The title bar says "Terminal". The command entered is "less(1)". The output is the "General Commands Manual" for the "less" command. It includes sections for NAME, SYNOPSIS, DESCRIPTION, and COMMANDS. The SYNOPSIS section shows the command line options: less [-?|-h|-V|-v|-b|-B|-f|-F|-l|-L|-o|-O|-p|-P|-r|-R|-t|-T|-z|-Z] [file...]. The DESCRIPTION section explains that "less" is similar to "more" but has more features like reading from standard input and supporting multiple windows. The COMMANDS section lists various keyboard shortcuts: h or H for help, SPACE for forward scroll, z for new window size, ESC-SPACE for full scroll, ENTER or RETURN for forward scroll by one line, d or ^D for forward half scroll, b or ^B for backward scroll, and q to quit.

man cat

The screenshot shows a terminal window with a dark theme. The title bar says "Terminal". The command entered is "cat(1)". The output is the "User Commands" manual for the "cat" command. It includes sections for NAME, SYNOPSIS, DESCRIPTION, and EXAMPLES. The SYNOPSIS section shows the command line options: cat [OPTION]... [FILE]... . The DESCRIPTION section explains that "cat" concatenates files and prints them to standard output. It supports various options like -A, -b, -e, -E, -n, -s, -t, -T, -v, and --version. The EXAMPLES section shows how to use "cat" to concatenate files: cat f - g .

man ls

```
NAME
ls - list directory contents

SYNOPSIS
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
scale sizes by SIZE before printing them; e.g., '--block-size=M' prints sizes in units of 1,048,576 bytes; 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]
colorize the output; WHEN can be 'always' (default if omitted), 'auto', or 'never'; more info below

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

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

-f
do not sort, enable -u, disable -ls --color

-F, --classify
Manual page ls(1) line 1 (press h for help or q to quit)
```

man rm

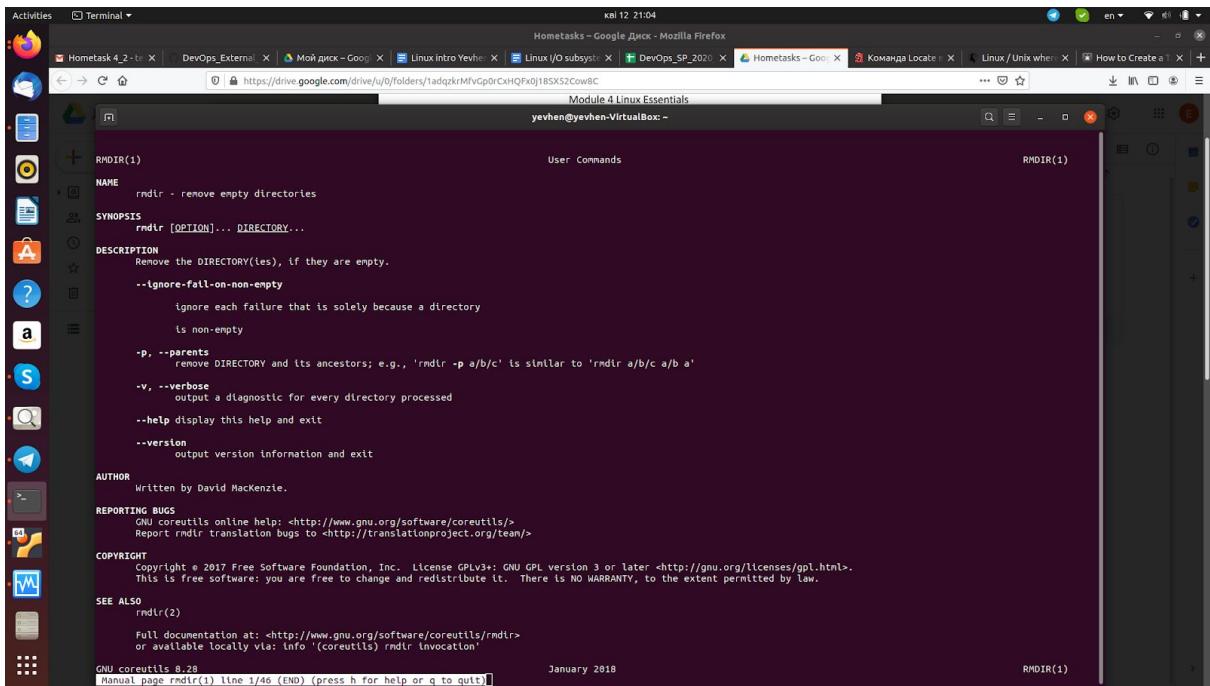
```
NAME
rm - remove files or directories

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 unwriteable, 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
do not remove '/' (default)
-r, -R, --recursive
remove directories and their contents recursively
-d, --dtr
remove empty directories
-v, --verbose
explain what is being done
Manual page rm(1) line 1 (press h for help or q to quit)
```

man rmdir



man pwd

