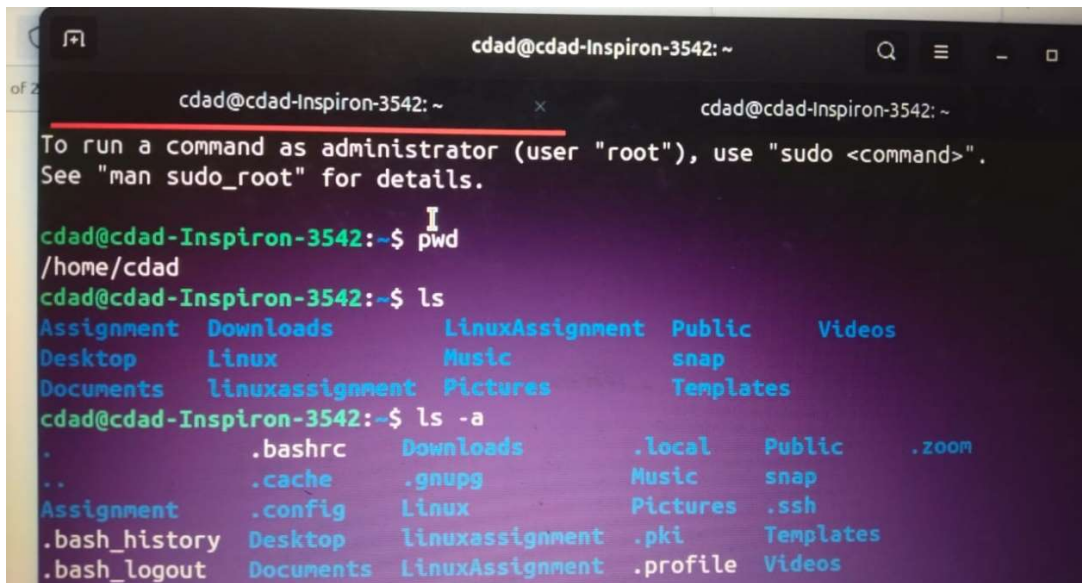


# Assignment 1

## Concepts of Operating System

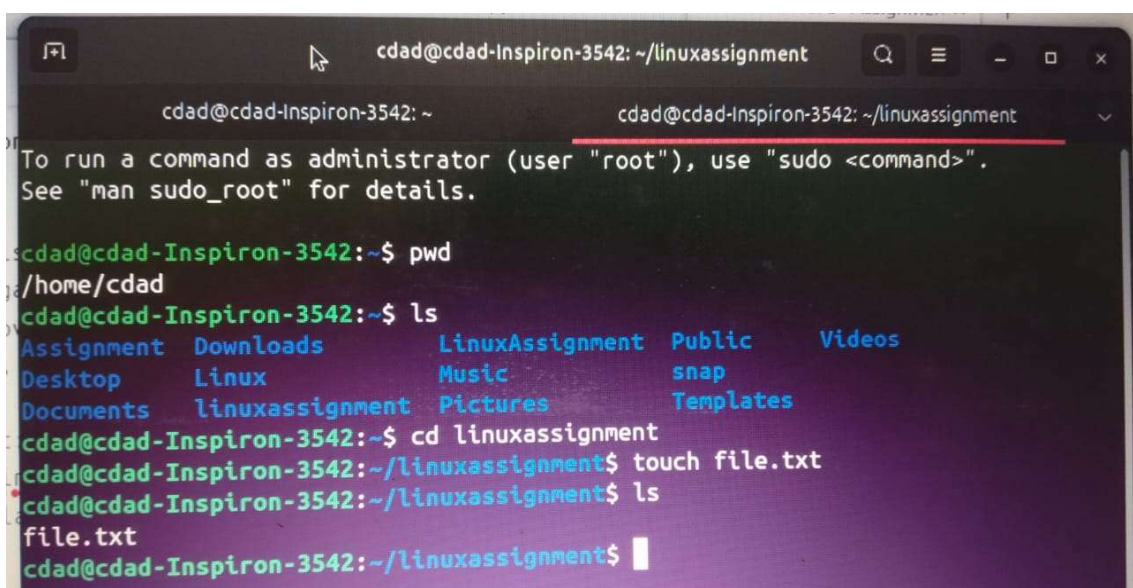
Problem 1: Read the instructions carefully and answer accordingly. If there is any need to insert some data then do that as well.

- a) Navigate and List: a. Start by navigating to your home directory and list its contents. Then, move into a directory named "LinuxAssignment" if it exists; otherwise, create it.



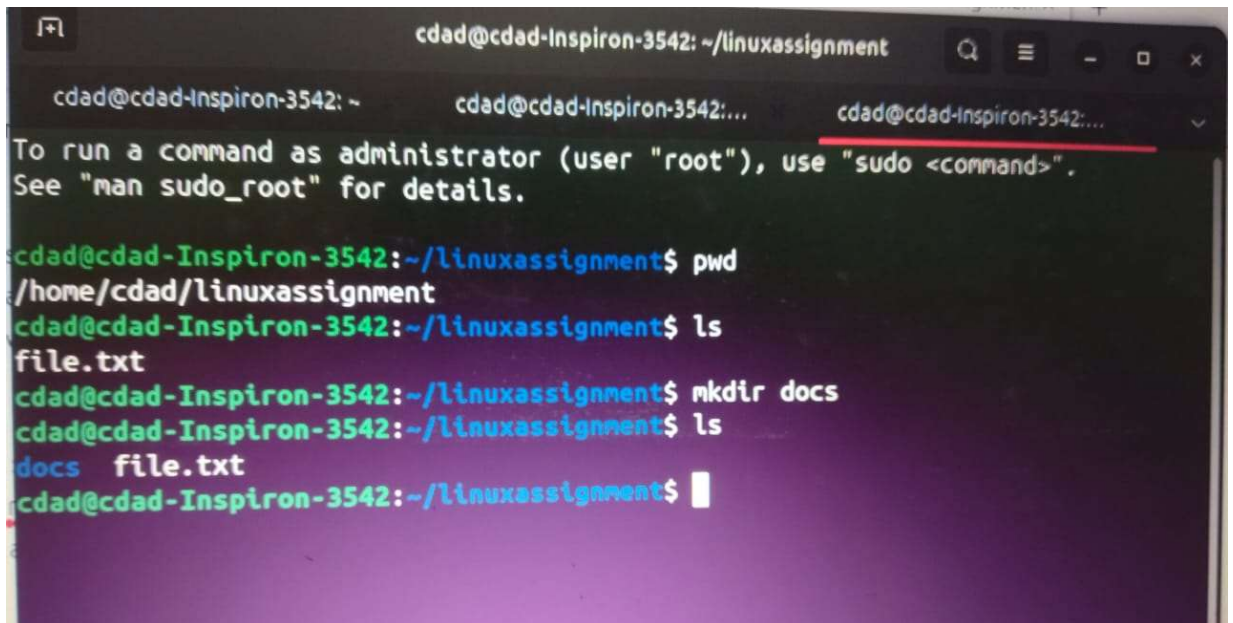
```
cdad@cdad-Inspiron-3542: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
cdad@cdad-Inspiron-3542:~$ pwd  
/home/cdad  
cdad@cdad-Inspiron-3542:~$ ls  
Assignment  Downloads      LinuxAssignment  Public      Videos  
Desktop      Linux          Music            snap  
Documents    linuxassignment Pictures          Templates  
cdad@cdad-Inspiron-3542:~$ ls -a  
.      .bashrc  Downloads  .local  Public  .zoom  
..     .cache   .gnupg     Music   snap  
Assignment .config  Linux      Pictures .ssh  
.bash_history Desktop  linuxassignment .pki   Templates  
.bash_logout Documents LinuxAssignment .profile Videos
```

- b) File Management: a. Inside the "LinuxAssignment" directory, create a new file named "file1.txt". Display its contents.



```
cdad@cdad-Inspiron-3542: ~/linuxassignment  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
cdad@cdad-Inspiron-3542:~$ pwd  
/home/cdad  
cdad@cdad-Inspiron-3542:~$ ls  
Assignment  Downloads      LinuxAssignment  Public      Videos  
Desktop      Linux          Music            snap  
Documents    linuxassignment Pictures          Templates  
cdad@cdad-Inspiron-3542:~$ cd linuxassignment  
cdad@cdad-Inspiron-3542:~/linuxassignment$ touch file.txt  
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls  
file.txt  
cdad@cdad-Inspiron-3542:~/linuxassignment$
```

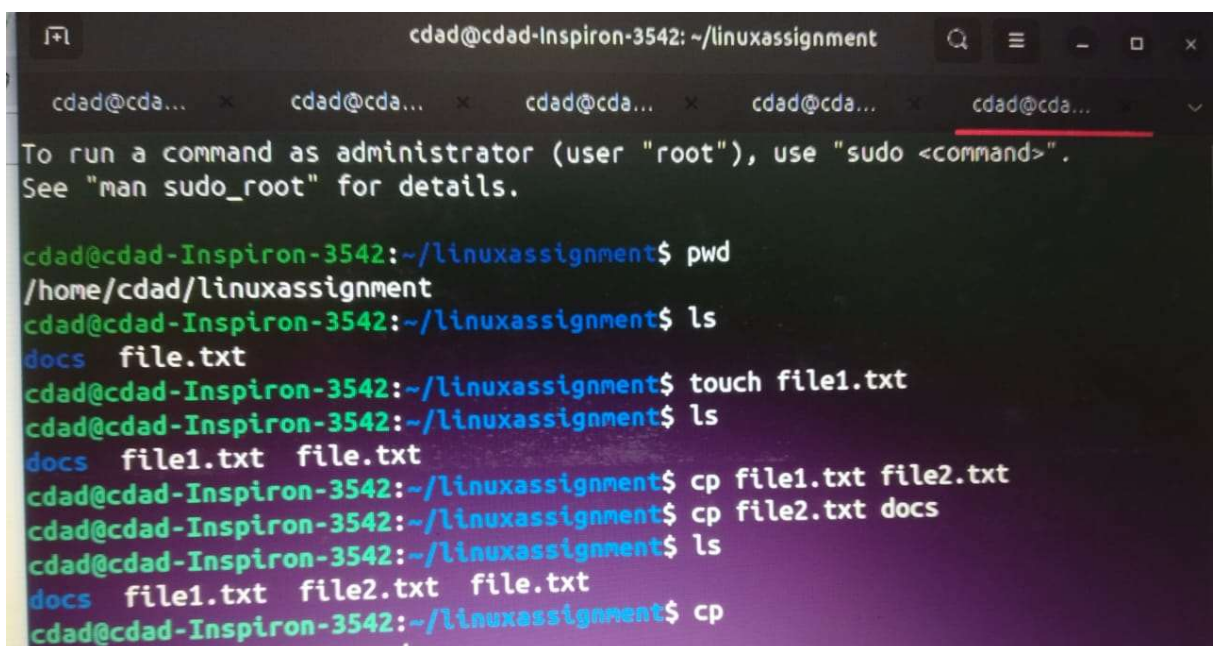
- c) Directory Management: a. Create a new directory named "docs" inside the "LinuxAssignment" directory.

A terminal window titled 'cdad@cdad-Inspiron-3542: ~/linuxassignment'. It shows the user running 'pwd' to confirm the current directory is '/home/cdad/linuxassignment', then 'ls' showing 'file.txt'. Next, 'mkdir docs' is run to create a new directory, and a subsequent 'ls' shows 'docs' and 'file.txt' in the current directory.

```
cdad@cdad-Inspiron-3542: ~/linuxassignment
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

cdad@cdad-Inspiron-3542:~/linuxassignment$ pwd
/home/cdad/linuxassignment
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ mkdir docs
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
docs file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$
```

- d) Copy and Move Files: a. Copy the "file1.txt" file into the "docs" directory and rename it to "file2.txt".

A terminal window showing the continuation of file management. The user runs 'touch file1.txt' to create a new file, then 'ls' to see 'docs', 'file1.txt', and 'file.txt'. Then, 'cp file1.txt file2.txt' is run to create a copy, followed by 'cp file2.txt docs' to move it into the 'docs' directory. A final 'ls' shows 'docs', 'file1.txt', 'file2.txt', and 'file.txt'.

```
cdad@cdad-Inspiron-3542: ~/linuxassignment
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

cdad@cdad-Inspiron-3542:~/linuxassignment$ pwd
/home/cdad/linuxassignment
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
docs file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ touch file1.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
docs file1.txt file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ cp file1.txt file2.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ cp file2.txt docs
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
docs file1.txt file2.txt file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ cp
```

- e) Permissions and Ownership: a. Change the permissions of "file2.txt" to allow read, write, and execute permissions for the owner and only read permissions for others. Then, change the owner of "file2.txt" to the current user.



```
Feb 28 22:25
cdad@cdad-Inspiron-3542: ~/docs
cdad@cda... x cdad@cda... x cdad@cda... x cdad@cda... x cdad@cda... x
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

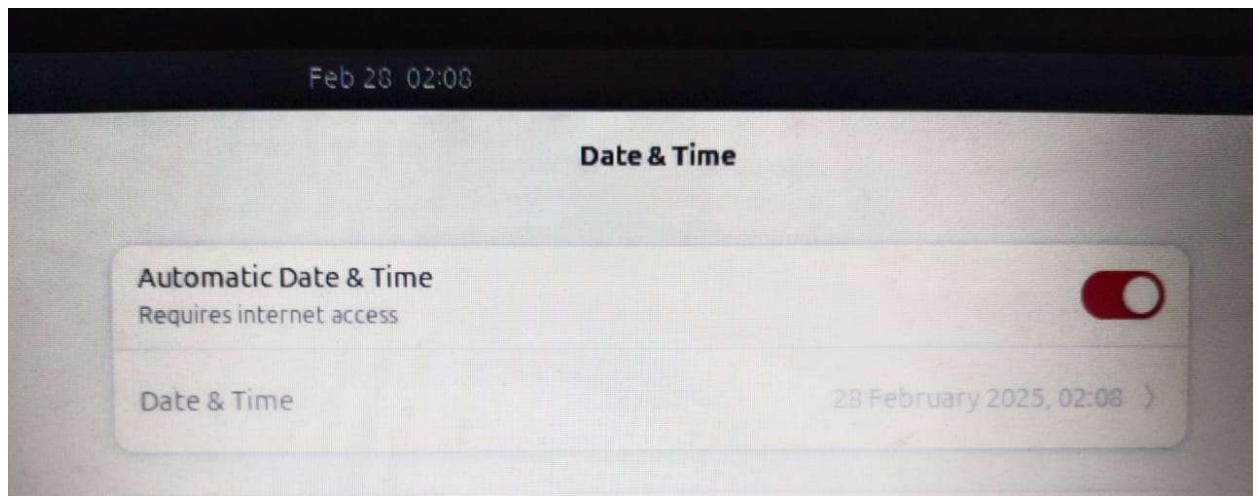
cdad@cdad-Inspiron-3542:~/docs$ touch file2.txt
cdad@cdad-Inspiron-3542:~/docs$ ls -l
total 0
-rw-rw-rwx 1 cdad cdad 0 Feb 28 22:21 file2.txt
cdad@cdad-Inspiron-3542:~/docs$ chmod u=rwx file2.txt
cdad@cdad-Inspiron-3542:~/docs$ ls -l
total 0
-rwxrwx-rwx 1 cdad cdad 0 Feb 28 22:21 file2.txt
cdad@cdad-Inspiron-3542:~/docs$ chmod o=r file2.txt
cdad@cdad-Inspiron-3542:~/docs$ ls -l
total 0
-rwxrwx-r-- 1 cdad cdad 0 Feb 28 22:21 file2.txt
cdad@cdad-Inspiron-3542:~/docs$
```

- f) Final Checklist: a. Finally, list the contents of the "LinuxAssignment" directory and the root directory to ensure that all operations were performed correctly.

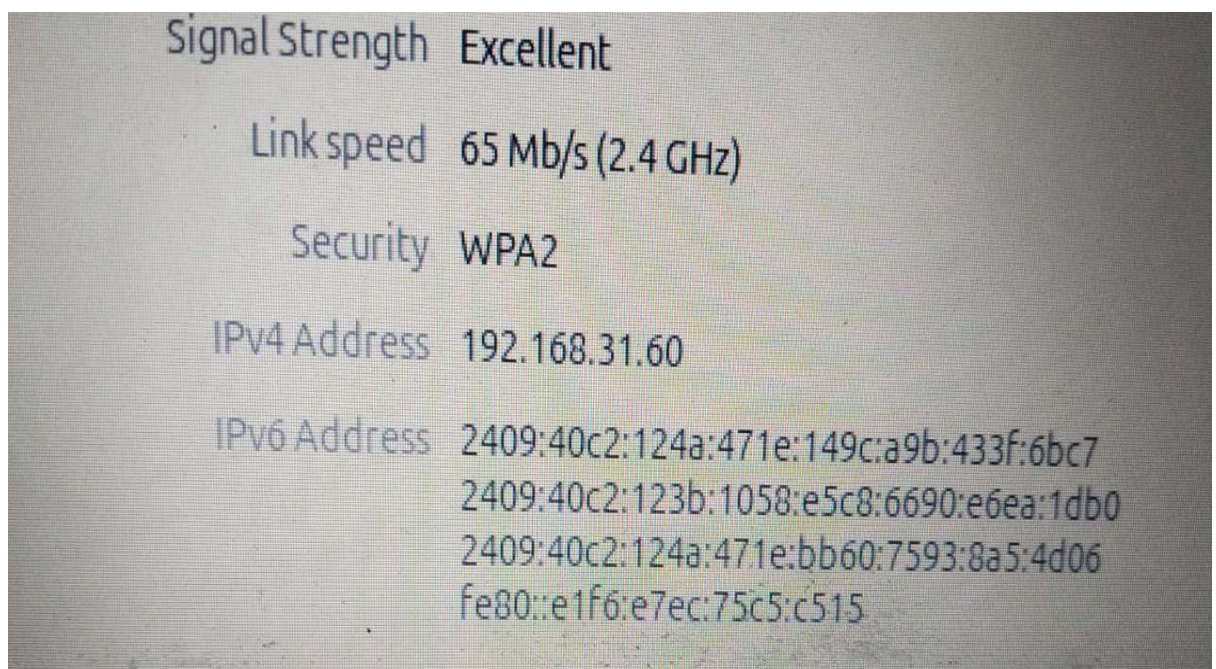
```
cdad@cdad-Inspiron-3542: ~
cdad... x cdad... x cdad... x cdad... x cdad... x cdad... x
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

cdad@cdad-Inspiron-3542:~/linuxassignment$ pwd
/home/cdad/linuxassignment
cdad@cdad-Inspiron-3542:~/linuxassignment$ ls
docs file1.txt file2.txt file.txt
cdad@cdad-Inspiron-3542:~/linuxassignment$ cd ..
cdad@cdad-Inspiron-3542:~$ ls
Assignment Downloads LinuxAssignment Public Videos
Desktop Linux Music snap
Documents linuxassignment Pictures Templates
cdad@cdad-Inspiron-3542:~$
```

- h) System Information: a. Display the current system date and time.



- i) Networking:  
a. Display the IP address of the system.



b. Ping a remote server to check connectivity (provide a remote server address to ping).

```
cdad@cdad-Inspiron-3542: ~  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
cdad@cdad-Inspiron-3542:~$ ping google.com  
PING google.com (2404:6800:4009:806::200e) 56 data bytes  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=1  
ttl=57 time=28.5 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=2  
ttl=57 time=64.3 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=3  
ttl=57 time=62.8 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=4  
ttl=57 time=60.9 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=5  
ttl=57 time=63.3 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=6  
ttl=57 time=58.4 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=7  
ttl=57 time=56.8 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=8  
ttl=57 time=54.7 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=9  
ttl=57 time=52.8 ms  
64 bytes from pnbomb-ad-in-x0e.1e100.net (2404:6800:4009:806::200e): icmp_seq=10
```

Feb 28, 2025, 02:22