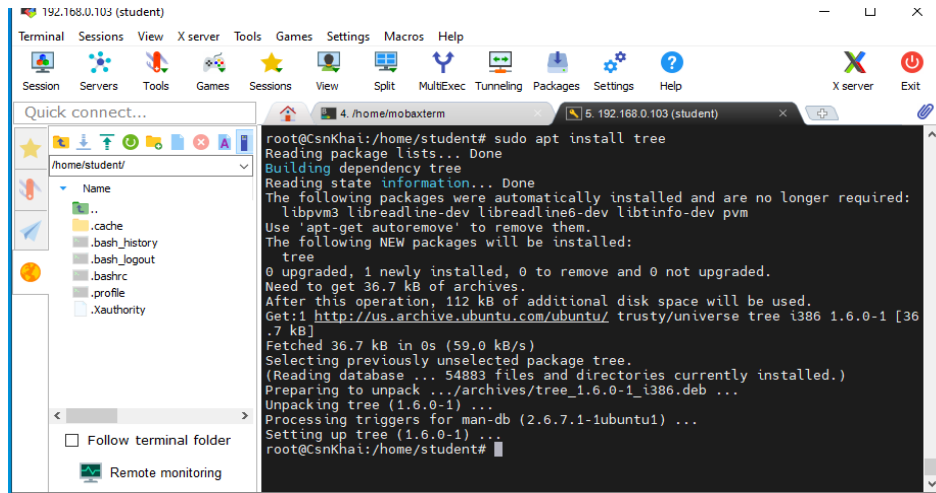


Task1.Part2

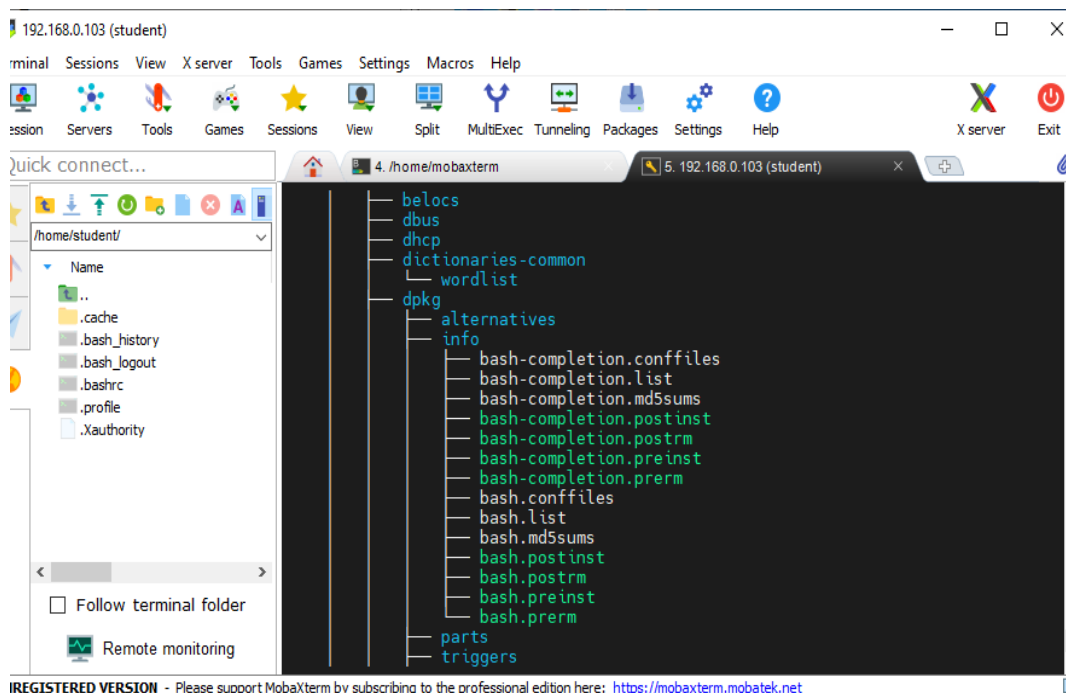
1) Examine the tree command. Master the technique of applying a template, for example, display all files that contain a character c, or files that contain a specific sequence of characters. List subdirectories of the root directory up to and including the second nesting level.

The ***tree*** command is used to recursively output directory structures or display the contents of directories in a tree format. The command outputs the paths to the directories and files in each subdirectory, and reports the total number of subdirectories and files.

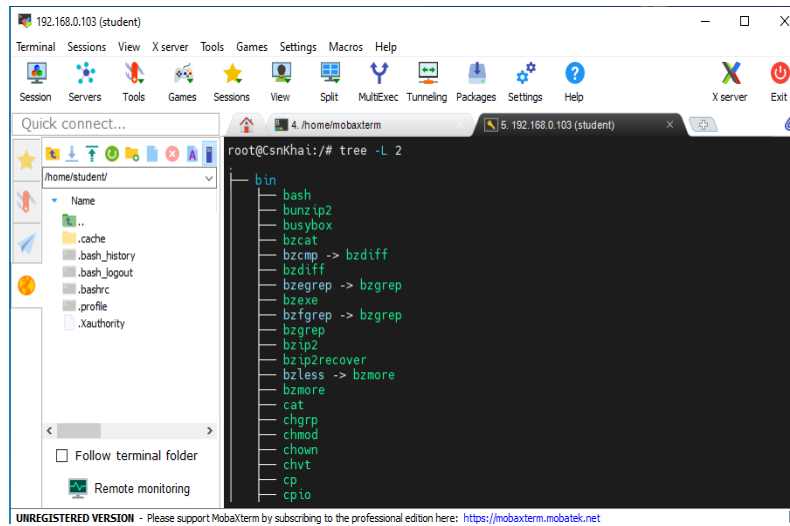


\$ tree -P [[pattern]*/[*pattern]]/[[*pattern*]].

```
$ tree -P *bash*
```

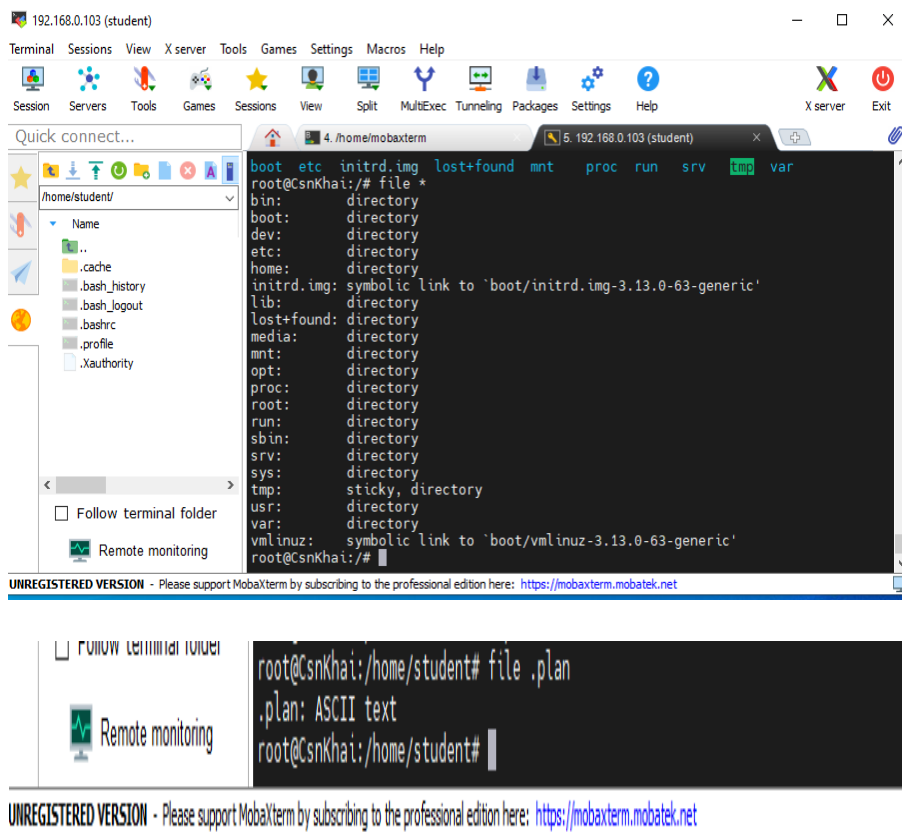


To limit the maximum depth of the directory tree display, the -L option is used with the addition of a digital depth indication:



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

\$ file [options] file1 ...

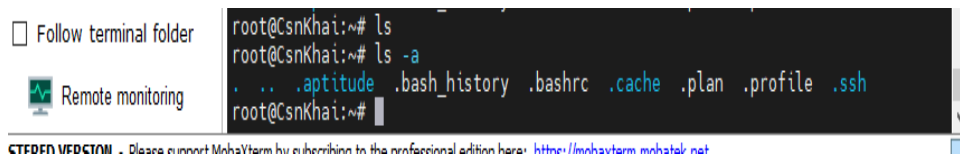


3) Master the skills of navigating the file system using relative and absolute paths. How can you go back to your home directory from anywhere in the filesystem?

\$ cd

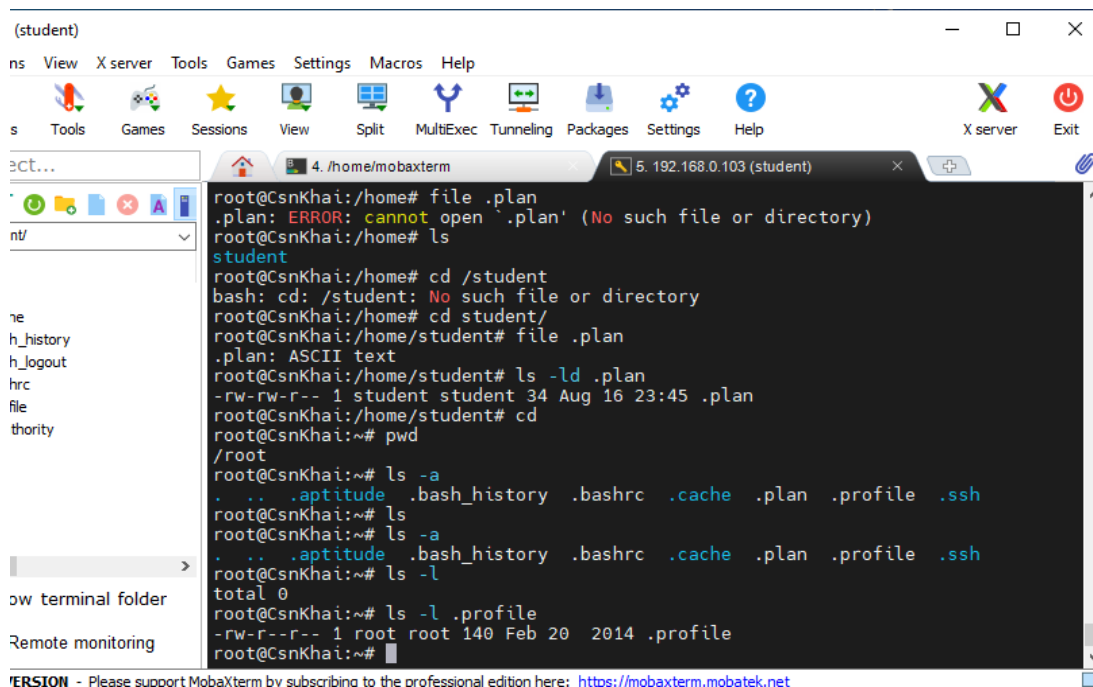
4) Become familiar with the various options for the **ls** command. Give examples of listing directories using different keys. Explain the information displayed on the terminal using the **-l** and **-a** switches.

By default, the **ls** command does not show hidden files (files whose names begin with a dot **.**). To show all files, including hidden ones, use the **-a** option:



```
root@CsnKhai:~# ls
root@CsnKhai:~# ls -a
.  .. .aptitude .bash_history .bashrc .cache .plan .profile .ssh
root@CsnKhai:~#
```

The output will contain information about the file type, permissions, number of references to it, owner, group, size, date, and file name:



```
(student)
ns View X server Tools Games Settings Macros Help
s Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
5. 192.168.0.103 (student)
root@CsnKhai:/home# file .plan
.plan: ERROR: cannot open '.plan' (No such file or directory)
root@CsnKhai:/home# ls
student
root@CsnKhai:/home# cd /student
bash: cd: /student: No such file or directory
root@CsnKhai:/home# cd student/
root@CsnKhai:/home/student# file .plan
.plan: ASCII text
root@CsnKhai:/home/student# ls -ld .plan
-rw-rw-r-- 1 student student 34 Aug 16 23:45 .plan
root@CsnKhai:/home/student# cd
root@CsnKhai:~# pwd
/root
root@CsnKhai:~# ls -a
.  .. .aptitude .bash_history .bashrc .cache .plan .profile .ssh
root@CsnKhai:~# ls
.  .. .aptitude .bash_history .bashrc .cache .plan .profile .ssh
root@CsnKhai:~# ls -a
.  .. .aptitude .bash_history .bashrc .cache .plan .profile .ssh
root@CsnKhai:~# ls -l
total 0
root@CsnKhai:~# ls -l .profile
-rw-r--r-- 1 root root 140 Feb 20 2014 .profile
root@CsnKhai:~#
```

5) Perform the following sequence of operations:

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

```
root@CsnKhai:~# ls -a -l > /home/student/lab1/text
```

- view the created file:

```
root@CsnKhai:~# cat /home/student/lab1/text
total 40
drwx----- 5 root root 4096 Aug 17 04:16 .
drwxr-xr-x 21 root root 4096 Sep 15 2015 ..
drwx----- 2 root root 4096 Sep 15 2015 .aptitude
-rw----- 1 root root 1193 Aug 17 03:47 .bash_history
-rw-r--r-- 1 root root 3106 Feb 20 2014 .bashrc
drwx----- 2 root root 4096 Sep 15 2015 .cache
-rw-r--r-- 1 root root 34 Aug 16 23:28 .plan
-rw-r--r-- 1 root root 140 Feb 20 2014 .profile
drwx----- 2 root root 4096 Sep 15 2015 .ssh
-rw-r--r-- 1 root root 498 Aug 17 04:16 text
root@CsnKhai:~#
```

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

\$ cp text /home/student/text_copy1

\$ cp text ..

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

- delete the file copied to the home directory:

```
root@CsnKhai:/home/student# ls
lab1 text text_copy1
root@CsnKhai:/home/student# rm -r lab1
root@CsnKhai:/home/student# ls
text text_copy1
root@CsnKhai:/home/student# rm text text_copy1
root@CsnKhai:/home/student# ls
root@CsnKhai:/home/student#
```

6) Perform the following sequence of operations:

- create a subdirectory **test** in the home directory;

- copy the **.bash_history** file to this directory while changing its name to **labwork2**;
- create a hard and soft link to the **labwork2** file in the test subdirectory;
- how to define soft and hard link, what do these concepts;
- change the data by opening a symbolic link. What changes will happen and why
- rename the hard link file to **hard_lnk_labwork2**;
- rename the soft link file to **symb_lnk_labwork2** file;
- then delete the **labwork2**. What changes have occurred and why?



```

root@CsnKhai:/home/student# mkdir test
root@CsnKhai:/home/student# find / -name "bash_history"
root@CsnKhai:/home/student# find / -name "*bash_history"
/home/student/.bash_history
/root/.bash_history
root@CsnKhai:/home/student# cp .bash_history test/ labwork2
cp: target 'labwork2' is not a directory
root@CsnKhai:/home/student# cp .bash_history test/labwork2
root@CsnKhai:/home/student# ln labwork2 hard_labwork2
ln: failed to access 'labwork2': No such file or directory
root@CsnKhai:/home/student# cd test
root@CsnKhai:/home/student/test# ln labwork2 hard_labwork2
root@CsnKhai:/home/student/test# ln -s labwork2 symb_labwork2
root@CsnKhai:/home/student/test#

```

- 7) Using the locate utility, find all files that contain the squid and traceroute sequence.
- 8) Determine which partitions are mounted in the system, as well as the types of these partitions.
- 9) Count the number of lines containing a given sequence of characters in a given file.
- 10) Using the **find** command, find all files in the /etc directory containing the **host** character sequence.
- 11) List all objects in /etc that contain the ss character sequence. How can I duplicate a similar command using a bunch of **grep**?
- 12) Organize a screen-by-screen print of the contents of the /etc directory. Hint: You must use stream redirection operations.
- 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.