

OS LAB 1:

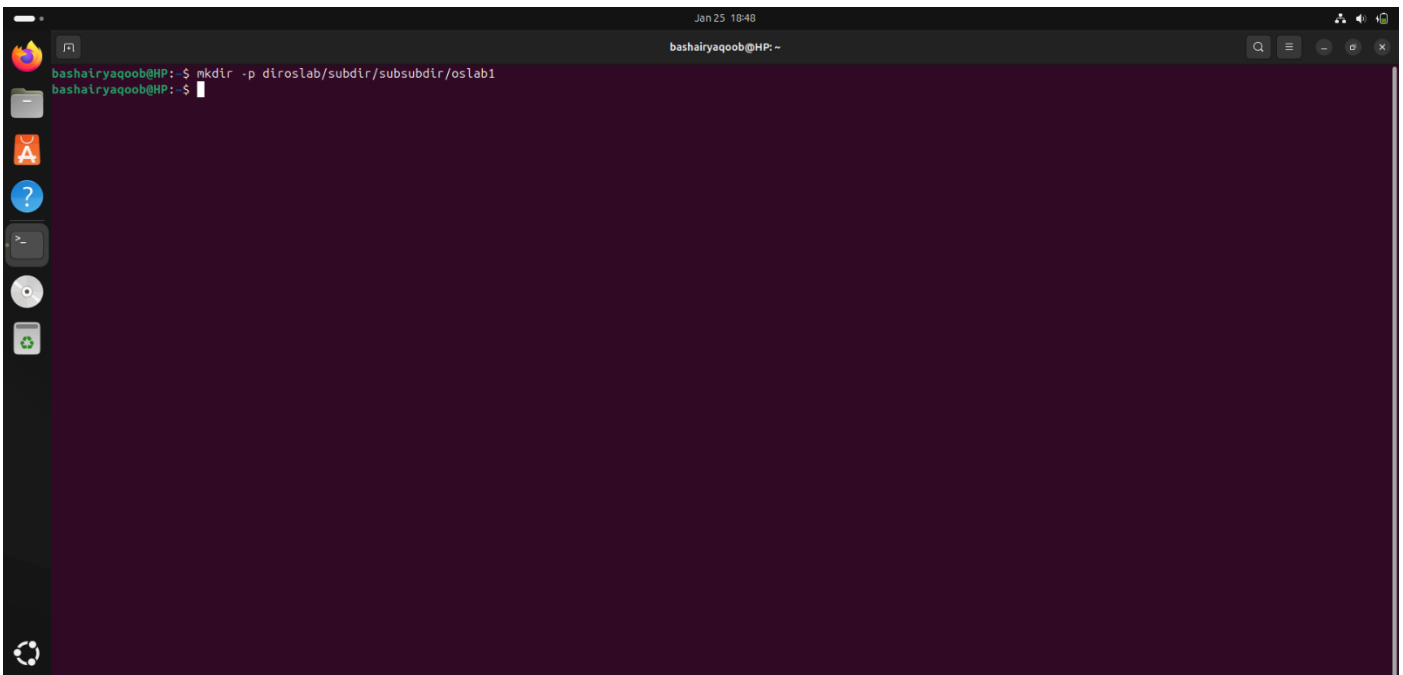
24k-0810

Q1: User Account:

- Create a group name 'OSLAB01'
- Create a user account 'OSUser1' and 'OSUser2' and add it to the group which is created in 'a'
- Also add the newly created user to group 'sudo'
- Login in to that user using terminal

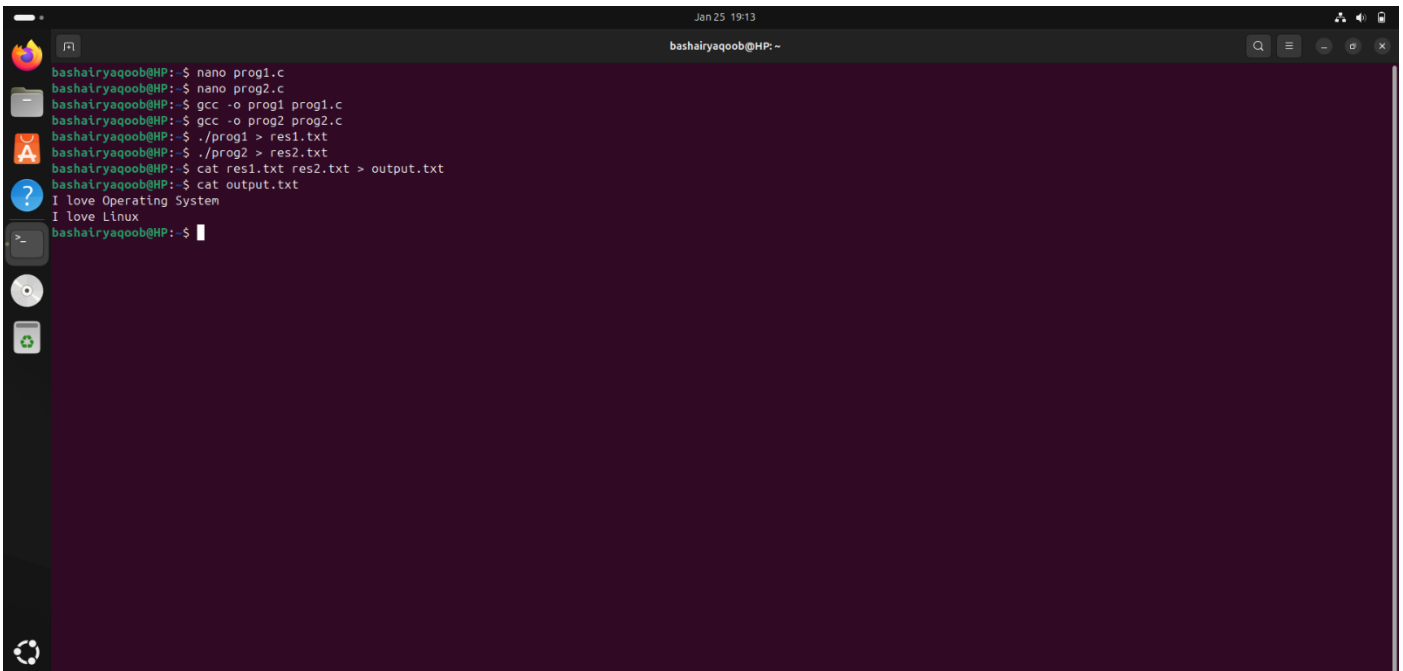
```
osuser1@HP: /home/bashairyaqoob
bashairyaqoob@HP:~$ sudo addgroup oslab01
info: Selecting GID from range 1000 to 59999 ...
info: Adding group 'oslab01' (GID 1001) ...
bashairyaqoob@HP:~$ sudo adduser osuser1
info: Adding user 'osuser1' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'osuser1' (1002) ...
info: Adding new user 'osuser1' (1002) with group 'osuser1 (1002)' ...
info: Creating home directory '/home/osuser1' ...
info: Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for osuser1
Enter the new value, or press ENTER for the default
    Full Name []: BY
    Room Number []: 5
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
info: Adding new user 'osuser1' to supplemental / extra groups 'users' ...
info: Adding user 'osuser1' to group 'users' ...
bashairyaqoob@HP:~$ sudo adduser osuser2
info: Adding user 'osuser2' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'osuser2' (1003) ...
info: Adding new user 'osuser2' (1003) with group 'osuser2 (1003)' ...
info: Creating home directory '/home/osuser2' ...
info: Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for osuser2
Enter the new value, or press ENTER for the default
    Full Name []: RY
    Room Number []: 4
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
info: Adding new user 'osuser2' to supplemental / extra groups 'users' ...
info: Adding user 'osuser2' to group 'users' ...
bashairyaqoob@HP:~$ sudo adduser osuser2
info: Adding user 'osuser2' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group 'osuser2' (1003) ...
info: Adding new user 'osuser2' (1003) with group 'osuser2 (1003)' ...
info: Creating home directory '/home/osuser2' ...
info: Copying files from '/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for osuser2
Enter the new value, or press ENTER for the default
    Full Name []: RY
    Room Number []: 4
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] Y
info: Adding new user 'osuser2' to supplemental / extra groups 'users' ...
info: Adding user 'osuser2' to group 'users' ...
bashairyaqoob@HP:~$ sudo usermod -aG sudo osuser2
bashairyaqoob@HP:~$ su osuser1
Password:
osuser1@HP: /home/bashairyaqoob$
```

Q2: Create the following directories with one command. dirOSLAB -> subDir -> subsubdir -> OSLAB1

A terminal window with a dark purple background. The prompt is 'bashairyaqoob@HP: ~'. The command 'mkdir -p diroslab/subdir/subsubdir/oslab1' has been entered and executed. The prompt is now 'bashairyaqoob@HP: ~\$'.

```
bashairyaqoob@HP: ~$ mkdir -p diroslab/subdir/subsubdir/oslab1
bashairyaqoob@HP: ~$
```

Q3: Write 2 C programs. One prints “I love Operating Systems” and other prints “I love Linux”. Compile and Run both programs and print the output to two different files. After then combine both the files in one new file using a single command.

A terminal window with a dark purple background. The prompt is 'bashairyaqoob@HP: ~'. The user has created two C programs, compiled them, and run them, saving the output to files. The final output shows the contents of the combined file 'output.txt'.

```
bashairyaqoob@HP: ~$ nano prog1.c
bashairyaqoob@HP: ~$ nano prog2.c
bashairyaqoob@HP: ~$ gcc -o prog1 prog1.c
bashairyaqoob@HP: ~$ gcc -o prog2 prog2.c
bashairyaqoob@HP: ~$ ./prog1 > res1.txt
bashairyaqoob@HP: ~$ ./prog2 > res2.txt
bashairyaqoob@HP: ~$ cat res1.txt res2.txt > output.txt
bashairyaqoob@HP: ~$ cat output.txt
I love Operating System
I love Linux
bashairyaqoob@HP: ~$
```

Q4: Perform the following activity

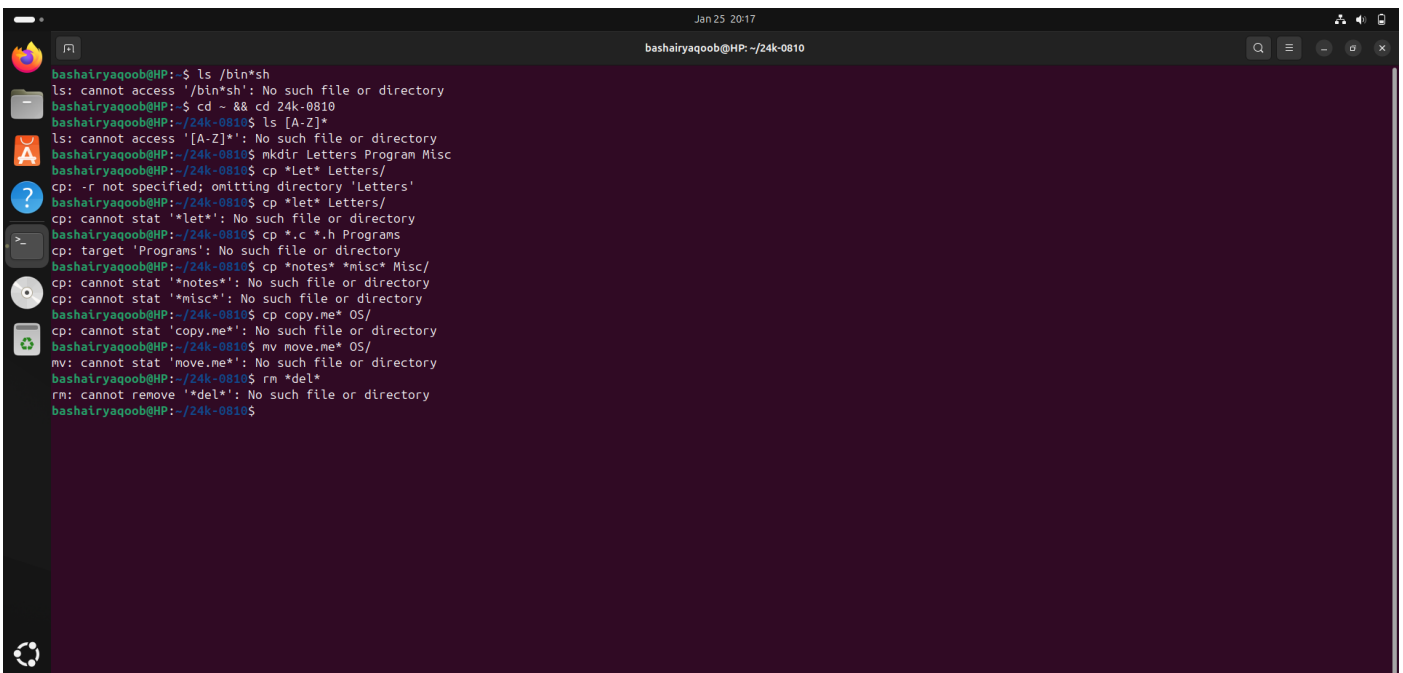
- Create user ‘abc’
- Create a file ‘file1.txt’
- Change the owner of the file to newly created user “abc”

- d. Rename a file 'file1.txt'
- e. Create a file with timestamp
- f. Make a copy of /proc directory
- g. Write a command to delete non-empty directories.
- h. Create a dummy file and then change the ownership of the dummy file.
- i. Determine the process id of the user from which you are logged in and then terminate that process. What happens after terminating the particular process id?
- j. List all files in the system having string 'lab' in their filenames.
- k. Determine the storage capacity utilized in the system.

```
Jan 25 19:53
bashairyaqoob@HP:~$ sudo useradd abc
bashairyaqoob@HP:~$ touch file1.txt
bashairyaqoob@HP:~$ sudo chown abc file1.txt
bashairyaqoob@HP:~$ ls
Desktop diroslab Documents Downloads file1.txt Music Pictures Public snap Templates Videos
bashairyaqoob@HP:~$ mv file1.txt re.txt
bashairyaqoob@HP:~$ touch filez$(date+%Y%m%d_%H%M%S)
date+%Y%m%d_%H%M%S: command not found
bashairyaqoob@HP:~$ touch filez$(date+%Y%m%d_%H%M%S)
date+%Y%m%d_%H%M%S: command not found
bashairyaqoob@HP:~$ touch filez$(date +%Y%m%d_%H%M%S)
bashairyaqoob@HP:~$ sudo cp -r /proc copyofproc
[sudo] password for bashairyaqoob:
cp: error reading '/proc/528/task/528/mem': Input/output error
cp: error reading '/proc/528/task/528/clear_refs': Invalid argument
^C
bashairyaqoob@HP:~$ ls
copyofproc Desktop diroslab Documents Downloads filez filez20260125_193405 Music Pictures Public re.txt snap Templates Videos
bashairyaqoob@HP:~$ rm -r copyofproc
rm: descend into write-protected directory 'copyofproc'? y
rm: descend into write-protected directory 'copyofproc/528'? y
rm: remove write-protected regular file 'copyofproc/528/envron'? y
rm: cannot remove 'copyofproc/528/envron': Permission denied
rm: descend into write-protected directory 'copyofproc/528/task'? ^C
bashairyaqoob@HP:~$ sudo rm -r copyofproc
bashairyaqoob@HP:~$ touch dummy.txt
bashairyaqoob@HP:~$ sudo chown abc dummy.txt
bashairyaqoob@HP:~$
```

```
Jan 25 19:57
bashairyaqoob@HP:~$ mv file1.txt re.txt
bashairyaqoob@HP:~$ touch filez$(date+%Y%m%d_%H%M%S)
date+%Y%m%d_%H%M%S: command not found
bashairyaqoob@HP:~$ touch filez$(date+%Y%m%d_%H%M%S)
date+%Y%m%d_%H%M%S: command not found
bashairyaqoob@HP:~$ touch filez$(date +%Y%m%d_%H%M%S)
bashairyaqoob@HP:~$ sudo cp -r /proc copyofproc
[sudo] password for bashairyaqoob:
cp: error reading '/proc/528/task/528/mem': Input/output error
cp: error reading '/proc/528/task/528/clear_refs': Invalid argument
^C
bashairyaqoob@HP:~$ ls
copyofproc Desktop diroslab Documents Downloads filez filez20260125_193405 Music Pictures Public re.txt snap Templates Videos
bashairyaqoob@HP:~$ rm -r copyofproc
rm: descend into write-protected directory 'copyofproc'? y
rm: descend into write-protected directory 'copyofproc/528'? y
rm: remove write-protected regular file 'copyofproc/528/envron'? y
rm: cannot remove 'copyofproc/528/envron': Permission denied
rm: descend into write-protected directory 'copyofproc/528/task'? ^C
bashairyaqoob@HP:~$ sudo rm -r copyofproc
bashairyaqoob@HP:~$ touch dummy.txt
bashairyaqoob@HP:~$ sudo chown abc dummy.txt
bashairyaqoob@HP:~$ echo $$
3550
bashairyaqoob@HP:~$ kill 3550
bashairyaqoob@HP:~$ ls lab*
ls: cannot access 'lab*': No such file or directory
bashairyaqoob@HP:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs            1.1G  1.5M   1.1G   1% /run
/dev/sda2        98G   11G   82G  12% /
tmpfs            5.4G   0     5.4G   0% /dev/shm
tmpfs            5.0M   8.0K   5.0M   1% /run/lock
Screenshots     183G  132G   51G   73% /media/sf_Screenshots
tmpfs            1.1G  140K   1.1G   1% /run/user/1000
/dev/sr0         51M    0     51M   0% /media/bashairyaqoob/VBox_GAs_7.2.4
bashairyaqoob@HP:~$
```

- Q5: a. List the files in the directory `/bin` that end in `.sh`.
- b. On one line, use the `cd` command to first go to your home directory then to the `<rollnumber>` subdirectory. [Ans: `cd /home`; `cd <rollnumber>`]
- c. What command lists the files in the current directory that begin with upper case letters?
- d. If they do not already exist, create three new directories `Letters`, `Programs`, and `Misc` using a single command
- e. Copy all files in the current directory whose names contain the character string `let` into the subdirectory `Letters`.
- f. Copy all files in the current directory whose names end in `.c` or `.h` into the subdirectory `Programs`.
- g. Copy all files in the current directory whose names contain the character strings `notes` or `misc` into the subdirectory `Misc`.
- h. Copy all files which begin with `copy.me` into the `OS` subdirectory. Move all files which begin with `move.me` into the `OS` subdirectory.
- i. Delete all files which contain the sequence `del`.



```
Jan 25 20:17
bashairyaqoob@HP: ~/24k-0810

bashairyaqoob@HP:~$ ls /bin/sh
ls: cannot access '/bin/sh': No such file or directory
bashairyaqoob@HP:~$ cd - && cd 24k-0810
bashairyaqoob@HP:~/24k-0810$ ls [A-Z]*
ls: cannot access '[A-Z]*': No such file or directory
bashairyaqoob@HP:~/24k-0810$ mkdir Letters Program Misc
bashairyaqoob@HP:~/24k-0810$ cp *let* Letters/
cp: -r not specified; omitting directory 'Letters'
bashairyaqoob@HP:~/24k-0810$ cp *let* Letters/
cp: cannot stat '*let*': No such file or directory
bashairyaqoob@HP:~/24k-0810$ cp *.c *.h Programs
cp: target 'Programs': No such file or directory
bashairyaqoob@HP:~/24k-0810$ cp *notes* *misc* Misc/
cp: cannot stat '*notes*': No such file or directory
cp: cannot stat '*misc*': No such file or directory
bashairyaqoob@HP:~/24k-0810$ cp copy.me* OS/
cp: cannot stat 'copy.me*': No such file or directory
bashairyaqoob@HP:~/24k-0810$ mv move.me* OS/
mv: cannot stat 'move.me*': No such file or directory
bashairyaqoob@HP:~/24k-0810$ rm *del*
rm: cannot remove '*del*': No such file or directory
bashairyaqoob@HP:~/24k-0810$
```