Task1.Part1

1) Log in to the system as root.

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

- -d - delete a user's password
- -e - expire an account's password. Change their password at the user's next login.
- -l - lock the password of the named account.
- -u - unlock the password of the named account

It modifies system files **/etc/shadow(user account information)** and **/etc/passwd (Secure user account information)**

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 – provides login name, the tty name, the remote host, login time, idle time, CPU, PCPU

4) Change personal information about yourself.

Chfn

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 chfn - change your finger information

- **-f** – change the user’s full name
- **-h** – change the user’s home phone number

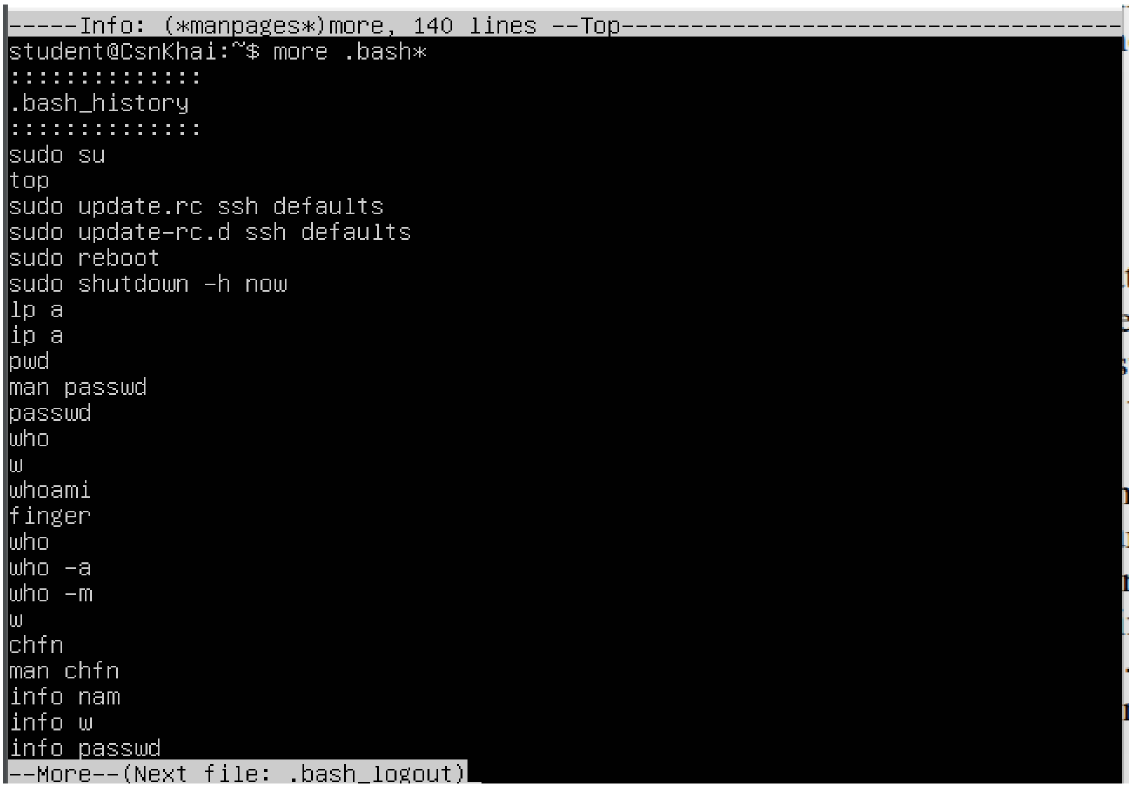
Info passwd - change user password

- **-s** - Display account status information. The status information consists of 7 fields.
- **-q** - Quiet mode

6) Explore the more and less commands using the help system. View the contents

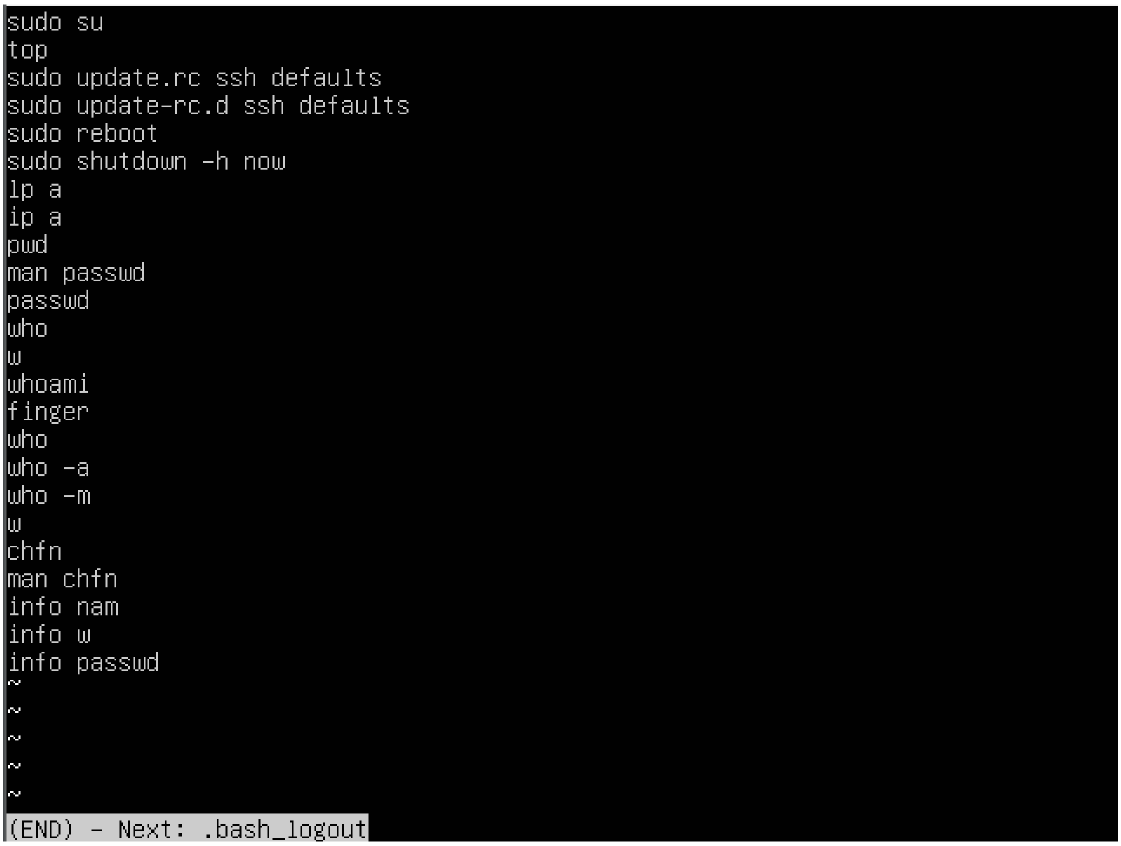
of files .bash* using commands.

more - is a filter for paging through text one screenful at a time.



```
-----Info: (*manpages*)more, 140 lines --Top-----------------------------------
student@CsnKhai:~$ more .bash*
::::::::::::::
.bash_history
::::::::::::::
sudo su
top
sudo update.rc ssh defaults
sudo update-rc.d ssh defaults
sudo reboot
sudo shutdown -h now
lp a
ip a
pwd
man passwd
passwd
who
w
whoami
finger
who
who -a
who -m
w
chfn
man chfn
info nam
info w
info passwd
--More--(Next file: .bash_logout)
```

less - is a program similar to **more**, but which allows backward movement in the file as well as forward movement.



```
sudo su
top
sudo update.rc ssh defaults
sudo update-rc.d ssh defaults
sudo reboot
sudo shutdown -h now
lp a
ip a
pwd
man passwd
passwd
who
w
whoami
finger
who
who -a
who -m
w
chfn
man chfn
info nam
info w
info passwd
~
~
~
~
~
(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.

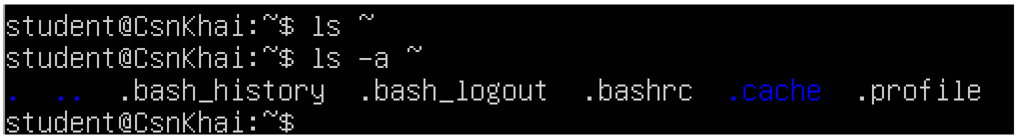
finger - displays information about the system users (l**ogin, name, tty, idle,** l**ogin time, office, office phone**)

1) Execute commands related to user management and information.
2) Explore and familiarize with previous commands
3) Become familiar with more and less commands

8) * List the contents of the home directory using the ls command, define its files and directories. Hint: Use the help system to familiarize yourself with the ls command.

ls - list directory contents

- **-a -** do not ignore entries starting with .
- **-l -** use a long listing format



```
student@CsnKhai:~$ ls ~
student@CsnKhai:~$ ls -a ~
.  ..  .bash_history  .bash_logout  .bashrc  .cache  .profile
student@CsnKhai:~$
```

Task1.Part2

1) Examine the tree command. Master the technique of applying a template, for example, display all files that contain a character c, or files that contain a specific sequence of characters. List subdirectories of the root directory up to and including the second nesting level.

tree | grep "xml"

tree -L 2

2) What command can be used to determine the type of file (for example, text or binary)? Give an example.

File /tmp, tmp: stricky, directory

file myfile, myfile: ASCII text

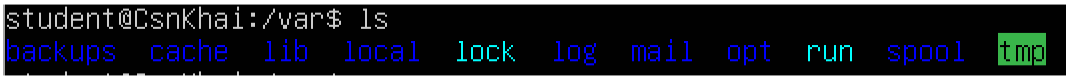
3) Master the skills of navigating the file system using relative and absolute paths. How can you go back to your home directory from anywhere in the filesystem?

cd ~ - back to the home directory

Relative Paths: cd lock

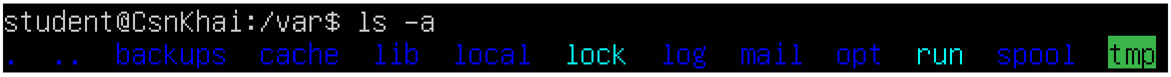
Absolute paths: cd /var/lock

4) Become familiar with the various options for the ls command. Give examples of listing directories using different keys. Explain the information displayed on the terminal using the -l and -a switches.



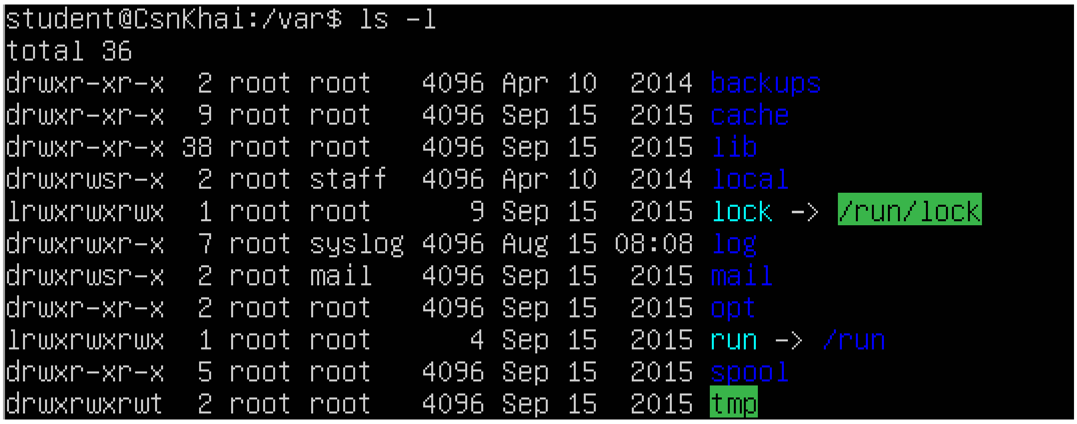
```
student@CsnKhai:/var$ ls
backups  cache  lib  local  lock  log  mail  opt  run  spool  tmp
```

- **-a -** do not ignore entries starting with .



```
student@CsnKhai:/var$ ls -a
.  ..  backups  cache  lib  local  lock  log  mail  opt  run  spool  tmp
```

- **-l -** use a long listing format



```
student@CsnKhai:/var$ ls -l
total 36
drwxr-xr-x  2 root root   4096 Apr 10  2014 backups
drwxr-xr-x  9 root root   4096 Sep 15  2015 cache
drwxr-xr-x 38 root root   4096 Sep 15  2015 lib
drwxrwsr-x  2 root staff  4096 Apr 10  2014 local
lrwxrwxrwx  1 root root      9 Sep 15  2015 lock -> /run/lock
drwxrwxr-x  7 root syslog 4096 Aug 15 08:08 log
drwxrwsr-x  2 root mail   4096 Sep 15  2015 mail
drwxr-xr-x  2 root root   4096 Sep 15  2015 opt
lrwxrwxrwx  1 root root      4 Sep 15  2015 run -> /run
drwxr-xr-x  5 root root   4096 Sep 15  2015 spool
drwxrwxrwt  2 root root   4096 Sep 15  2015 tmp
```

5) Perform the following sequence of operations:

- create a subdirectory in the home directory;

mkdir subdir

- in this subdirectory create a file containing information about directories located in the root directory (using I/O redirection operations);

ls - l / > root_info

- view the created file;

cat root_info

- copy the created file to your home directory using relative and absolute addressing.

Relative addressing: cp root_info.. || cp root_info ~

Absolute addressing: cp ~subdir/ root_info ~/root_info_absolute

- delete the previously created subdirectory with the file requesting removal;

rm -r subdir

- delete the file copied to the home directory.

rm -r root_info

rm -r root_info_absolute

6) Perform the following sequence of operations:

- create a subdirectory test in the home directory;

mkdir test

- copy the .bash_history file to this directory while changing its name to labwork2;

cp .bash_history test/labwork2

- create a hard and soft link to the labwork2 file in the test subdirectory;

ln labwork2   hard_link_labwork2

ln -s labwork2   soft_link_labwork2

- how to define soft and hard link, what do these concepts

hard link - is just another name for the original file with the same inode

soft link - a separate file that contains a reference to the original file's path

- change the data by opening a symbolic link. What changes will happen and Why

When data in a soft link changes, the original file remains unchanged

- rename the hard link file to hard_lnk_labwork2;

mv hard _link_labwork2   hard_lnk_labwork2

- rename the soft link file to symb_lnk_labwork2 file;

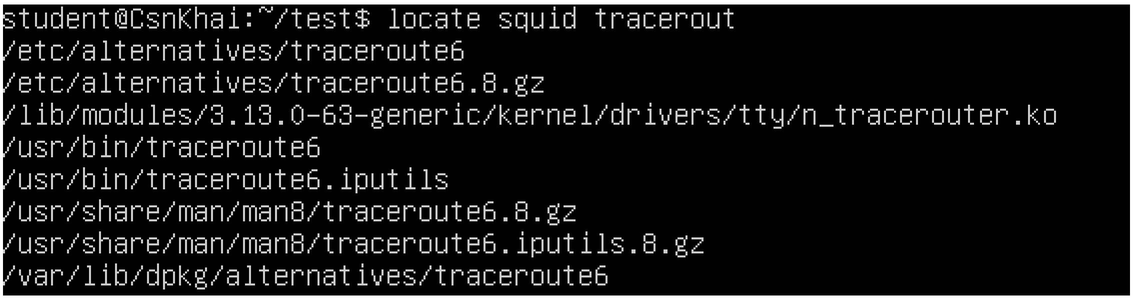
mv soft_link_labwork2   soft_lnk_labwork2

- then delete the labwork2. What changes have occurred and why?

rm labwork 2

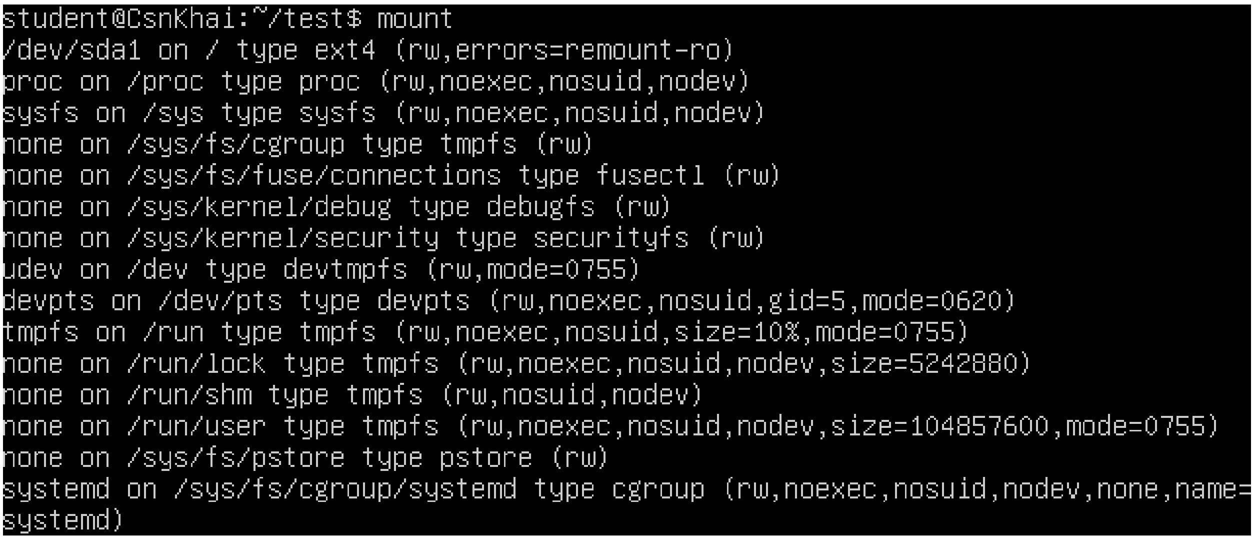
The hard link still works, but the soft link does not. Because a soft link refers to a path, not content as a hard link

7) Using the locate utility, find all files that contain the squid and traceroute sequence.



```
student@CsnKhai:~/test$ locate squid tracerout
/etc/alternatives/traceroute6
/etc/alternatives/traceroute6.8.gz
/lib/modules/3.13.0-63-generic/kernel/drivers/tty/n_tracerouter.ko
/usr/bin/traceroute6
/usr/bin/traceroute6.iputils
/usr/share/man/man8/traceroute6.8.gz
/usr/share/man/man8/traceroute6.iputils.8.gz
/var/lib/dpkg/alternatives/traceroute6
```

8) Determine which partitions are mounted in the system, as well as the types of these partitions.



```
student@CsnKhai:~/test$ mount
/dev/sda1 on / type ext4 (rw,errors=remount-ro)
proc on /proc type proc (rw,noexec,nosuid,nodev)
sysfs on /sys type sysfs (rw,noexec,nosuid,nodev)
none on /sys/fs/cgroup type tmpfs (rw)
none on /sys/fs/fuse/connections type fusectl (rw)
none on /sys/kernel/debug type debugfs (rw)
none on /sys/kernel/security type securityfs (rw)
udev on /dev type devtmpfs (rw,mode=0755)
devpts on /dev/pts type devpts (rw,noexec,nosuid,gid=5,mode=0620)
tmpfs on /run type tmpfs (rw,noexec,nosuid,size=10%,mode=0755)
none on /run/lock type tmpfs (rw,noexec,nosuid,nodev,size=5242880)
none on /run/shm type tmpfs (rw,nosuid,nodev)
none on /run/user type tmpfs (rw,noexec,nosuid,nodev,size=104857600,mode=0755)
none on /sys/fs/pstore type pstore (rw)
systemd on /sys/fs/cgroup/systemd type cgroup (rw,noexec,nosuid,nodev,none,name=
systemd)
```

9) Count the number of lines containing a given sequence of characters in a given file.

grep -c "info" hard_lnk_labwork2

10) Using the find command, find all files in the /etc directory containing the host character sequence.

find /etc -type f -name "*host*"

11) List all objects in /etc that contain the ss character sequence. How can I duplicate a similar command using a bunch of grep?

find /etc -type f -exec grep "ss" {} +

12) Organize a screen-by-screen print of the contents of the /etc directory. Hint: You must use stream redirection operations.

ls -l /etc | less

13) What are the types of devices and how to determine the type of device? Give examples.

14) How to determine the type of file in the system, what types of files are there?

15) * List the first 5 directory files that were recently accessed in the /etc directory.

ls -l /etc | head -5