Question 1: Write and execute the command for the following tasks:

1-create a new file "**yourname.txt**" on home directory, then type the following words on it "Welcome to our system ".

2- Display the file content on screen.

3- Display the file permissions.

4- Change the file to be allowed for all.

5- Move the file to the Document directory.

Answer:

```
File  Edit  View  Search  Terminal  Help
sara@ubuntu:~$ touch sara.txt
sara@ubuntu:~$ echo "welcome to our system">>sara.txt
sara@ubuntu:~$ cat sara.txt
welcome to our system
sara@ubuntu:~$ ls -l sara.txt
-rw-r--r-- 1 sara sara 22 Nov 22 14:26 sara.txt
sara@ubuntu:~$ chmod 777 sara.txt
sara@ubuntu:~$ ls -l sara.txt
-rwxrwxrwx 1 sara sara 22 Nov 22 14:26 sara.txt
sara@ubuntu:~$ mv sara.txt Documents
sara@ubuntu:~$ cd Documents
sara@ubuntu:~/Documents$ ls -l
total 16
-rw-r--r-- 1 root sara   15 Oct 25 16:15 do.txt
-rwxrwxrwx 1 sara sara   11 Nov  1 13:37 goodfile.txt
drwxr-xr-x 2 sara sara 4096 Oct  5 14:05 sara
-rwxrwxrwx 1 sara sara   22 Nov 22 14:26 sara.txt
sara@ubuntu:~/Documents$
```

Question 2: Write the command for the following tasks:

1- Display a message on the screen say: Hello in Linux

```
sara@ubuntu:~$ echo "Hello in Linux"
Hello in Linux
```

2- Display all files and directories with long description.

```
File  Edit  View  Search  Terminal  Help
sara@ubuntu:~$ ls -l
total 60
drwxr-xr-x 2 sara sara 4096 Nov  8 15:42 Desktop
drwxr-xr-x 3 sara sara 4096 Nov 22 14:29 Documents
drwxr-xr-x 2 sara sara 4096 Nov  8 15:14 Downloads
-rw-r--r-- 1 sara sara 8980 Oct  5 13:37 examples.desktop
drwxr-xr-x 2 sara sara 4096 Nov  8 14:20 foldry
drwxr-xr-x 3 sara sara 4096 Nov 15 13:20 Music
-rw-rw-r-- 1 sara sara   11 Nov 22 13:51 myssfil.txt
drwxr-xr-x 3 sara sara 4096 Nov  8 15:36 Pictures
-rw-r--r-- 1 sara sara  110 Nov 15 14:01 profile.txt
drwxr-xr-x 2 sara sara 4096 Oct  5 13:50 Public
-rw-r--r-- 1 sara sara   51 Nov 15 13:35 red.txt
drwxr-xr-x 3 sara sara 4096 Oct 18 15:49 Templates
drwxr-xr-x 2 sara sara 4096 Nov  8 15:32 Videos
sara@ubuntu:~$
```

3- Create a file, type something on it, replace the text with the following **“Linux Lessons for beginners”?**

```
File  Edit  View  Search  Terminal  Help
sara@ubuntu:~$ touch linuxfl.txt
sara@ubuntu:~$ echo "hello linux">>linuxfl.txt
sara@ubuntu:~$ cat linuxfl.txt
hello linux
sara@ubuntu:~$ echo "linux lesson for beginners">linuxfl.txt
sara@ubuntu:~$ ls -l linuxfl.txt
-rw-r--r-- 1 sara sara 27 Nov 22 14:40 linuxfl.txt
sara@ubuntu:~$ cat linuxfl.txt
linux lesson for beginners
sara@ubuntu:~$
```

1.Update your system ?

```
sara@ubuntu:~$ sudo apt update
Get:1 http://security.ubuntu.com/ubuntu
Hit:2 http://us.archive.ubuntu.com/ubunt
Get:3 http://us.archive.ubuntu.com/ubunt
Get:4 http://security.ubuntu.com/ubuntu
Get:5 http://security.ubuntu.com/ubuntu
Get:6 http://us.archive.ubuntu.com/ubunt
Get:7 http://security.ubuntu.com/ubuntu
Fetched 364 kB in 1s (249 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
```

2.Enter the system as administrator ?

```
File  Edit  View  Search  Terminal  Help
sara@ubuntu:~$ sudo -i
root@ubuntu:~#
```

3.Create a new directory on Music directory, create a new file on it, then delete the directory ?

```
logout
sara@ubuntu:~$ cd Music
sara@ubuntu:~/Music$ mkdir folders
sara@ubuntu:~/Music$ cd folders
sara@ubuntu:~/Music/folders$ touch myff.txt
sara@ubuntu:~/Music/folders$ ls
myff.txt
sara@ubuntu:~/Music/folders$ cd
sara@ubuntu:~$ cd Music
sara@ubuntu:~/Music$  rm -r folders
sara@ubuntu:~/Music$ ls
alpha.txt  do.txt  filnew.txt  goodfile.txt  myfoly
sara@ubuntu:~/Music$
```

4.Display the system name on screen ?

```
sara@ubuntu:~$ uname
Linux
sara@ubuntu:~$
```

5.Print the working directory?

```
sara@ubuntu:~$ pwd
/home/sara
```

9. Create a new file “alpha.txt” then add the following :

A is for Apple

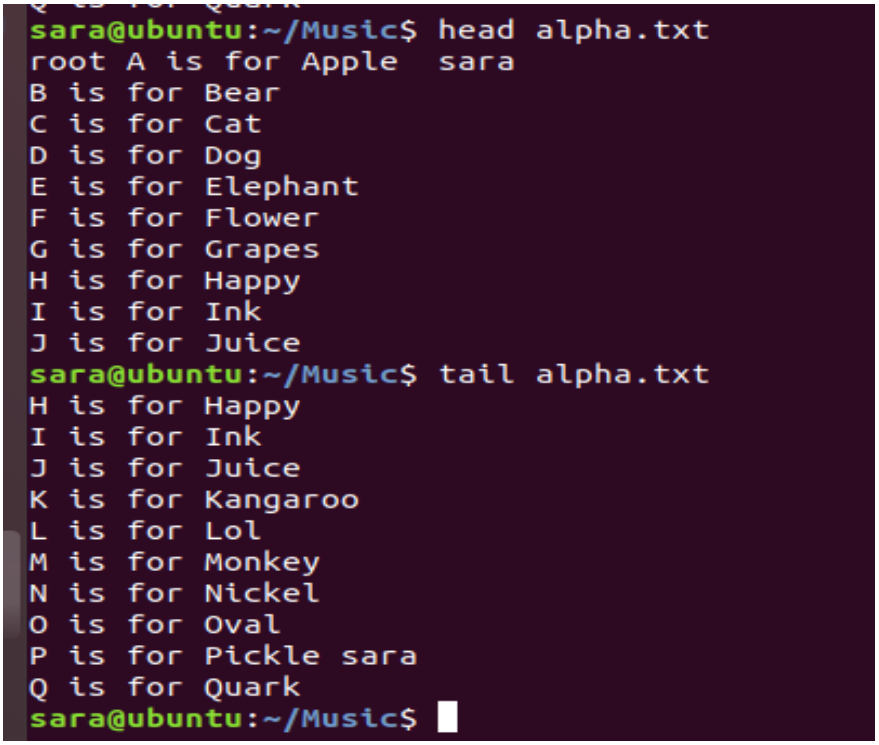
B is for Bear

C is for Cat
D is for Dog
E is for Elephant
F is for Flower
G is for Grapes

H is for Happy
I is for Ink
J is for Juice
K is for Kangaroo
L is for Lol
M is for Monkey
N is for Nickel
O is for Oval
P is for Pickle
Q is for Quark

10-Diplay the above file content as the following:

- Display the full content
- Display the first 10 rows
- Display the last 10 rows
- Display the last and first 5 rows



```
Q is for Quark
sara@ubuntu:~/Music$ head  -n 5 alpha.txt
root A is for Apple  sara
B is for Bear
C is for Cat
D is for Dog
E is for Elephant
sara@ubuntu:~/Music$ tail -n 5 alpha.txt
M is for Monkey
N is for Nickel
O is for Oval
P is for Pickle sara
Q is for Quark
```

11. Change the owner for the above file to the root, then display this on screen?

```
File  Edit  View  Search  Terminal  Help
sara@ubuntu:~$ sudo chown root Music/alpha.txt
sara@ubuntu:~$ ls -l Music/alpha.txt
-rwxrw-r-- 1 root sara 286 Nov 15 13:20 Music/alpha.txt
sara@ubuntu:~$
```

12. Display the current date and time?

```
sara@ubuntu:~$ date
Mon Nov 22 15:06:31 PST
sara@ubuntu:~$
```

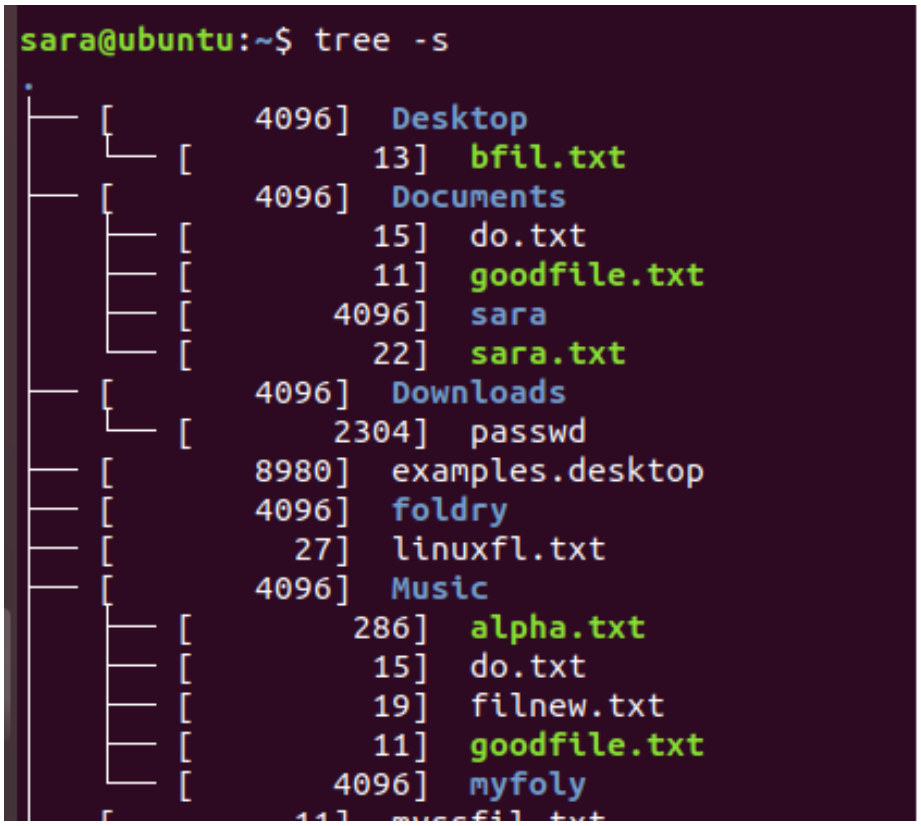
13.View the history list of a terminal?

```
sara@ubuntu:~$ history
    1  ls
    2  ls Documents
    3  ls Downloads
    4  aptitude
    5  ls-1
    6  ls -1
    7  ls -l
    8  ls -rl
    9  aptitude moo
   10  install aptitude
   11  pwd
   12  ls
   13  ls desktop
   14  ls downloads
   15  aptitude
   16  aptitude moo
   17  sudo apt
   18  ls -1
   19  ls -l
   20  ls -r
   21  ls -l
   22  ls
   23  ls -rl
```

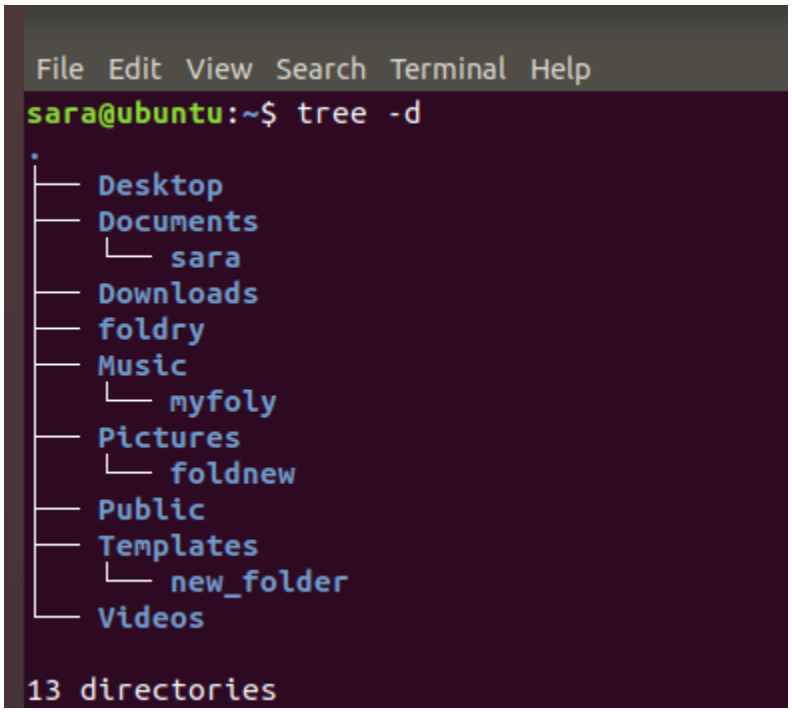
14. Display all options for the command tree?

```
sara@ubuntu:~$ tree --help
usage: tree [-acdfghilnpqrstuvxACDFJQNSUX] [-H baseHREF] [-T title ]
       [-L level [-R]] [-P pattern] [-I pattern] [-o filename] [--version]
       [--help] [--inodes] [--device] [--noreport] [--nolinks] [--dirsfirst]
       [--charset charset] [--filelimit[=]#] [--si] [--timefmt[=]<f>]
       [--sort[=]<name>] [--matchdirs] [--ignore-case] [--] [<directory list>]
  ------- Listing options -------
  -a            All files are listed.
  -d            List directories only.
  -l            Follow symbolic links like directories.
  -f            Print the full path prefix for each file.
  -x            Stay on current filesystem only.
  -L level      Descend only level directories deep.
  -R            Rerun tree when max dir level reached.
```

15.View the directories and files hierarchically with the size ?



16.Display only the directories on screen?

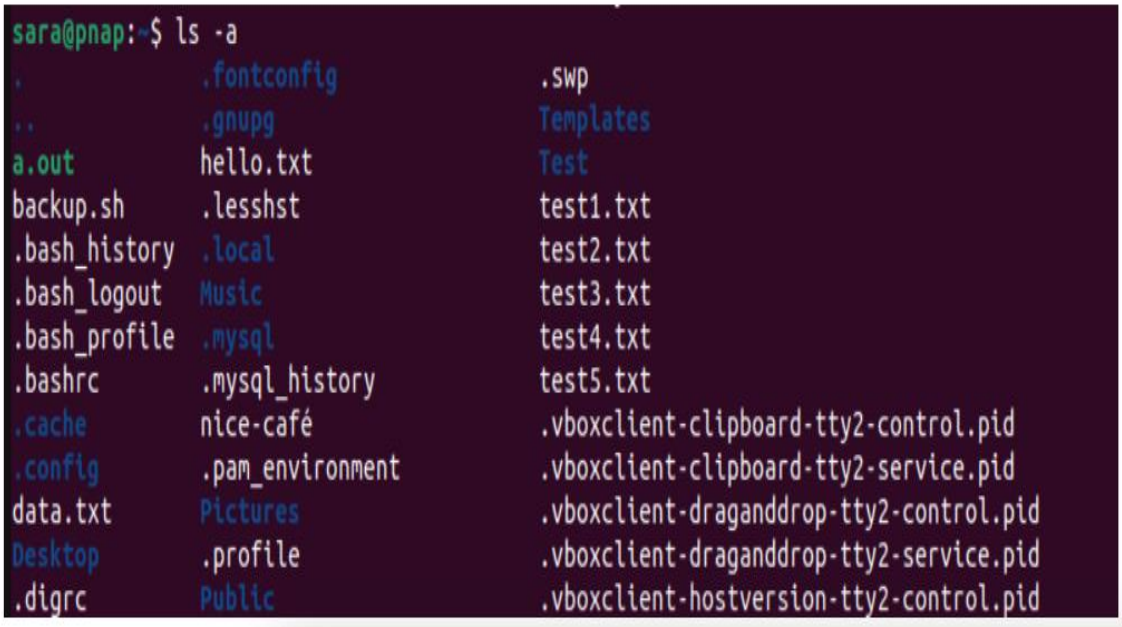


17.Display hidden files along with directories and files?

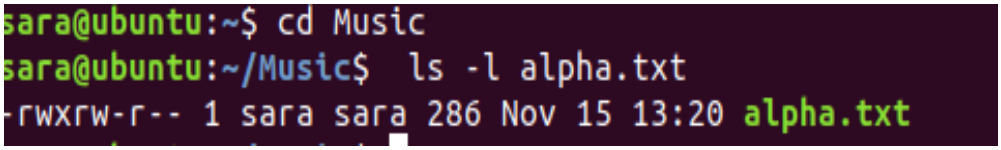
Or :

```
ls -a
```

Copy



Question 3: Explain the following lines:



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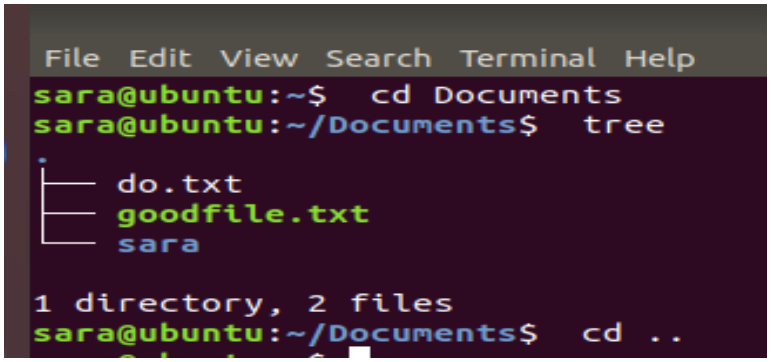

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Question 4:Choose the correct answer

1)Which command will print your current location in the filesystem?

A. pcl B. cd C. pwd D. pd

2)-To clear the terminal screen by the following command**?**

A. delete B. cd C. clear D. reset

3)- The home directory of the current user is represented by the ------ character.

A. # B. & C. ~ D. cd

4)- to sort the files by timestamp by --------?

A. -l B. -t C. -s D. -o

5)- The --------option will sort the files by file size?

A. -l B. -t C. -h D. -s

6)- to logout from the root user by the ---------- command?

A. exit B. out C. grep D. rm

==========

Answer the following questions:

1. What is an **Operating System (OS)?**

An operating system (OS) is a set of programs that control the execution of application programs and act as a mediator between a user of a computer and the computer hardware. OS is software that manages the computer hardware as well as providing an environment for application programs to run.

2. Mention the functions of **Operating System (OS)?**
   - Implementing user interface.
   - Sharing files among users.
   - Allowing users to share data among themselves.
   - Preventing users from interfering with one another.
   - Scheduling resource among users.
   - Facilitating I/O operations.
   - Recovering from errors.
   - Accounting for resource storage.
   - Facilitating parallel operations.

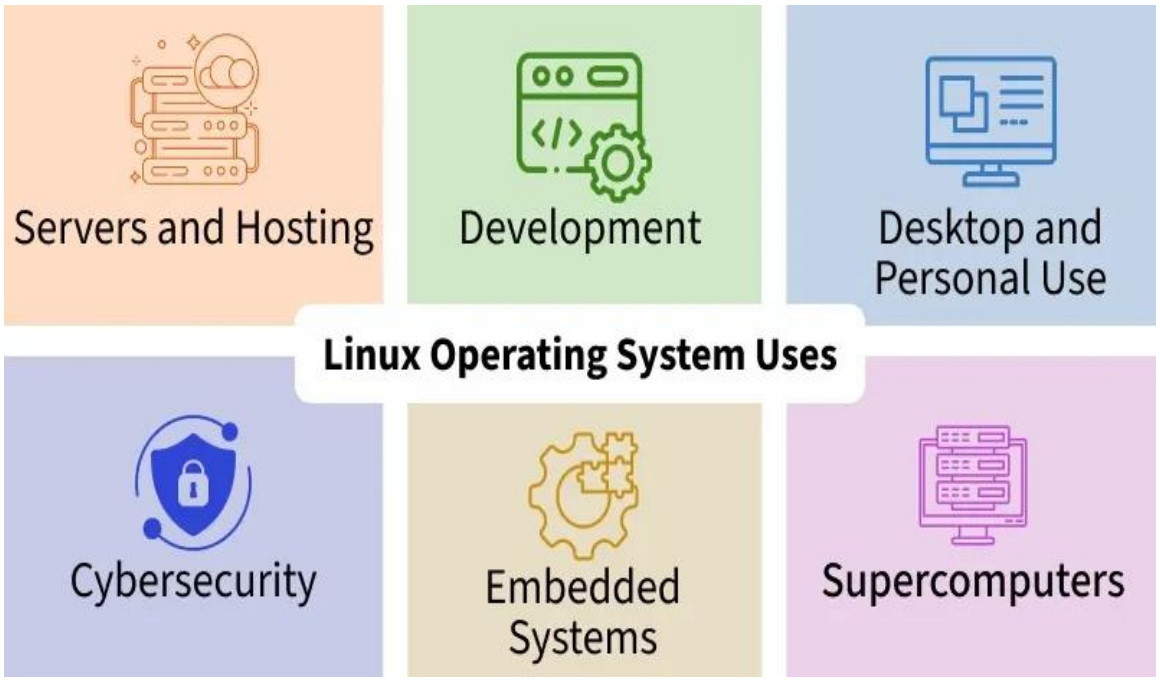
3. **What is Linux Operating System?**

   Linux is an open-source, Unix-like operating system that manages computer hardware and software resources. It provides a stable, secure, and multitasking environment for users and applications.

4. **What is a "distribution?"**

   Linux distribution is an operating system that is made up of a collection of software based on Linux kernel or you can say distribution contains the Linux kernel and supporting libraries and software.

5. Mention **Linux Operating System uses?**



6. What is a **Kernel** in an operating system?

   A kernel is the core component of an operating system, acting as the bridge between the system's hardware and software. The kernel manages system resources and facilitates the interactions between hardware and software components

7. Define a shell?

   The shell is the user interface of the Linux Operating System. It allows users to interact with the system by entering commands, which the shell interprets and executes. The shell serves as a bridge between the user and the kernel, forwarding the user's requests to the kernel for processing.

8. What is a Linux command and mention some commands examples?

   A Linux command is an instruction given to the Linux operating system to perform a specific task such as creating files, listing directories, or managing processes.

   - ls → lists files and directories
   - cd → changes the current directory
   - mkdir → creates a new directory
   - rm → removes files or directories