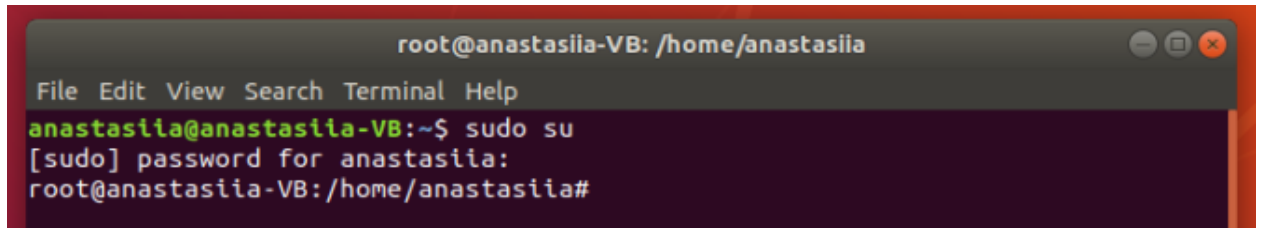


1. Log in to the system as root.

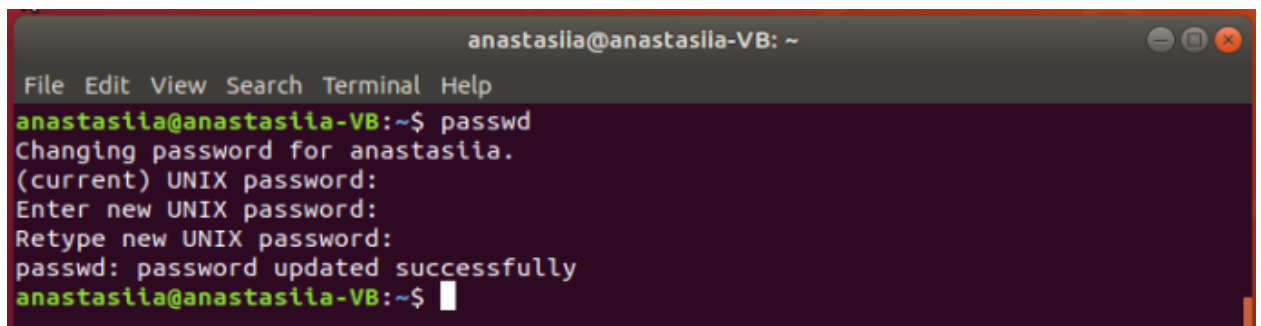
To log in as root, enter the following command in the terminal:

A terminal window titled 'root@anastasia-VB: /home/anastasia'. The prompt is 'anastasia@anastasia-VB:~\$'. The user enters 'sudo su'. The terminal shows '[sudo] password for anastasia:' followed by the root prompt 'root@anastasia-VB:/home/anastasia#'.

```
root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
anastasia@anastasia-VB:~$ sudo su
[sudo] password for anastasia:
root@anastasia-VB:/home/anastasia#
```

2. Use the passwd command to change the password. Examine the basic parameters of the command. What system file does it change *?

To change the password, use the following command:

A terminal window titled 'anastasia@anastasia-VB: ~'. The prompt is 'anastasia@anastasia-VB:~\$'. The user enters 'passwd'. The terminal shows 'Changing password for anastasia.', '(current) UNIX password:', 'Enter new UNIX password:', 'Retype new UNIX password:', and 'passwd: password updated successfully'. The prompt returns to 'anastasia@anastasia-VB:~\$'.

```
anastasia@anastasia-VB: ~
File Edit View Search Terminal Help
anastasia@anastasia-VB:~$ passwd
Changing password for anastasia.
(current) UNIX password:
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
anastasia@anastasia-VB:~$
```

passwd command has options, some of them are:

-l This option is used to lock the specified account and it is available to root only. The locking is performed by rendering the encrypted password into an invalid string (by prefixing the encrypted string with an !).

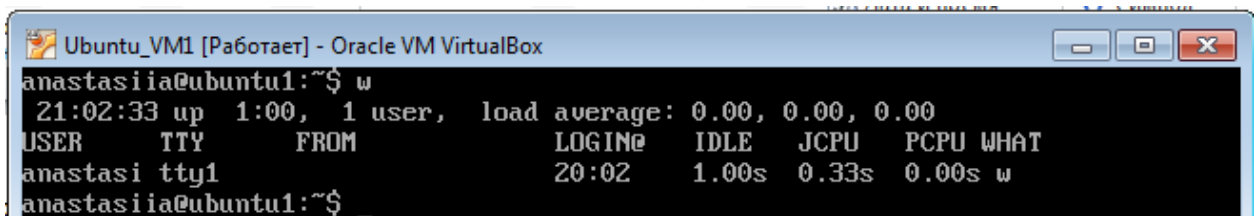
-u This is the reverse of the -l option - it will unlock the account password by removing the ! prefix. This option is available to root only. By default passwd will refuse to create a passwordless account (it will not unlock an account that has only "!" as a password). The force option -f will override this protection.

-S This will output a short information about the status of the password for a given account. Available to root user only.

Since /etc/passwd is usually readable, hidden password schemes or a shadow password mechanism are usually used for security purposes. Of course, this will redirect encrypted passwords to a restricted file that may contain additional information (/etc/shadow).

3. Determine the users registered in the system, as well as what commands they execute. What additional information can be gleaned from the command execution?

w command displays information about the users currently on the machine, and their processes

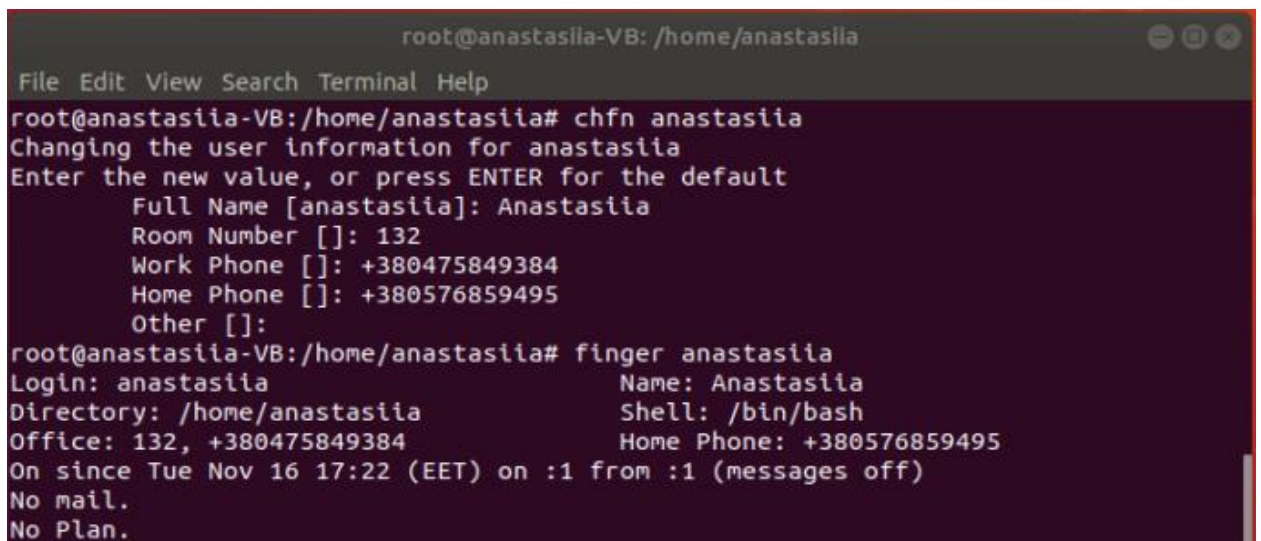


```
anastasiia@ubuntu1:~$ w
21:02:33 up 1:00, 1 user, load average: 0.00, 0.00, 0.00
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU   WHAT
anastasiia tty1          20:02    1.00s   0.33s   0.00s   w
anastasiia@ubuntu1:~$
```

The following entries are displayed for each user: login name, the tty name, the remote host, login time, idle time, JCPU, PCPU, and the command line of their current process.

4. Change personal information about yourself

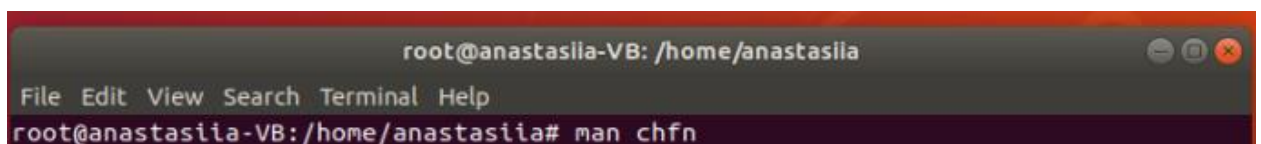
The `chfn` command changes user fullname, office room number, office phone number, and home number information for a user's account. This information is typically printed by `finger` program.



```
root@anastasiia-VB: /home/anastasiia
File Edit View Search Terminal Help
root@anastasiia-VB:/home/anastasiia# chfn anastasiia
Changing the user information for anastasiia
Enter the new value, or press ENTER for the default
  Full Name [anastasiia]: Anastasiia
  Room Number []: 132
  Work Phone []: +380475849384
  Home Phone []: +380576859495
  Other []:
root@anastasiia-VB:/home/anastasiia# finger anastasiia
Login: anastasiia                Name: Anastasiia
Directory: /home/anastasiia      Shell: /bin/bash
Office: 132, +380475849384        Home Phone: +380576859495
On since Tue Nov 16 17:22 (EET) on :1 from :1 (messages off)
No mail.
No Plan.
```

5. Become familiar with the Linux help system and the `man` and `info` commands. Get help on the previously discussed commands, define and describe any two keys for these commands. Give examples.

`man` is the system's manual pager. Each page argument given to `man` is normally the name of program, utility or function. The manual page associated with each of these arguments is then found and displayed. A section, if provided, will direct `man` to look only in that section of the manual. `man` [-acdfHhkKtwW] [--path] [-m system] [-p string] [-C config_file] [-M pathlist] [-P pager] [-B browser] [-H htmlpager] [-S section_list] [section] name ...



```
root@anastasiia-VB: /home/anastasiia
File Edit View Search Terminal Help
root@anastasiia-VB:/home/anastasiia# man chfn
```

```
root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
CHFN(1)                                User Commands                                CHFN(1)

NAME
    chfn - change real user name and information

SYNOPSIS
    chfn [options] [LOGIN]

DESCRIPTION
    The chfn command changes user fullname, office room number, office
    phone number, and home phone number information for a user's account.
    This information is typically printed by finger(1) and similar
    programs. A normal user may only change the fields for her own account,
    subject to the restrictions in /etc/login.defs. (The default
    configuration is to prevent users from changing their fullname.) The
    superuser may change any field for any account. Additionally, only the
    superuser may use the -o option to change the undefined portions of the
    GECOS field.

    These fields must not contain any colons. Except for the other field,
    they should not contain any comma or equal sign. It is also recommended
    to avoid non-US-ASCII characters, but this is only enforced for the
    phone numbers. The other field is used to store accounting information

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

The info command is used to read documentation in Info format: info [OPTION]... [MENU-ITEM...]

```
root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
root@anastasia-VB:/home/anastasia# info w

root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
W(1)                                User Commands                                W(1)

NAME
    w - Show who is logged on and what they are doing.

SYNOPSIS
    w [options] user [...]

DESCRIPTION
    w displays information about the users currently on the machine, and
    their processes. The header shows, in this order, the current time,
    how long the system has been running, how many users are currently
    logged on, and the system load averages for the past 1, 5, and 15 min-
    utes.

    The following entries are displayed for each user: login name, the tty
    name, the remote host, login time, idle time, JCPU, PCPU, and the com-
    mand line of their current process.

    The JCPU time is the time used by all processes attached to the tty.
    It does not include past background jobs, but does include currently
    running background jobs.

-----Info: (*manpages*)w, 85 lines --Top-----
No menu item 'w' in node '(dir)Top'
```

Description of some flags


```
root@anastasiia-VB: /home/anastasiia
File Edit View Search Terminal Help
root@anastasiia-VB:/home/anastasiia# man -k user
adduser.conf (5)      - configuration file for adduser(8) and addgroup(8) .
deluser.conf (5)     - configuration file for deluser(8) and delgroup(8) .
HEAD (1p)            - Simple command line user agent
addgroup (8)         - add a user or group to the system
adduser (8)          - add a user or group to the system
applynupgdefaults (8) - Run gpgconf - apply-defaults for all users.
apport-cli (1)       - Apport user interfaces for reporting problems
arpd (8)             - userspace arp daemon.
bsd-write (1)        - send a message to another user
chage (1)            - change user password expiry information
chfn (1)             - change real user name and information
crontab (1)          - maintain crontab files for individual users (Vixie Cron)
delgroup (8)         - remove a user or group from the system
deluser (8)          - remove a user or group from the system
environ (7)          - user environment
environment.d (5)    - Definition of user session environment
File::UserDirs (3pm) - find extra media and documents directories
finger (1)           - user information lookup program
fuse (4)             - Filesystem in Userspace (FUSE) device
fuser (1)            - identify processes using files or sockets
fusermount (1)       - unmount FUSE filesystems
futex (7)            - fast user-space locking
GET (1p)             - Simple command line user agent

root@anastasiia-VB: /home/anastasiia
File Edit View Search Terminal Help
root@anastasiia-VB:/home/anastasiia# info --help
Usage: info [OPTION]... [MENU-ITEM...]

Read documentation in Info format.

Frequently-used options:
  -a, --all                use all matching manuals
  -k, --apropos=STRING     look up STRING in all indices of all manuals
  -d, --directory=DIR     add DIR to INFOPATH
  -f, --file=MANUAL       specify Info manual to visit
  -h, --help              display this help and exit
  --index-search=STRING   go to node pointed by index entry STRING
  -n, --node=NODENAME     specify nodes in first visited Info file
  -o, --output=FILE       output selected nodes to FILE
  -O, --show-options, --usage go to command-line options node
  --subnodes              recursively output menu items
  -v, --variable VAR=VALUE assign VALUE to Info variable VAR
  --version               display version information and exit
  -w, --where, --location print physical location of Info file

The first non-option argument, if present, is the menu entry to start from;
it is searched for in all 'dir' files along INFOPATH.
If it is not present, info merges all 'dir' files and shows the result.
Any remaining arguments are treated as the names of menu
```

6. Explore the more and less commands using the help system. View the contents of files .bash* using commands.

more is a filter for paging through text one screenful at a time. less is a program similar to more, but has many more features. less does not have to read the entire input file before starting, so with large input files it starts faster than text editors like vi.

```
root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
root@anastasia-VB:/home/anastasia# more .bash*
::::::::::::
.bash_history
::::::::::::
sudo su
clear
sudo su
su
clear
sudo su
clear
passwd
passws
clear
passwd
clear
cat /etc/passwd
cat /etc/shadow
sudo cat /etc/shadow
passwd
--More--(Next file: .bash_logout)
```

Less command

```
root@anastasia-VB: /home/anastasia
File Edit View Search Terminal Help
sudo su
clear
sudo su
su
clear
sudo su
clear
passwd
passws
clear
passwd
clear
cat /etc/passwd
cat /etc/shadow
sudo cat /etc/shadow
passwd
.bash history (file 1 of 3) (END) - Next: .bash_logout
```

7. Describe in plans that you are working on laboratory work 1. Tip: You should read the documentation for the finger command.

```

root@anastasiia-VB:/home/anastasiia# echo 'Working on laboratory work!' > ~/.plan
root@anastasiia-VB:/home/anastasiia# finger anastasiia
Login: anastasiia                      Name: Anastasiia
Directory: /home/anastasiia           Shell: /bin/bash
Office: 132, +380475849384             Home Phone: +380576859495
On since Wed Nov 17 16:57 (EET) on :1 from :1 (messages off)
No mail.
No Plan.

Login: root                            Name: Anastasiia
Directory: /root                      Shell: /bin/bash
Office: 132, +380678949729             Home Phone: +380678949729
Never logged in.
No mail.
Plan:
Working on laboratory work!
root@anastasiia-VB:/home/anastasiia#

```

8. List the contents of the home directory using the ls command, define its files and directories.

ls command list information about the FILES.

```

root@anastasiia-VB: /home/anastasiia
File Edit View Search Terminal Help
root@anastasiia-VB:/home/anastasiia# ls -l
total 44
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Desktop
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Documents
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Downloads
-rw-r--r-- 1 anastasiia anastasiia 8980 лис 16 15:40 examples.desktop
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Music
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Pictures
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Public
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Templates
drwxr-xr-x 2 anastasiia anastasiia 4096 лис 16 15:51 Videos
root@anastasiia-VB:/home/anastasiia#

```