1. **In the home directory, created a directory named LinuxAssignment using mkdir**

cdac@Legion:~$ pwd

/home/cdac

cdac@Legion:~$ ls -l

total 4

drwxr-xr-x 6 cdac cdac 4096 Aug 28 02:23 practice

cdac@Legion:~$

cdac@Legion:~$ mkdir LinuxAssignment

cdac@Legion:~$

1. **Created a new file file1.txt in LinuxAssignment dir using touch**

cdac@Legion:~$ cd LinuxAssignment

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ touch file1.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls -l

total 0

-rw-r--r-- 1 cdac cdac 0 Aug 28 12:33 file1.txt

cdac@Legion:~/LinuxAssignment$

**Displayed contents of fil1.txt using cat command but it was empty, so added a line test 123 in it using nano editor**

cdac@Legion:~/LinuxAssignment$ cat file1.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ nano file1.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ cat file1.txt

test 123

cdac@Legion:~/LinuxAssignment$

1. **Created a directory name docs inside LinuxAssignment**

cdac@Legion:~/LinuxAssignment$ mkdir docs

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls -l

total 8

drwxr-xr-x 2 cdac cdac 4096 Aug 28 12:35 docs

-rw-r--r-- 1 cdac cdac 9 Aug 28 12:34 file1.txt

1. **Copied the file file1.txt to docs folder using cp command**

cdac@Legion:~/LinuxAssignment$ cp file1.txt docs

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls -R

.:

docs file1.txt

./docs:

file1.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls -l

total 8

drwxr-xr-x 2 cdac cdac 4096 Aug 28 12:36 docs

-rw-r--r-- 1 cdac cdac 9 Aug 28 12:34 file1.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ cd docs

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ ls -l

total 4

-rw-r--r-- 1 cdac cdac 9 Aug 28 12:36 file1.txt

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ cat file1.txt

test 123

cdac@Legion:~/LinuxAssignment/docs$

**Renamed the file file1.txt to file2.txt using mv command (works like cut paste)**

cdac@Legion:~/LinuxAssignment/docs$ mv file1.txt file2.txt

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ ls -l

total 4

-rw-r--r-- 1 cdac cdac 9 Aug 28 12:36 file2.txt

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ cat file2.txt

test 123

cdac@Legion:~/LinuxAssignment/docs$

1. **Gave (+) execute permission (x) to the owner (u) using chmod command. Now the owner has all permissions rwx. Group (g) and other users (o) have read only**

**r--**

cdac@Legion:~/LinuxAssignment/docs$ chmod u+x file2.txt

cdac@Legion:~/LinuxAssignment/docs$ ls -l

total 4

-rwxr--r-- 1 cdac cdac 9 Aug 28 12:36 file2.txt

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ pwd

/home/cdac/LinuxAssignment/docs

**Created another user named user1 using adduser command**

cdac@Legion:~/LinuxAssignment/docs$ sudo adduser user1

[sudo] password for cdac:

info: Adding user `user1' ...

info: Selecting UID/GID from range 1000 to 59999 ...

info: Adding new group `user1' (1003) ...

info: Adding new user `user1' (1003) with group `user1 (1003)' ...

info: Creating home directory `/home/user1' ...

info: Copying files from `/etc/skel' ...

New password:

Retype new password:

passwd: password updated successfully

Changing the user information for user1

Enter the new value, or press ENTER for the default

Full Name []: User1

Room Number []: 2

Work Phone []: 876

Home Phone []: 65

Other []:

Is the information correct? [Y/n] Y

info: Adding new user `user1' to supplemental / extra groups `users' ...

info: Adding user `user1' to group `users' ...

cdac@Legion:~/LinuxAssignment/docs$

cdac@Legion:~/LinuxAssignment/docs$ ls -l

total 4

-rwxr--r-- 1 cdac cdac 9 Aug 28 12:36 file2.txt

cdac@Legion:~/LinuxAssignment/docs$ whoami

cdac

cdac@Legion:~/LinuxAssignment/docs$ su user1

Password:

user1@Legion:/home/cdac/LinuxAssignment/docs$ whoami

user1

user1@Legion:/home/cdac/LinuxAssignment/docs$ ls -l

total 4

-rwxr--r-- 1 cdac cdac 9 Aug 28 12:36 file2.txt

user1@Legion:/home/cdac/LinuxAssignment/docs$ chown user1 file2.txt

chown: changing ownership of 'file2.txt': Operation not permitted

**To change owner of file2.txt from cdac to user1 using chown command, it needs to be done with the help of sudo command. But, we need to give sudo permission to the user1 in /etc/sudoers file as user1 is currently logged in.**

user1@Legion:/home/cdac/LinuxAssignment/docs$ sudo chown user1 file2.txt

[sudo] password for user1:

user1 is not in the sudoers file.

user1@Legion:/home/cdac/LinuxAssignment/docs$

user1@Legion:/home/cdac/LinuxAssignment/docs$ su cdac

Password:

cdac@Legion:~/LinuxAssignment/docs$ cd /

cdac@Legion:/$ ls -l

total 2156

lrwxrwxrwx 1 root root 7 Apr 22 13:08 bin -> usr/bin

drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged

drwxr-xr-x 2 root root 4096 Apr 22 13:08 boot

drwxr-xr-x 16 root root 3560 Aug 28 04:15 dev

drwxr-xr-x 87 root root 4096 Aug 28 12:42 etc

drwxr-xr-x 5 root root 4096 Aug 28 12:41 home

-rwxrwxrwx 1 root root 2127224 Apr 25 18:17 init

lrwxrwxrwx 1 root root 7 Apr 22 13:08 lib -> usr/lib

drwxr-xr-x 2 root root 4096 Apr 8 14:37 lib.usr-is-merged

lrwxrwxrwx 1 root root 9 Apr 22 13:08 lib64 -> usr/lib64

drwx------ 2 root root 16384 Aug 27 13:03 lost+found

drwxr-xr-x 2 root root 4096 Apr 23 15:28 media

drwxr-xr-x 5 root root 4096 Aug 27 13:03 mnt

drwxr-xr-x 2 root root 4096 Apr 23 15:28 opt

dr-xr-xr-x 236 root root 0 Aug 28 04:15 proc

drwx------ 4 root root 4096 Aug 27 13:03 root

drwxr-xr-x 19 root root 620 Aug 28 12:41 run

lrwxrwxrwx 1 root root 8 Apr 22 13:08 sbin -> usr/sbin

drwxr-xr-x 2 root root 4096 Mar 31 09:00 sbin.usr-is-merged

drwxr-xr-x 2 root root 4096 Aug 27 13:03 snap

drwxr-xr-x 2 root root 4096 Apr 23 15:28 srv

dr-xr-xr-x 11 root root 0 Aug 28 04:15 sys

drwxrwxrwt 12 root root 4096 Aug 28 12:27 tmp

drwxr-xr-x 12 root root 4096 Apr 23 15:28 usr

drwxr-xr-x 13 root root 4096 Aug 27 13:03 var

cdac@Legion:/$ cd etc

**Added sudo privilege for user1 like below in sudoers file in /etc**

**# User privilege specification**

**root ALL=(ALL:ALL) ALL**

**user1 ALL=(ALL:ALL) ALL**

cdac@Legion:/etc$ nano sudoers

cdac@Legion:/etc$ sudo nano sudoers

cdac@Legion:/etc$

cdac@Legion:/etc$ cd ~

cdac@Legion:~$ ls

LinuxAssignment practice

cdac@Legion:~$ cd LinuxAssignment/

cdac@Legion:~/LinuxAssignment$ cd docs

cdac@Legion:~/LinuxAssignment/docs$ ls -l

total 4

-rwxr--r-- 1 cdac cdac 9 Aug 28 12:36 file2.txt

**Switched user to the newly added user which is user1 using su command**

cdac@Legion:~/LinuxAssignment/docs$ su user1

Password:

user1@Legion:/home/cdac/LinuxAssignment/docs$ whoami

user1

**Changed ownership of the file file2.txt to current user user1 using chown command**

user1@Legion:/home/cdac/LinuxAssignment/docs$ sudo chown user1 file2.txt

user1@Legion:/home/cdac/LinuxAssignment/docs$

user1@Legion:/home/cdac/LinuxAssignment/docs$ ls -l

total 4

-rwxr--r-- 1 **user1** cdac 9 Aug 28 12:36 file2.txt

user1@Legion:/home/cdac/LinuxAssignment/docs$

**f) Listed all the contents of the LinuxAssignment Directory using ls -lR**

**(-l gives detailed information and -R shows all the subfolders and files inside them recursively)**

user1@Legion:/home/cdac/LinuxAssignment/docs$ ls -lR ../

../:

total 8

drwxr-xr-x 2 cdac cdac 4096 Aug 28 12:38 docs

-rw-r--r-- 1 cdac cdac 9 Aug 28 12:34 file1.txt

../docs:

total 4

-rwxr--r-- 1 user1 cdac 9 Aug 28 12:36 file2.txt

user1@Legion:/home/cdac/LinuxAssignment/docs$

**Listed the contents of the root directory /**

user1@Legion:/home/cdac/LinuxAssignment/docs$ ls -l /

total 2156

lrwxrwxrwx 1 root root 7 Apr 22 13:08 bin -> usr/bin

drwxr-xr-x 2 root root 4096 Feb 26 2024 bin.usr-is-merged

drwxr-xr-x 2 root root 4096 Apr 22 13:08 boot

drwxr-xr-x 16 root root 3560 Aug 28 04:15 dev

drwxr-xr-x 87 root root 4096 Aug 28 12:50 etc

drwxr-xr-x 5 root root 4096 Aug 28 12:41 home

-rwxrwxrwx 1 root root 2127224 Apr 25 18:17 init

lrwxrwxrwx 1 root root 7 Apr 22 13:08 lib -> usr/lib

drwxr-xr-x 2 root root 4096 Apr 8 14:37 lib.usr-is-merged

lrwxrwxrwx 1 root root 9 Apr 22 13:08 lib64 -> usr/lib64

drwx------ 2 root root 16384 Aug 27 13:03 lost+found

drwxr-xr-x 2 root root 4096 Apr 23 15:28 media

drwxr-xr-x 5 root root 4096 Aug 27 13:03 mnt

drwxr-xr-x 2 root root 4096 Apr 23 15:28 opt

dr-xr-xr-x 237 root root 0 Aug 28 04:15 proc

drwx------ 5 root root 4096 Aug 28 12:47 root

drwxr-xr-x 19 root root 620 Aug 28 12:41 run

lrwxrwxrwx 1 root root 8 Apr 22 13:08 sbin -> usr/sbin

drwxr-xr-x 2 root root 4096 Mar 31 09:00 sbin.usr-is-merged

drwxr-xr-x 2 root root 4096 Aug 27 13:03 snap

drwxr-xr-x 2 root root 4096 Apr 23 15:28 srv

dr-xr-xr-x 11 root root 0 Aug 28 12:46 sys

drwxrwxrwt 12 root root 4096 Aug 28 12:27 tmp

drwxr-xr-x 12 root root 4096 Apr 23 15:28 usr

drwxr-xr-x 13 root root 4096 Aug 27 13:03 var

user1@Legion:/home/cdac/LinuxAssignment/docs$

1. **a. Searched for files ending with .txt in the current directory and its sub directories using find command**

**Problem faced during this: Didn’t add “ “ while search for .txt due to which, it was not searching the sub directories.**

cdac@Legion:~/LinuxAssignment$ pwd

/home/cdac/LinuxAssignment

cdac@Legion:~/LinuxAssignment$ find . -name "\*.txt"

./docs/file2.txt

./file1.txt

**OR**

cdac@Legion:~/LinuxAssignment$ find ~/LinuxAssignment/ -name "\*.txt"

/home/cdac/LinuxAssignment/docs/file2.txt

/home/cdac/LinuxAssignment/file1.txt

cdac@Legion:~/LinuxAssignment$

**b. Displayed the line containing word test using grep command in the file file1.txt**

cdac@Legion:~/LinuxAssignment$ grep "test" file1.txt

test 123

cdac@Legion:~/LinuxAssignment$

1. **Displayed current system date and time using date command (in UTC by default)**

cdac@Legion:~/LinuxAssignment$ date

Wed Aug 28 14:24:03 UTC 2024

cdac@Legion:~/LinuxAssignment$

1. **Displayed IP address using hostname -I command**

cdac@Legion:~/LinuxAssignment$ hostname -I

172.28.37.117

cdac@Legion:~/LinuxAssignment$

**Also works with ifconfig**

cdac@Legion:~/LinuxAssignment$ ifconfig

eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500

inet **172.28.37.117** netmask 255.255.240.0 broadcast 172.28.47.255

1. **a. Compressed the docs directory into a .zip file using zip -r command. -r is necessary to include all the files in that directory into the zip file**

cdac@Legion:~/LinuxAssignment$ ls -l

total 8

drwxr-xr-x 2 cdac cdac 4096 Aug 28 13:03 docs

-rw-r--r-- 1 cdac cdac 13 Aug 28 14:21 file1.txt

cdac@Legion:~/LinuxAssignment$ ls -l docs

total 4

-rwxr--r-- 1 user1 cdac 9 Aug 28 12:36 file2.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ **zip -r docs.zip docs**

adding: docs/ (stored 0%)

adding: docs/file2.txt (stored 0%)

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls -l

total 12

drwxr-xr-x 2 cdac cdac 4096 Aug 28 13:03 docs

-rw-rw-r-- 1 cdac cdac 325 Aug 28 14:38 **docs.zip**

-rw-r--r-- 1 cdac cdac 13 Aug 28 14:21 file1.txt

cdac@Legion:~/LinuxAssignment$

**b. Extracted the contents of the zip file to a new directory new\_docs using unzip command with -d option**

cdac@Legion:~/LinuxAssignment$ unzip docs.zip -d new\_docs/

Archive: docs.zip

creating: new\_docs/docs/

extracting: new\_docs/docs/file2.txt

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ ls new\_docs/

docs

cdac@Legion:~/LinuxAssignment$ ls new\_docs/docs/

file2.txt

1. **a. Added another line of text in file1.txt using nano editor**

cdac@Legion:~/LinuxAssignment$ nano file1.txt

cdac@Legion:~/LinuxAssignment$ cat file1.txt

test 123

hello

cdac@Legion:~/LinuxAssignment$

**b.** **Replaced the word test with replaceKey in file1.txt using sed command**

cdac@Legion:~/LinuxAssignment$ cat file1.txt

test 123

hello

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ **sed -i 's/test/replaceKey/g' file1.txt**

cdac@Legion:~/LinuxAssignment$

cdac@Legion:~/LinuxAssignment$ cat file1.txt

**replaceKey** 123

hello

cdac@Legion:~/LinuxAssignment$