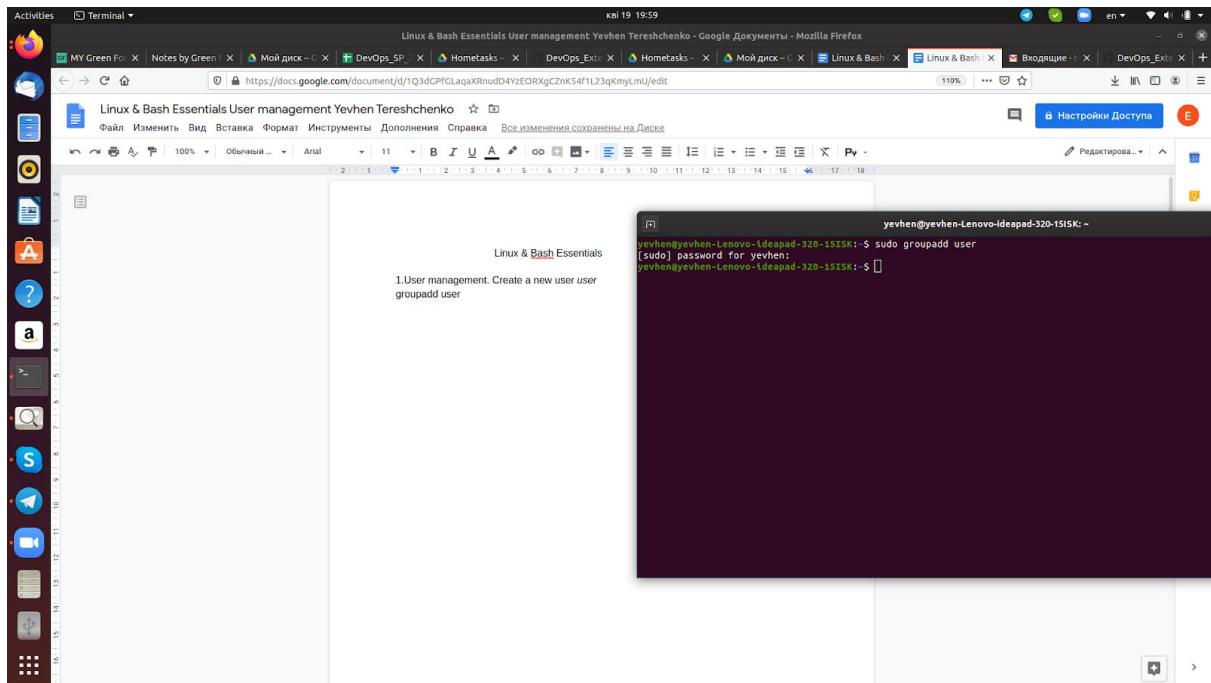


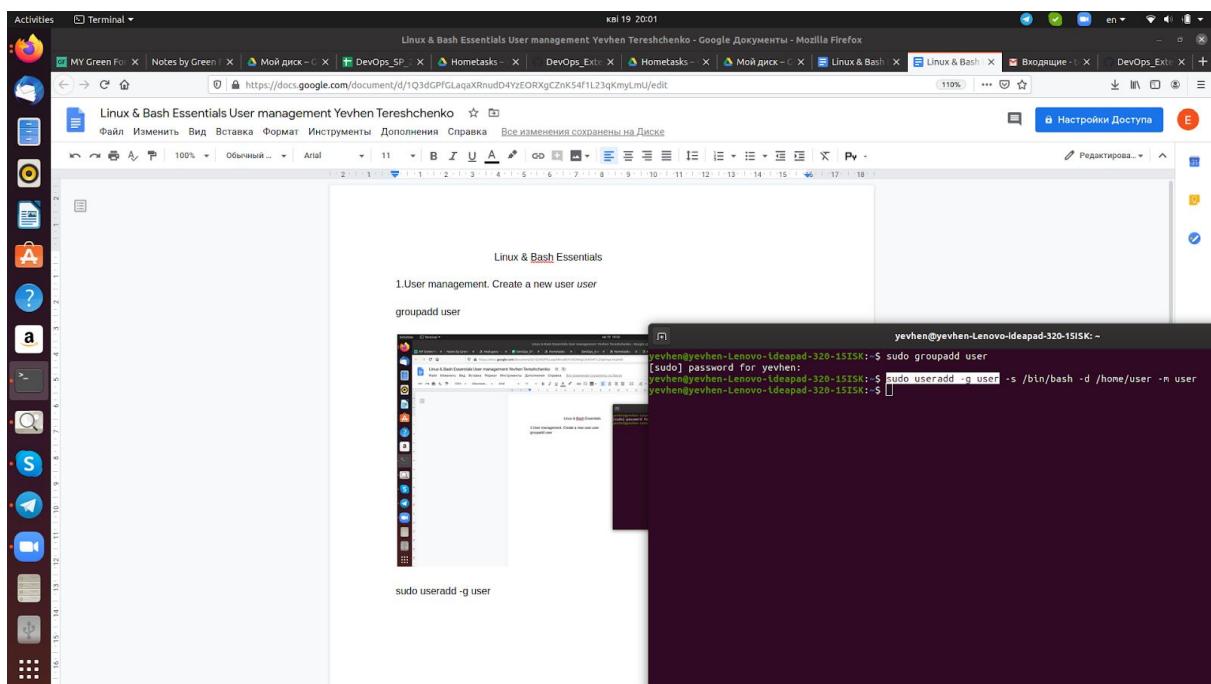
Linux & Bash Essentials

1. User management. Create a new user user

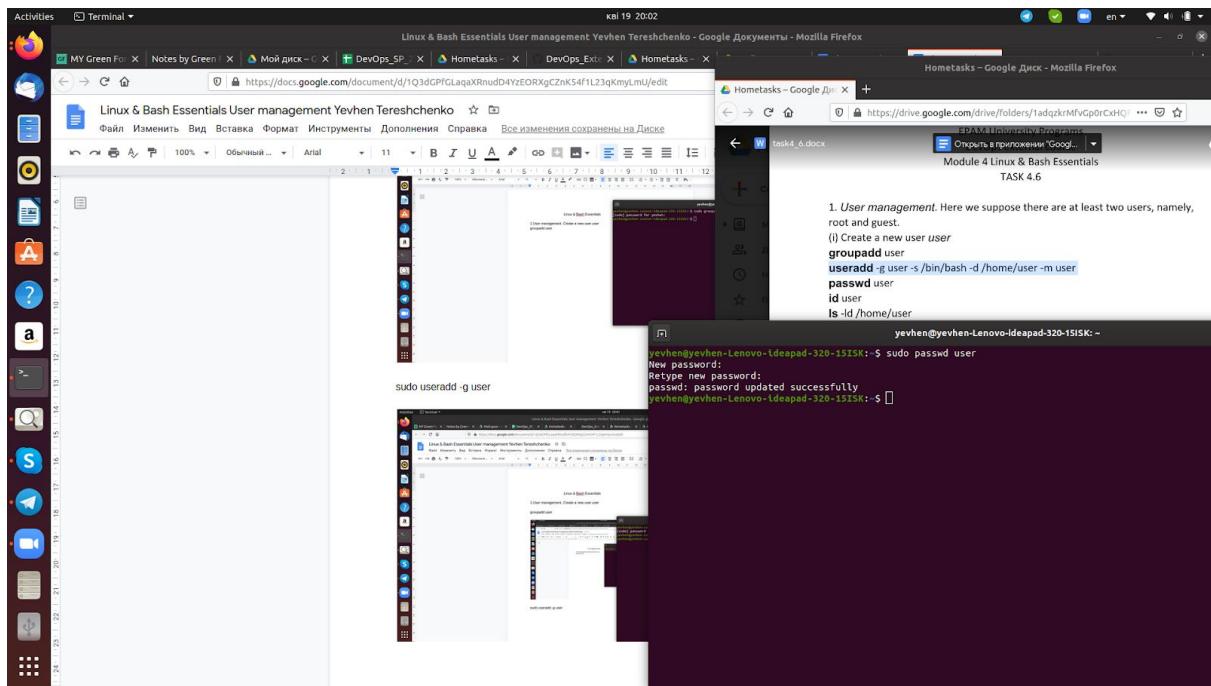
groupadd user



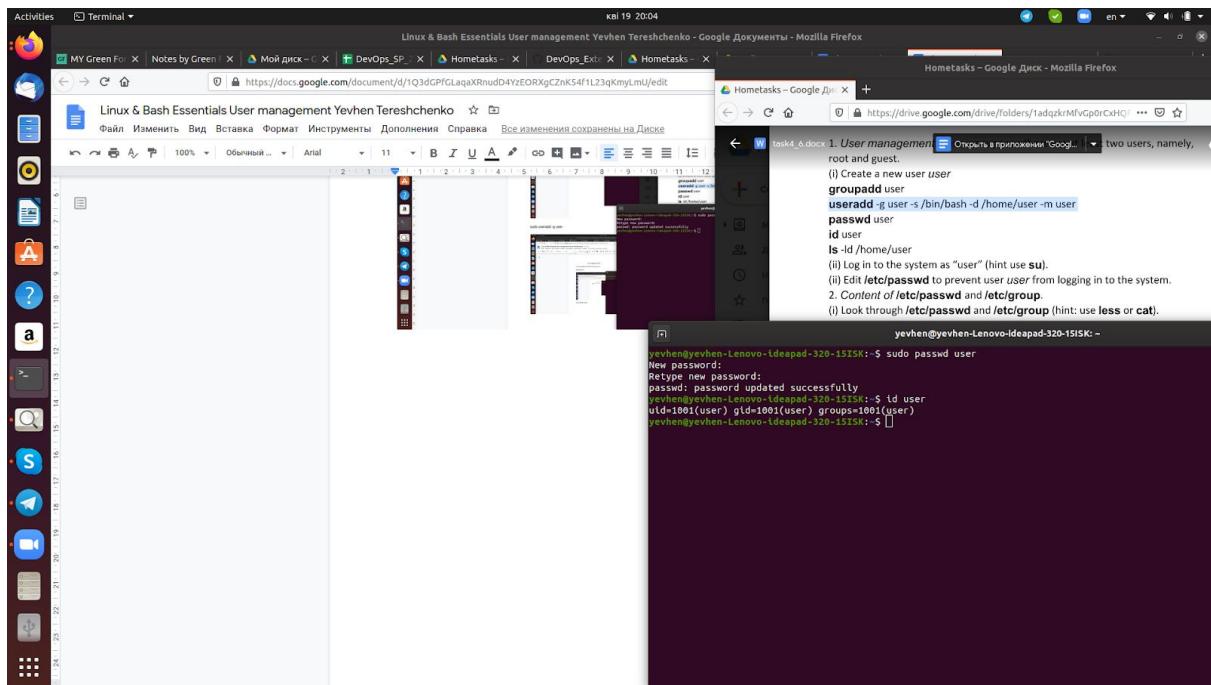
sudo useradd -g user -s /bin/bash -d /home/user -m user



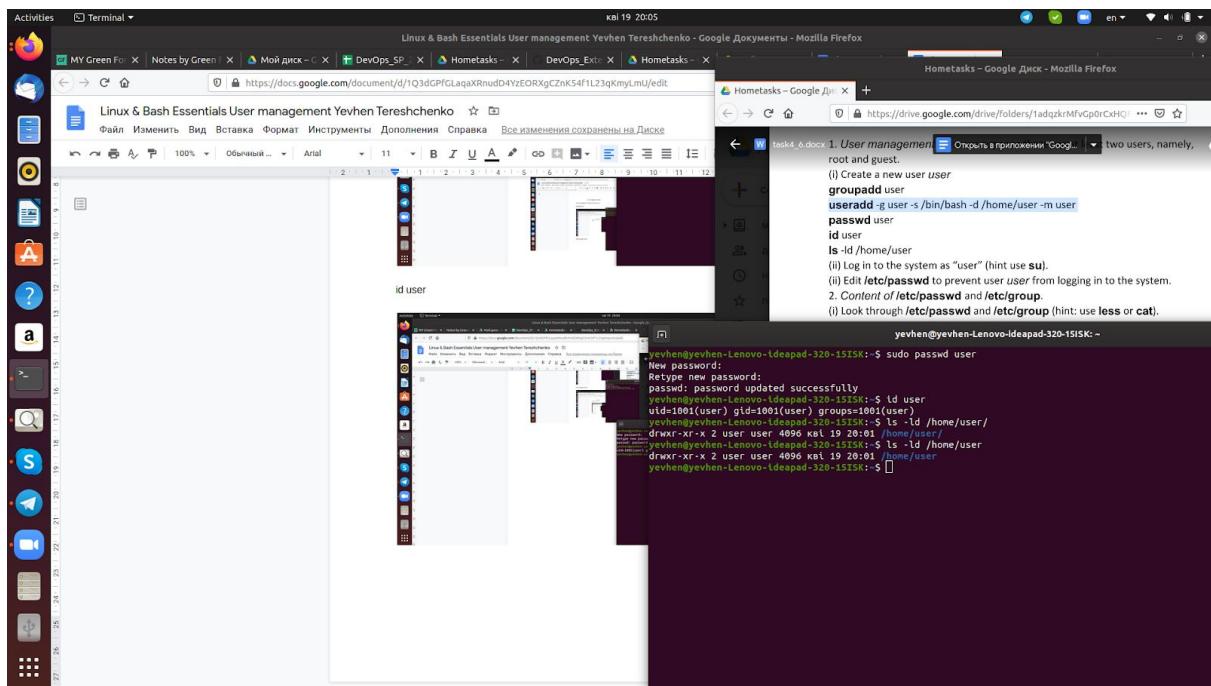
passwd user



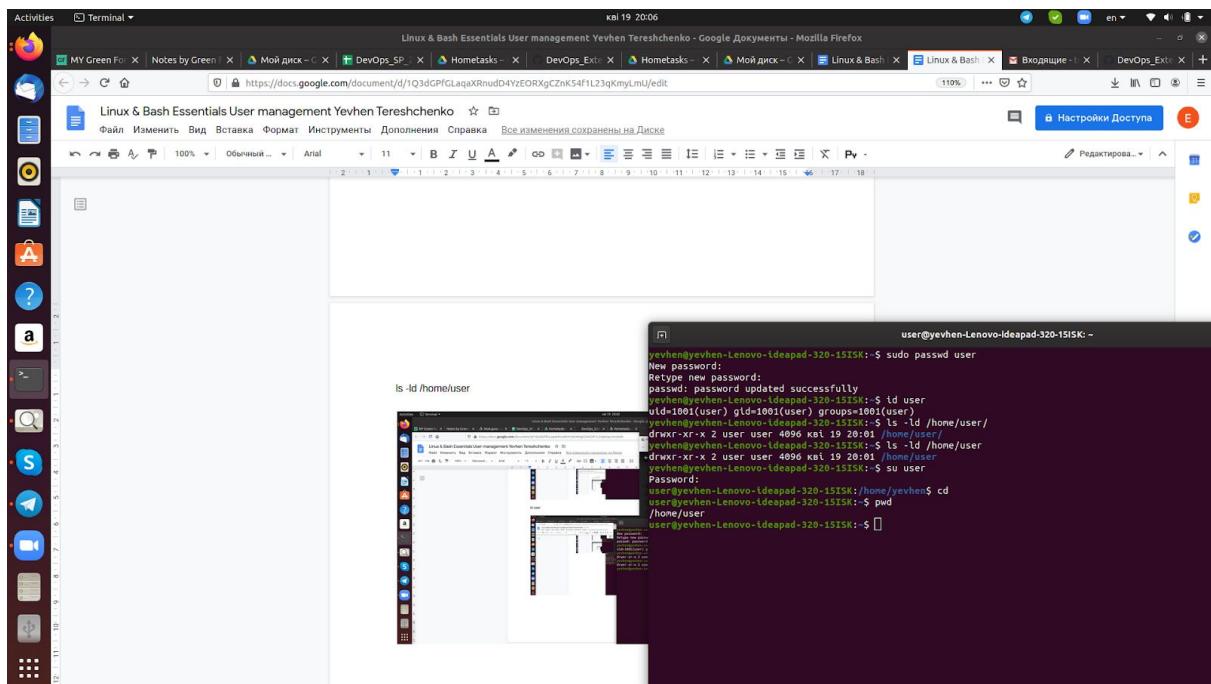
id user



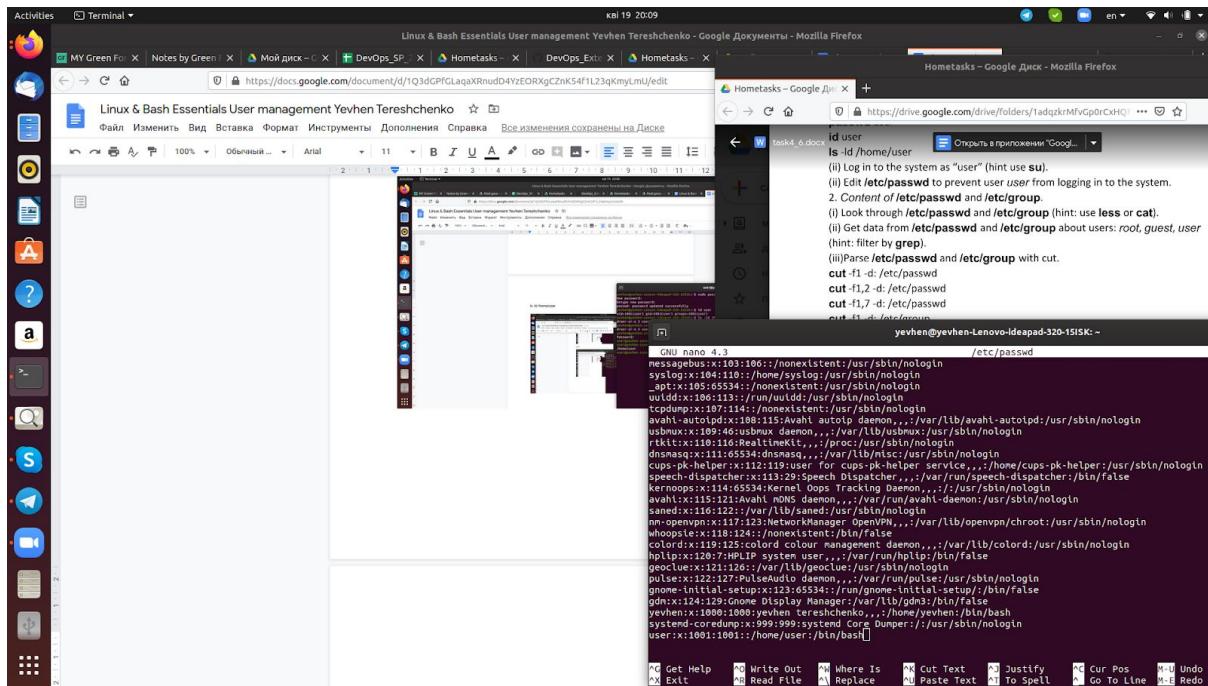
ls -ld /home/user



su user

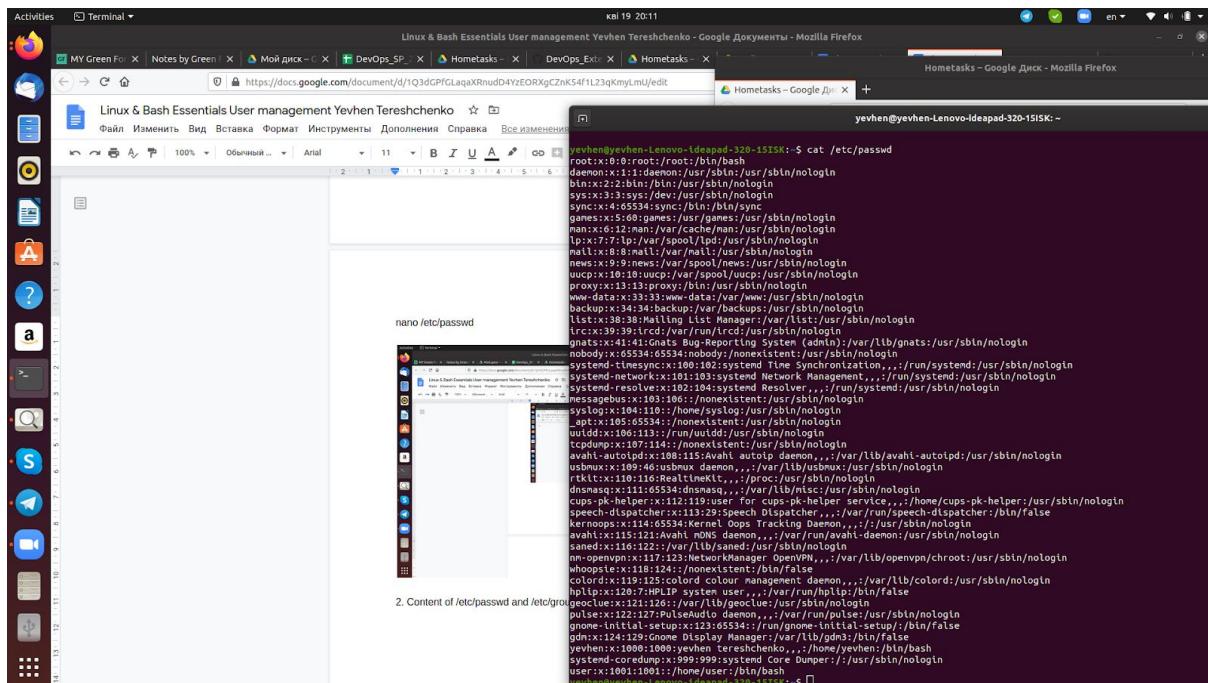


nano /etc/passwd



2. Content of /etc/passwd and /etc/group

show /etc/passwd and /etc/group

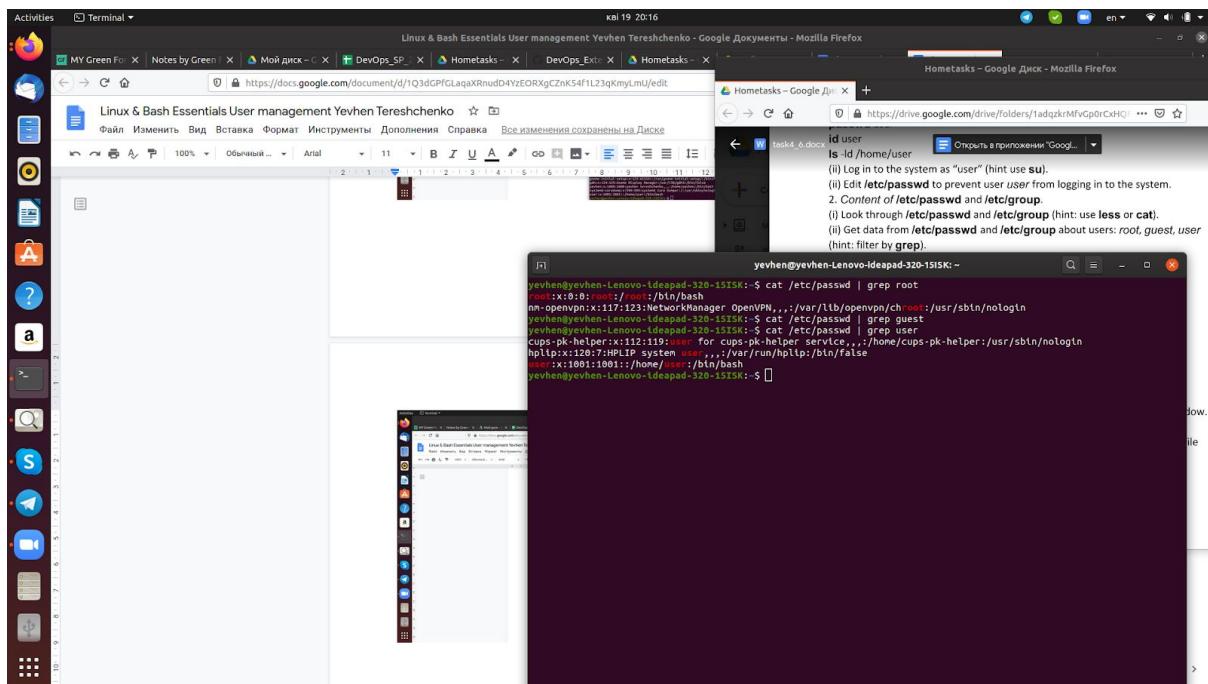


A screenshot of a Linux desktop environment, likely Ubuntu, showing multiple windows. In the foreground, a terminal window displays the command 'cat /etc/group' with its output. The output shows various system groups like adm, dialout, lp, and audio. Below the terminal, another window shows the contents of the /etc/passwd file. The desktop background is a standard blue grid pattern.

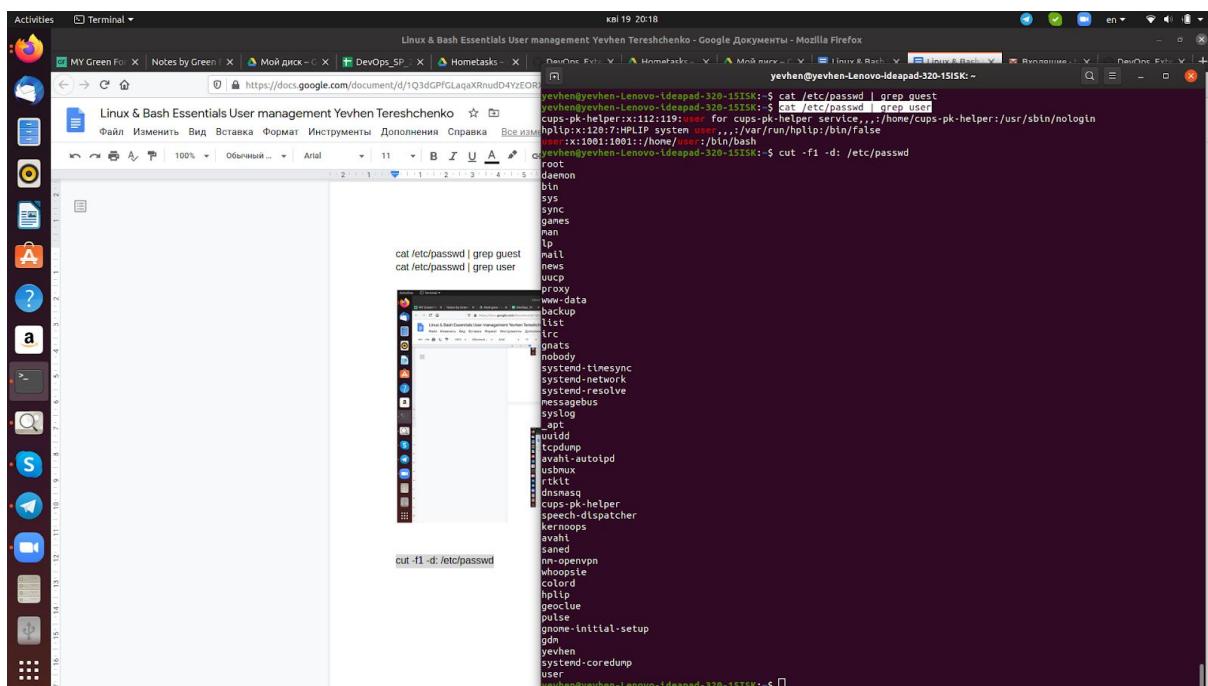
```
cat /etc/passwd | grep root
```

A screenshot of a Linux desktop environment, likely Ubuntu, showing several windows and terminal sessions. At the top, there's a dock with icons for various applications like a file manager, terminal, and browser. The main window is a Google Docs document titled "Linux & Bash Essentials User management Yevhen Tereshchenko". Below it is a LibreOffice Calc spreadsheet. To the right, there's a terminal window with a command-line interface showing user management details. Another terminal window is partially visible at the bottom. A sidebar on the left contains a vertical list of icons for different applications.

```
cat /etc/passwd | grep guest  
cat /etc/passwd | grep user
```



```
cut -f1 -d: /etc/passwd
```



`cut -f1,2 -d: /etc/passwd`

A screenshot of a Linux desktop environment. On the left is a dock with various icons. In the center is a terminal window titled "yevhen" showing the command `cut -f1,2 -d: /etc/passwd`. To the right is a Mozilla Firefox browser window displaying a Google Docs document titled "Hometasks – Google Документы". The document contains instructions for manipulating /etc/passwd and /etc/group files using cut, less, and grep commands. It also includes sections on dealing with chmod and creating executable scripts.

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ cut -f1,2 -d: /etc/passwd
root:x
daemon:x
bin:x
sys:x
sync:x
games:x
man:x
lp:x
mail:x
news:x
uucp:x
proxy:x
www-data:x
backup:x
list:x
irc:x
gnats:x
nobody:x
syslog:x
timesync:x
systemd-network:x
systemd-resolve:x
messagebus:x
systemd:x
apt:x
uid:x
tcpdump:x
avahi-autoipd:x
usbmux:x
kmod:x
dnsmasq:x
cups-pk-helper:x
speech-dispatcher:x
kerneloops:x
avahi:x
sandisk:x
mm-openvpn:x
whoopsie:x
colord:x
hplip:x
geoclue:x
pulse:x
gnome-initial-setup:x
gdm:x
yevhen:x
systemd-coresump:x
user:x
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$
```

`cut -f1,7 -d: /etc/passwd`

A screenshot of a Linux desktop environment, similar to the previous one. The terminal window shows the command `cut -f1,7 -d: /etc/passwd`. The browser window displays the same Google Docs document with instructions. This time, the terminal output shows the user column removed from the passwd file.

```
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$ cut -f1,7 -d: /etc/passwd
root:/bin/bash
daemon:/usr/sbin/nologin
bin:/usr/sbin/nologin
sys:/usr/sbin/nologin
sync:/bin/sync
games:/usr/sbin/nologin
man:/usr/sbin/nologin
lp:/usr/sbin/nologin
mail:/usr/sbin/nologin
news:/usr/sbin/nologin
uucp:/usr/sbin/nologin
proxy:/usr/sbin/nologin
www-data:/usr/sbin/nologin
backup:/usr/sbin/nologin
list:/usr/sbin/nologin
irc:/usr/sbin/nologin
gnats:/usr/sbin/nologin
nobody:/usr/sbin/nologin
syslog:/usr/sbin/nologin
timesync:/usr/sbin/nologin
systemd-network:/usr/sbin/nologin
systemd-resolve:/usr/sbin/nologin
messagebus:/usr/sbin/nologin
systemd-journal:/usr/sbin/nologin
apt:/usr/sbin/nologin
uid:/usr/sbin/nologin
tcpdump:/usr/sbin/nologin
avahi-autoipd:/usr/sbin/nologin
usbmux:/usr/sbin/nologin
kmod:/sbin/nologin
dnsmasq:/usr/sbin/nologin
cups-pk-helper:/usr/sbin/nologin
speech-dispatcher:/bin/false
kerneloops:/usr/sbin/nologin
avahi:/usr/sbin/nologin
sandisk:/usr/sbin/nologin
mm-openvpn:/usr/sbin/nologin
whoopsie:/bin/false
colord:/usr/sbin/nologin
hplip:/usr/sbin/nologin
geoclue:/usr/sbin/nologin
pulse:/usr/sbin/nologin
gnome-initial-setup:/bin/false
gdm:/bin/false
yevhen:/bin/false
systemd-coresump:/usr/sbin/nologin
user:/bin/bash
yevhen@yevhen-Lenovo-Ideapad-320-15ISK:~$
```

`cut -f1 -d: /etc/group`

A screenshot of a Linux desktop environment. On the left is a dock with various icons. In the center is a terminal window titled "Terminal" with the command `cut -f1 -d: /etc/group` running, which outputs a list of user names. To the right is a Mozilla Firefox browser window displaying a Google Docs document titled "Hometasks – Google Документы". The document contains instructions for dealing with /etc/passwd and /etc/group files, including steps like "Parse /etc/passwd and /etc/group with cut" and "Get data from /etc/passwd and /etc/group about users: root, guest, user (hint: filter by grep)". It also includes a section on dealing with /etc/shadow and a note about chmod.

```
root
daemon
bin
sys
adm
tty
disk
lp
mail
news
uucp
man
proxy
kern
dialout
fax
voice
cdrom
floppy
tape
sudo
audio
dip
www-data
backup
operator
list
irc
src
gnats
shadow
utmp
video
x
plugdev
staff
games
users
nogroup
systemd-journal
systemd-timesync
systemd-network
systemd-resolve
crontab
messagebus
input
kvm
```

`cut -f1,2 -d: /etc/group`

A screenshot of a Linux desktop environment, similar to the previous one. The terminal window now shows the command `cut -f1,2 -d: /etc/group`, which outputs a list of user names followed by their respective group names. The Mozilla Firefox browser window is still displaying the same Google Docs document, providing instructions for dealing with /etc/passwd and /etc/group files.

```
root:x
daemon:x
bin:x
sys:x
adm:x
tty:x
disk:x
lp:x
mail:x
news:x
uucp:x
man:x
proxy:x
kern:x
dialout:x
fax:x
voice:x
cdrom:x
floppy:x
tape:x
sudo:x
audio:x
dip:x
www-data:x
backup:x
operator:x
list:x
irc:x
src:x
gnats:x
shadow:x
utmp:x
video:x
x
plugdev:x
staff:x
games:x
users:x
nogroup:x
systemd-journal:x
systemd-timesync:x
systemd-network:x
systemd-resolve:x
crontab:x
messagebus:x
input:x
kvm:x
```

sudo less /etc/shadow

```
root::18355:0:99999:7::  
daemont:18186:0:99999:7::  
bin:18186:0:99999:7::  
sys:18186:0:99999:7::  
sync:18186:0:99999:7::  
man:18186:0:99999:7::  
lp:18186:0:99999:7::  
mail:18186:0:99999:7::  
news:18186:0:99999:7::  
uucp:18186:0:99999:7::  
proxy:18186:0:99999:7::  
www-data:18186:0:99999:7::  
backup:18186:0:99999:7::  
list:18186:0:99999:7::  
irc:18186:0:99999:7::  
gnats:18186:0:99999:7::  
nobody:18186:0:99999:7::  
systemd-timesync:18186:0:99999:7::  
systemd-network:18186:0:99999:7::  
systemd-resolve:18186:0:99999:7::  
messagebus:18186:0:99999:7::  
syslog:18186:0:99999:7::  
_apt:18186:0:99999:7::  
uuidd:18186:0:99999:7::  
tcpdump:18186:0:99999:7::  
avahi-autopid:18186:0:99999:7::  
usbmuxd:18186:0:99999:7::  
rtkitd:18186:0:99999:7::  
dnsmasq:18186:0:99999:7::  
cup:18186:0:99999:7::  
speech-dispatcher:18186:0:99999:7::  
kernoops:18186:0:99999:7::  
avahi:18186:0:99999:7::  
saned:18186:0:99999:7::  
im:18186:0:99999:7::  
whoopsie:18186:0:99999:7::  
colord:18186:0:99999:7::  
hplip:18186:0:99999:7::  
geoclue:18186:0:99999:7::  
polkit:18186:0:99999:7::  
gnome-initial-setup:18186:0:99999:7::  
odm:18186:0:99999:7::  
yevhen:$6$RGMGcJRSLS120$SN70jK5DlB7LNJohvn0VyiTVCtTpp8ZgHLW1$pt9gVAXq9yw89NR3afEnaZQc7cMCjRnypw/WarANn4h1:18  
355:0:99999:7::  
sys:18186:0:99999:7::  
user:$6$T9axEky2MH1$gF1F2YEfpIjXG$EXIvH1HGFFhUofYQt02h7FeAnQLLjPXvbMJKdxTTH/g6znU6AEjHlnVhLTvz0aa9XGqa0:1837  
1:0:99999:7::  
yevhen@yevhen-Lenovo-Ideapad-320-15ISK: [
```

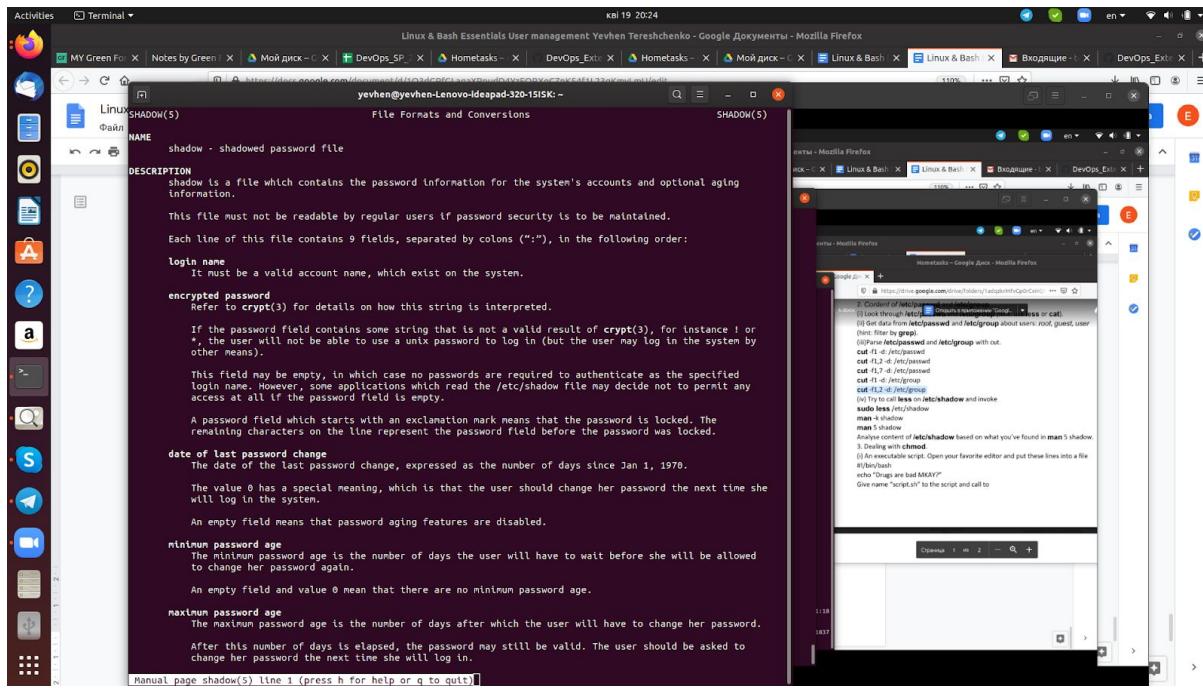
Content of /etc/passwd and /etc/group
(i) Look through /etc/passwd and /etc/group about users: root, guest, user
(ii) Parse /etc/passwd and /etc/group with cut.
cut -f1 -d: /etc/passwd
cut -f1,2 -d: /etc/passwd
cut -f1,7 -d: /etc/passwd
cut -f1 -d: /etc/group
cut -f1,2 -d: /etc/group
(iv) Try to call less on /etc/shadow and invoke
sudo less /etc/shadow
man -k shadow
man 5 shadow
Analyse content of /etc/shadow based on what you've found in man 5 shadow.
3. Dealing with chmod
(i) An executable script. Open your favorite editor and put these lines into a file
#!/bin/bash
echo "Drugs are bad MKAY?"
Give name "script.sh" to the script and call to

man -k shadow

```
endspent (3) - get shadow password file entry  
fgetspent (3) - get shadow password file entry  
getspent (3) - get shadow password file entry  
getspent_r (3) - get shadow password file entry  
getspent_s (3) - get shadow password file entry  
getman (3) - get shadow password file entry  
getspan_r (3) - get shadow password file entry  
gpasswd (1) - administer /etc/group and /etc/gshadow  
grpconv (8) - convert to and from shadow passwords and groups  
groupconv (8) - convert to and from shadow passwords and groups  
gshadow (5) - shadowed group file  
lckpwdf (3) - get shadow password file entry  
login.defs (5) - shadow password suite configuration  
putspent (3) - get shadow password file entry  
pwconv (8) - convert to and from shadow passwords and groups  
pwconv_r (8) - convert to and from shadow passwords and groups  
setsspent (3) - get shadow password file entry  
sgespwent (3) - get shadow password file entry  
sgespwent_r (3) - get shadow password file entry  
shadow (5) - shadowed password  
shadowconfig (8) - tools to manage passwords on and off  
ulckpwdf (3) - get shadow password file entry  
update-passwd (8) - safely update /etc/passwd, /etc/shadow and /etc/group  
vigr (8) - edit the password, group, shadow-password or shadow-group file  
vipw (8) - edit the password, group, shadow-password or shadow-group file  
yevhen@yevhen-Lenovo-Ideapad-320-15ISK: $
```

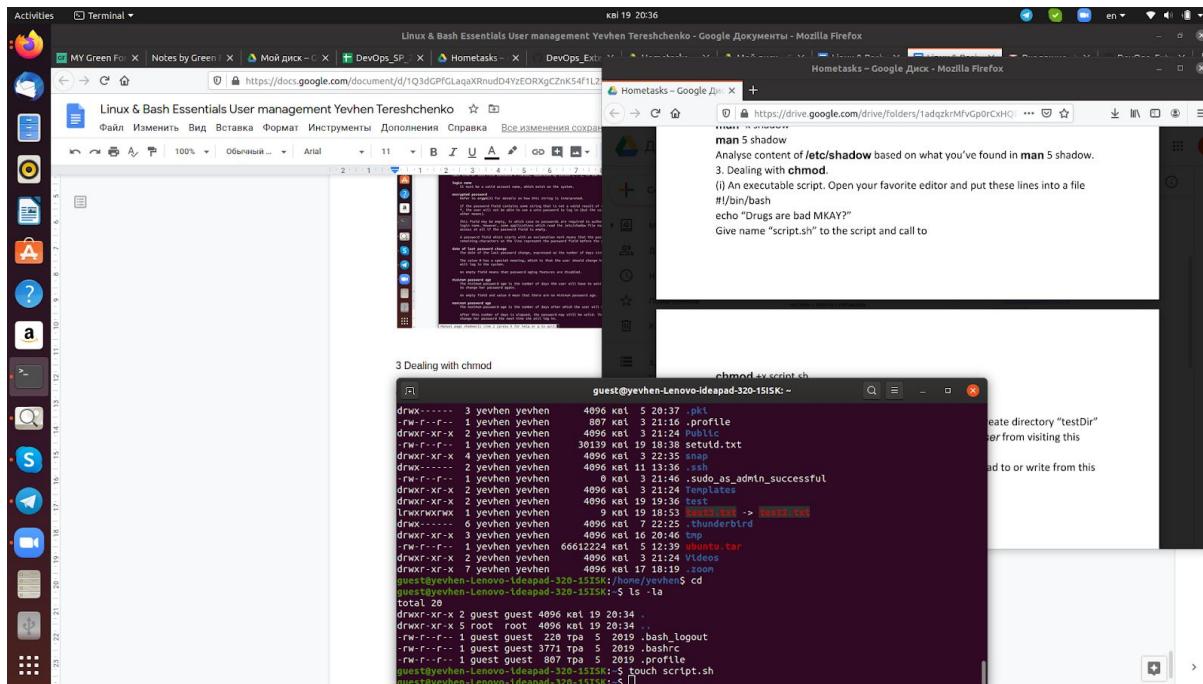
Content of /etc/passwd and /etc/group
(i) Get data from /etc/passwd and /etc/group about users: root, guest, user
(ii) Parse /etc/passwd and /etc/group with cut.
cut -f1 -d: /etc/passwd
cut -f1,2 -d: /etc/passwd
cut -f1,7 -d: /etc/passwd
cut -f1 -d: /etc/group
cut -f1,2 -d: /etc/group
(iv) Try to call less on /etc/shadow and invoke
sudo less /etc/shadow
man -k shadow
man 5 shadow
Analyse content of /etc/shadow based on what you've found in man 5 shadow.
3. Dealing with chmod
(i) An executable script. Open your favorite editor and put these lines into a file
#!/bin/bash
echo "Drugs are bad MKAY?"
Give name "script.sh" to the script and call to

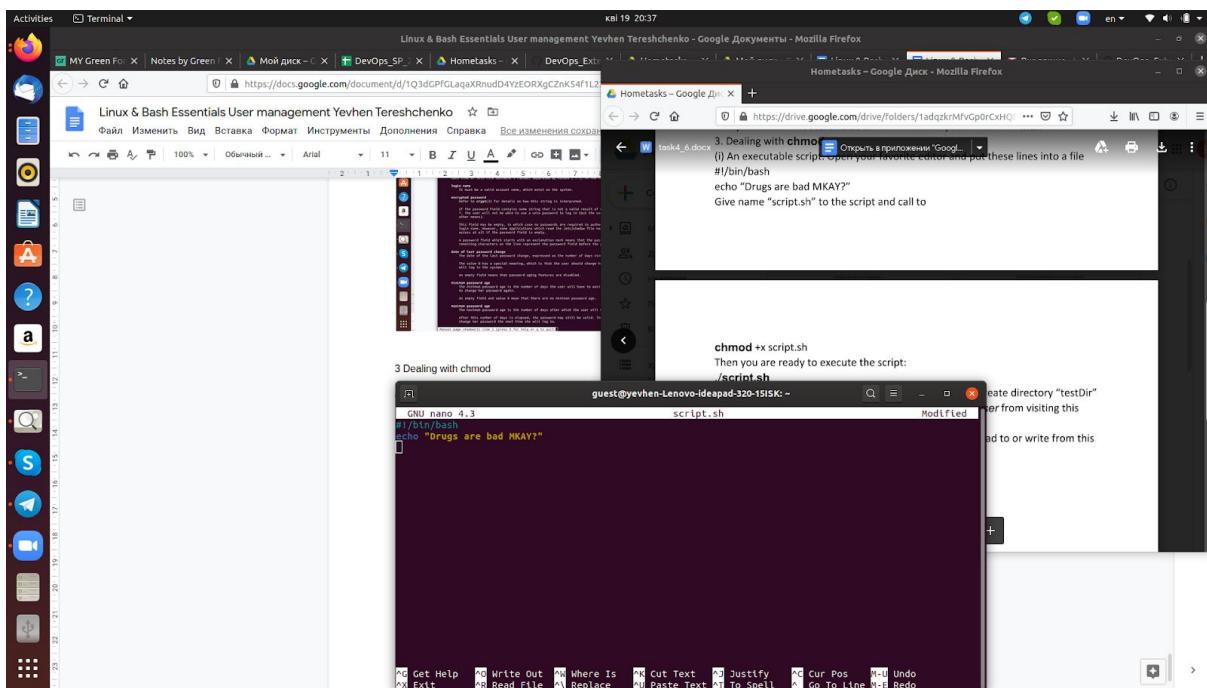
man 5 shadow



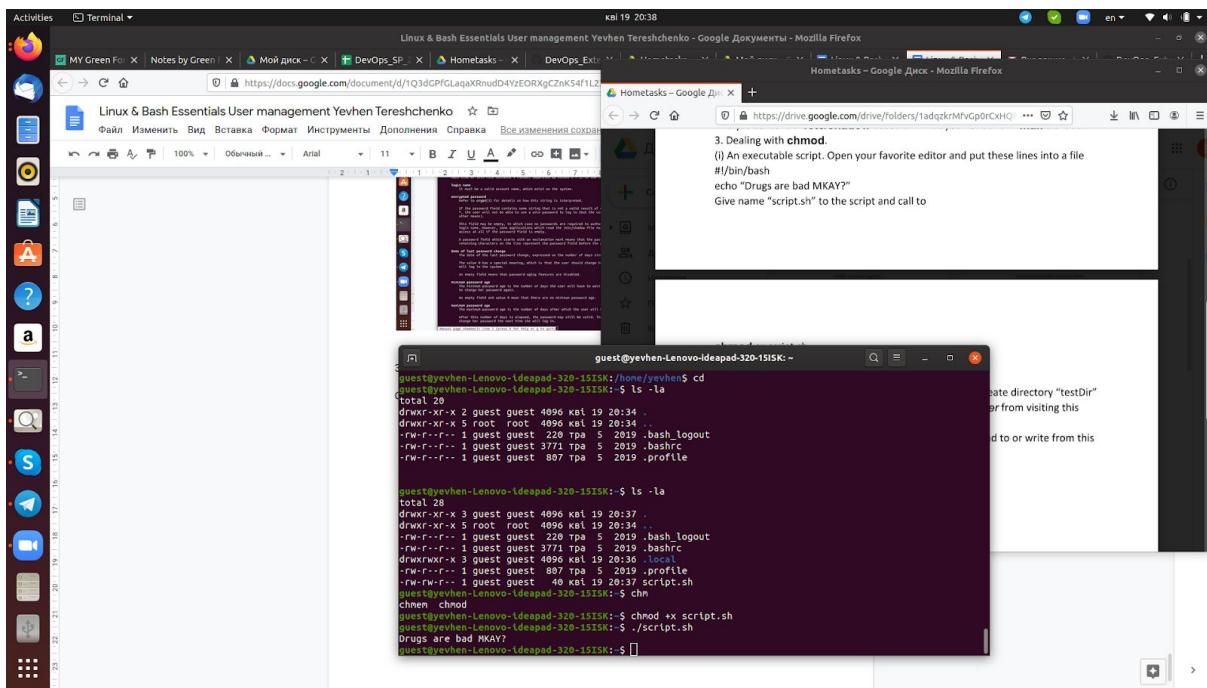
3 Dealing with chmod

Create an executable script as script.sh





./script.sh



create directory testDir and forbidden user to use this directory, to show file

