

Basic Linux Commands Assignments

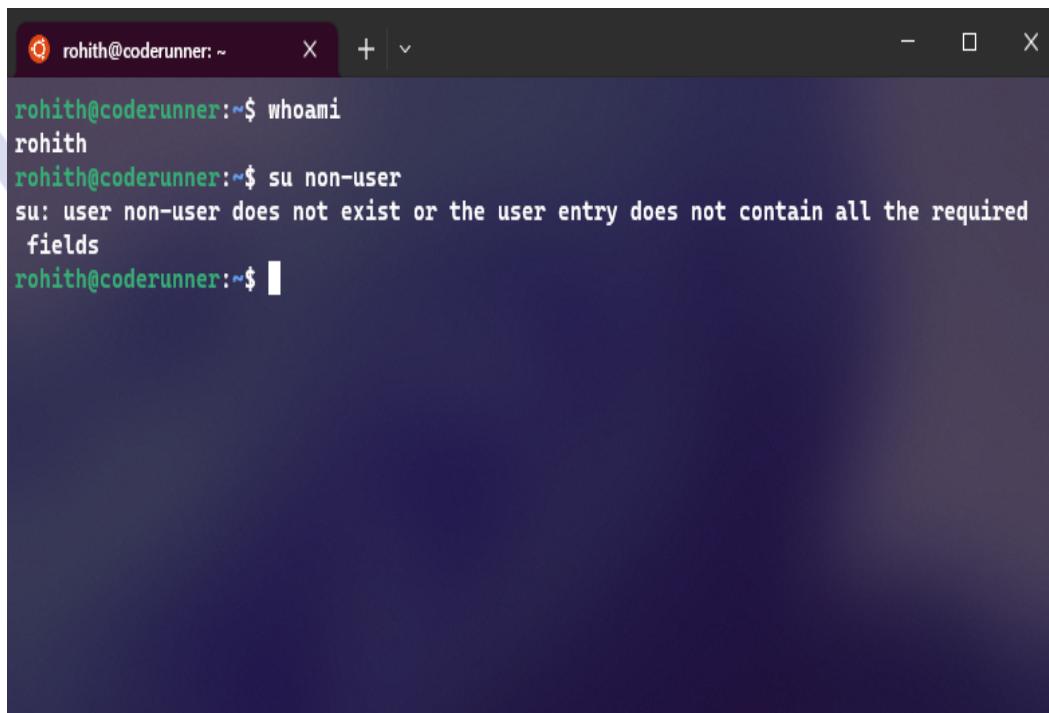
Assignment-1

Connect and disconnect with login Access

- What happens when you login a non-existent users or username?

Ans: If a non-existent user tried to login to the os(ubuntu in my case), simply it will not allow to login that non-existent user

- Provide Screenshot and What you understand, explain in short brief?



A screenshot of a terminal window titled "rohith@coderunner: ~". The terminal shows the following command and output:
rohith@coderunner:~\$ whoami
rohith
rohith@coderunner:~\$ su non-user
su: user non-user does not exist or the user entry does not contain all the required fields
rohith@coderunner:~\$

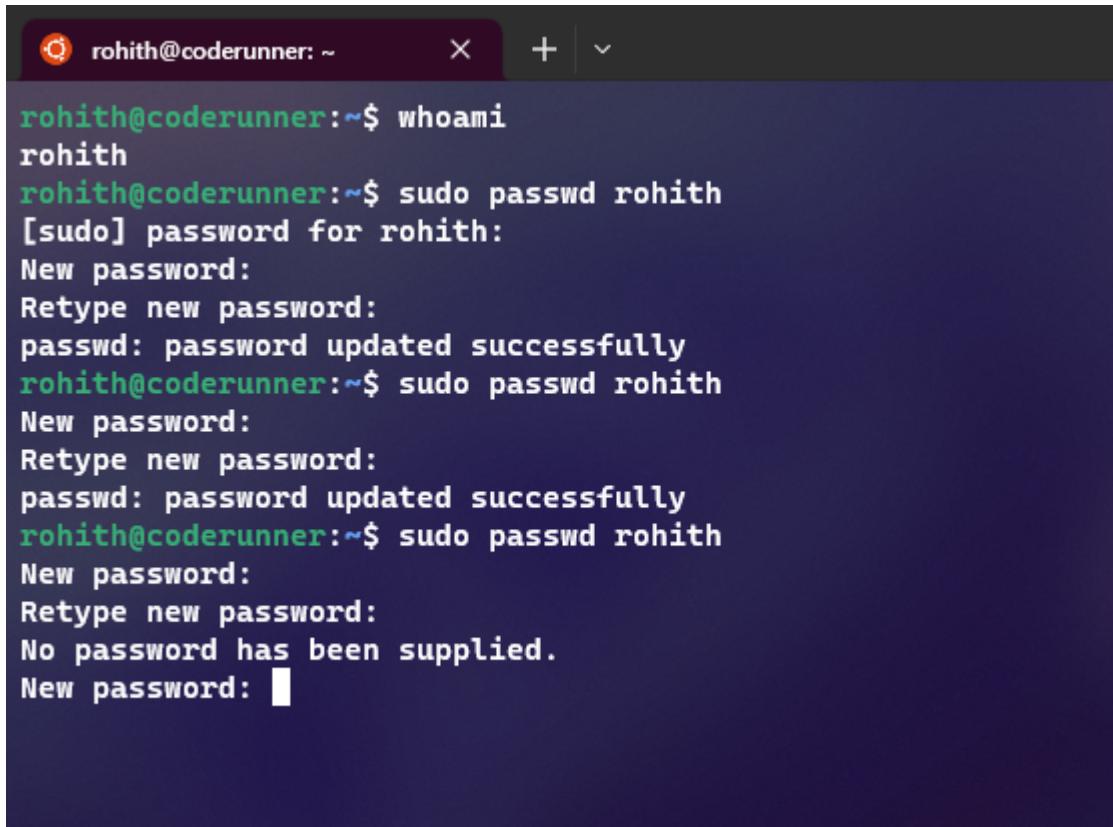
From the above screenshot we can understand that the existing username is “rohith” and when we trying to switch the user into a non-existent one(here “non-user”) it simply doesn’t allow us to switch because there is no such a user exist. If it really required to login using another username then we need to add that user first using the command “*sudo adduser username*”

Assignment-2

Password changing

- Login into your account and then change password?
 - Change your password into **IneuROn#42** and hit the **Enter** key
 - Explain what happen and give screenshot?

Ans: It successfully changed password of user rohith into **IneuROn#42**



The screenshot shows a terminal window with a dark background. The title bar says "rohith@coderunner: ~". The terminal output is as follows:

```
rohith@coderunner:~$ whoami
rohith
rohith@coderunner:~$ sudo passwd rohith
[sudo] password for rohith:
New password:
Retype new password:
passwd: password updated successfully
rohith@coderunner:~$ sudo passwd rohith
New password:
Retype new password:
passwd: password updated successfully
rohith@coderunner:~$ sudo passwd rohith
New password:
Retype new password:
No password has been supplied.
New password: [REDACTED]
```

- Try again to change password but use like password **1234** or **abcd**
 - Explain what happen and give screenshot?

Ans: This time also it successfully changed password into 1234(refer above screenshot)

Try again to change password but now don't use any password just hit **Enter** key

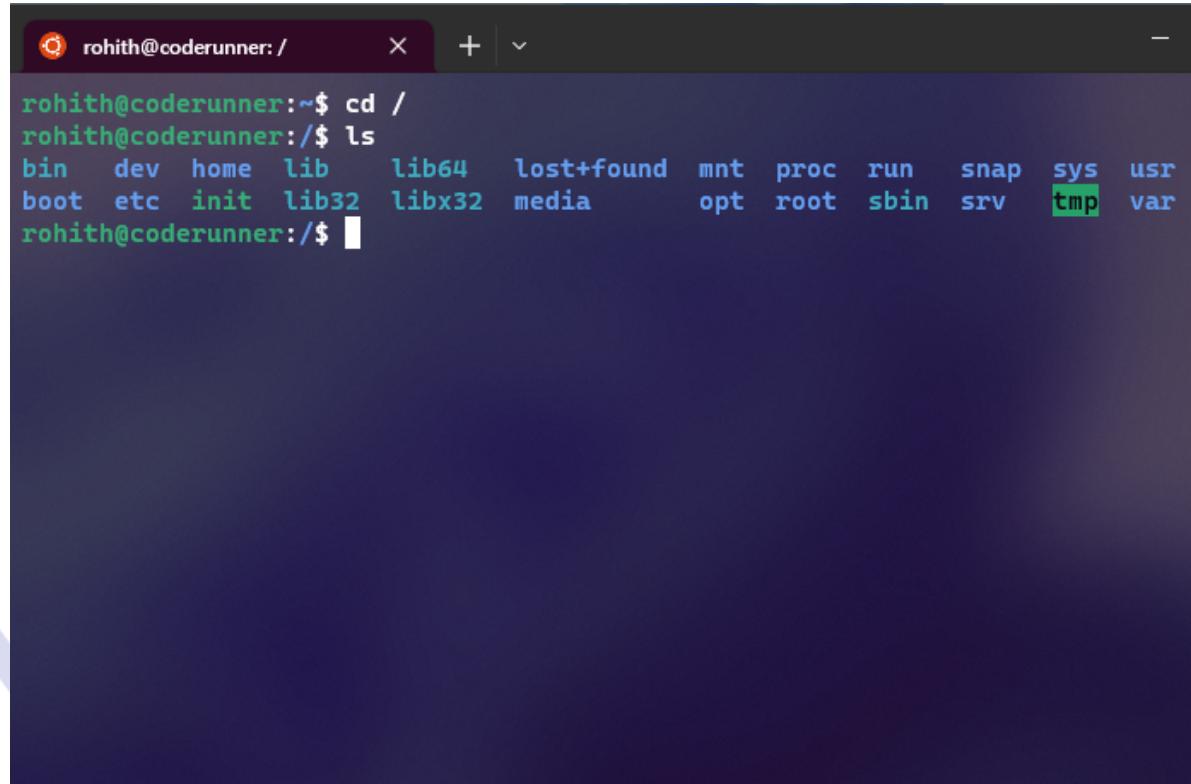
- Explain what happen and give screenshot?

Ans: This time it shows “No password has been supplied”(refer above screenshot)

Assignment-3

Working with Directories

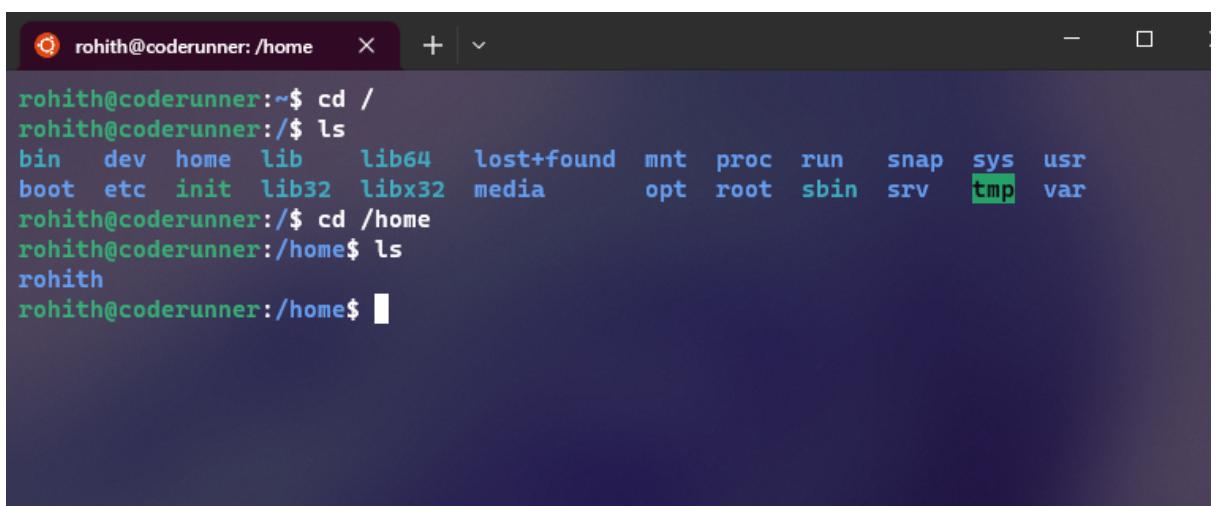
- Enter the command **cd /** and then **ls** and then hit **Enter** key
 - Take screenshot and explain what output we got?



A terminal window titled "rohith@coderunner:/" showing the contents of the root directory. The command "cd /" was run followed by "ls". The output shows various system directories like bin, dev, lib, lib64, lost+found, mnt, proc, run, snap, sys, usr, boot, etc, init, lib32, libx32, media, opt, root, sbin, srv, tmp, and var. The "tmp" directory is highlighted in green.

- Enter the command now **cd /home** and then hit **Enter** key
 - Do **ls**, provide screenshot and explain what is **/home** directory used for?

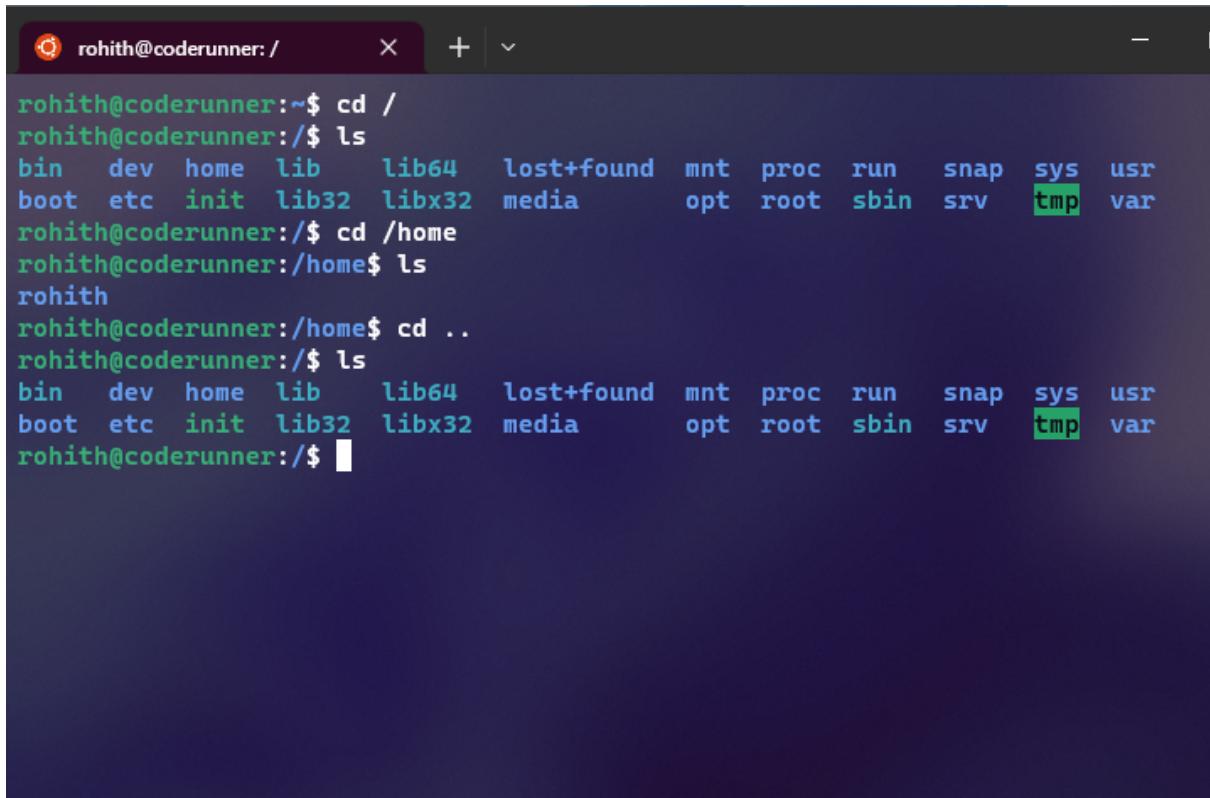
Ans:it shows a directory named “rohith” and typically it used to store the user specific files



A terminal window titled "rohith@coderunner:/home" showing the contents of the /home directory. The command "cd /" was run, then "ls", then "cd /home", then "ls". The output shows the "rohith" directory, which is the home directory for the user rohith. The "rohith" directory is highlighted in green.

- Enter **cd ..** and hit **Enter** key [Note: here we have space after cd then use double dot]
 - Check what happen and give screenshot?

Ans : this returns to the previous directory. so **cd ..** command is used to change the current working directory to the parent directory (one level up) in the directory hierarchy.



The screenshot shows a terminal window with the following session:

```
rohith@coderunner:~$ cd /
rohith@coderunner:$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:$ cd /home
rohith@coderunner:/home$ ls
rohith
rohith@coderunner:/home$ cd ..
rohith@coderunner:$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:$ 
```

- Now enter **cd /var/www/html** and then type **cd** and hit **Enter** key
 - Explain what happen and give screenshot?

- Ans : it shows no such file or directory exist

```

rohith@coderunner:~$ cd /
rohith@coderunner:~$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:~$ cd /home
rohith@coderunner:/home$ ls
rohith
rohith@coderunner:/home$ cd ..
rohith@coderunner:/home$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:/home$ cd /var/www/html cd
-bash: cd: too many arguments
rohith@coderunner:/home$ cd /var/www/html
-bash: cd: /var/www/html: No such file or directory
rohith@coderunner:/home$ cd /var/www/html

```

- Now type **cd /root** and then hit **Enter** key
 - Do **ls**, check any output we have on screen if yes then take screenshot?

Ans: it shows “permission denied”

```

rohith@coderunner:~$ cd /
rohith@coderunner:~$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:~$ cd /home
rohith@coderunner:/home$ ls
rohith
rohith@coderunner:/home$ cd ..
rohith@coderunner:/home$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:/home$ cd /var/www/html cd
-bash: cd: too many arguments
rohith@coderunner:/home$ cd /var/www/html
-bash: cd: /var/www/html: No such file or directory
rohith@coderunner:/home$ cd /root
-bash: cd: /root: Permission denied
rohith@coderunner:/home$ ls
bin dev home lib lib64 lost+found mnt proc run snap sys usr
boot etc init lib32 libx32 media opt root sbin srv tmp var
rohith@coderunner:/home$ 

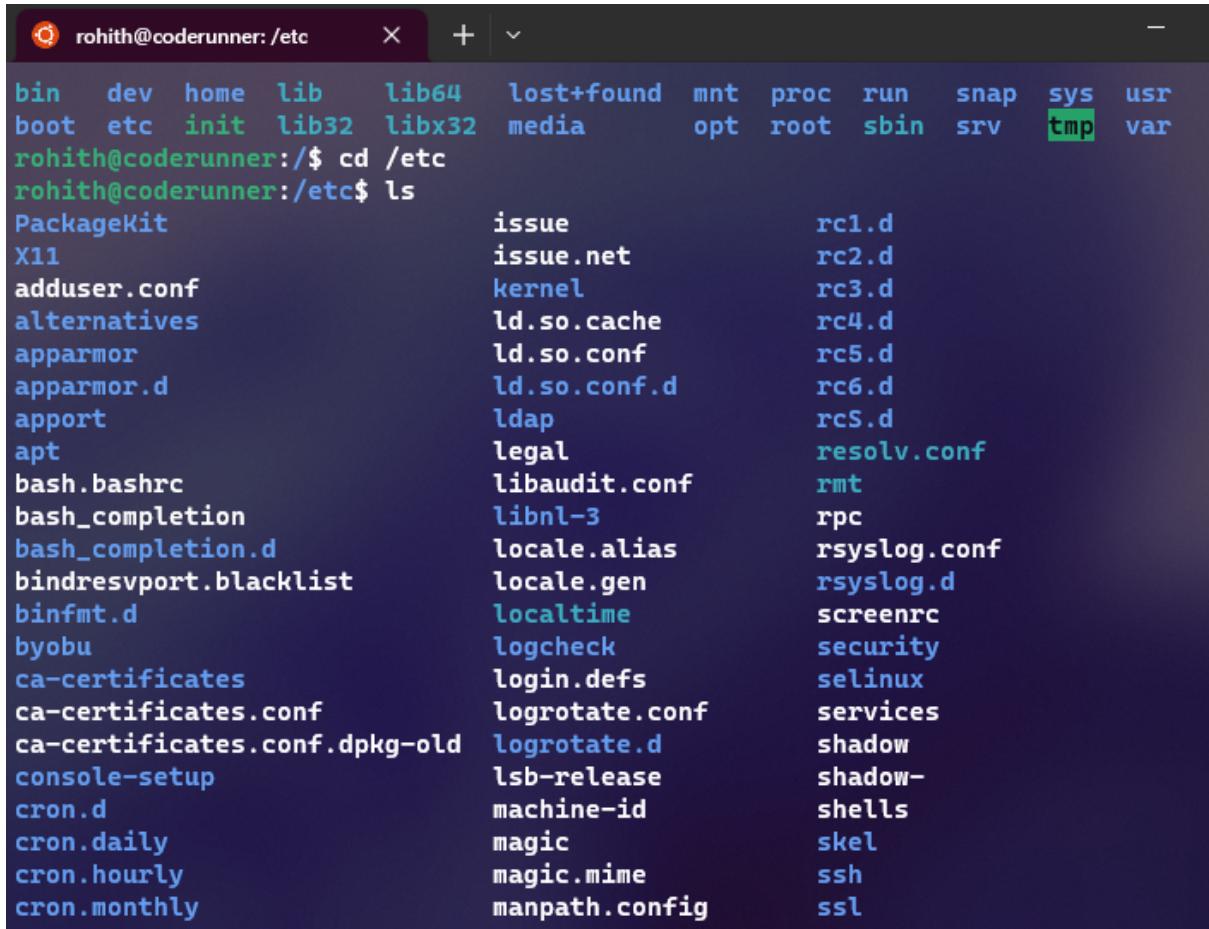
```

Assignment-4

Working with File Listing

- Go to `cd /etc` and type `ls`
 - Take screenshot and explain what files you have seeing?
 - Take screenshot and explain what different output you found compare to previous command you used?

Ans : it shows so many directories. typically The /etc directory in Linux contains system-wide configuration files and directories. It is a vital directory that stores configuration files for various aspects of the operating system, services, and applications

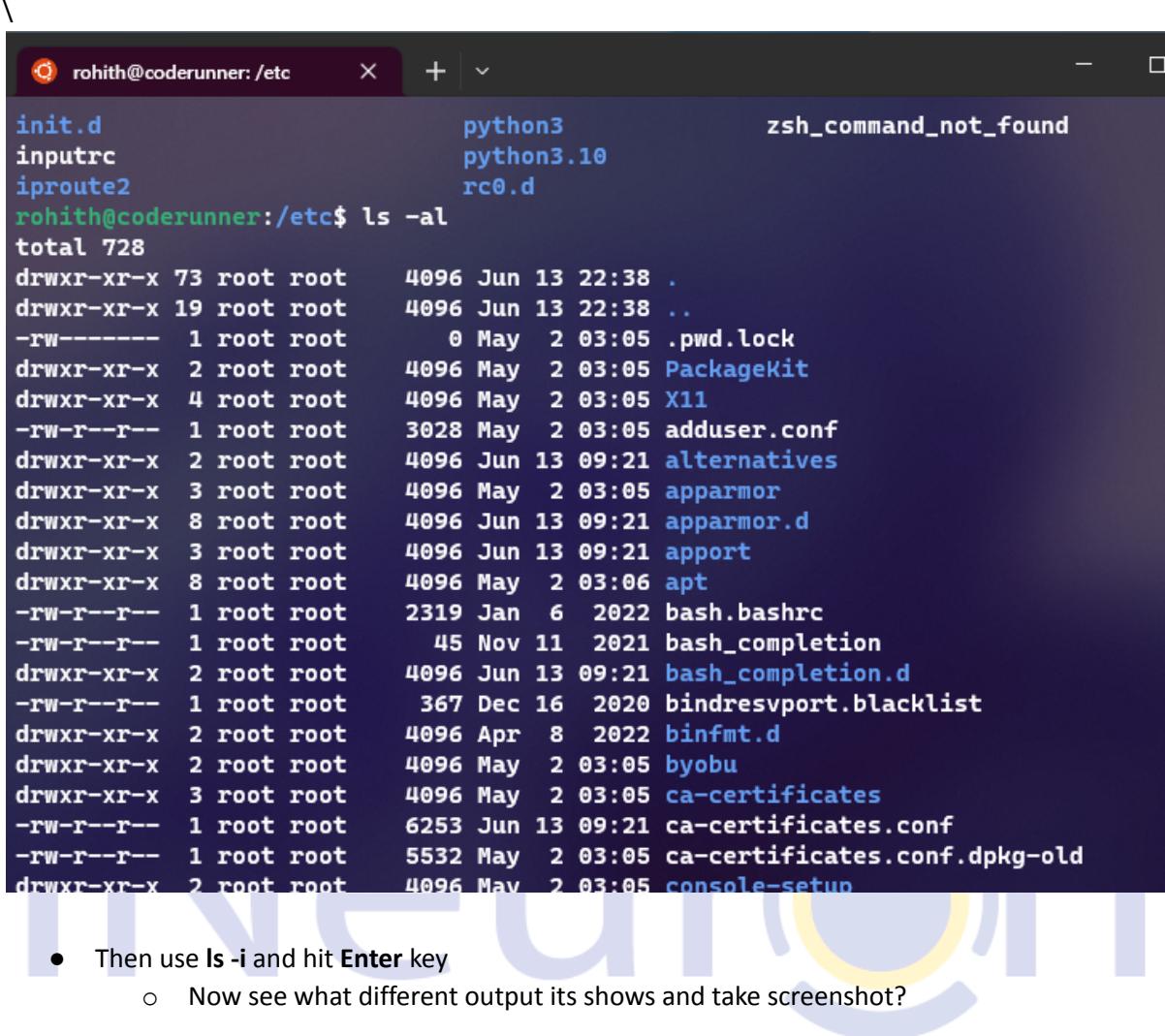


The screenshot shows a terminal window with the following content:

```
rohith@coderunner: /etc      X + ^ 
bin  dev  home  lib   lib64  lost+found  mnt  proc  run  snap  sys  usr
boot etc  init  lib32  libx32  media      opt  root  sbin  srv  tmp  var
rohith@coderunner:/$ cd /etc
rohith@coderunner:/etc$ ls
PackageKit          issue           rc1.d
X11                issue.net        rc2.d
adduser.conf        kernel          rc3.d
alternatives        ld.so.cache     rc4.d
apparmor           ld.so.conf       rc5.d
apparmor.d         ld.so.conf.d    rc6.d
apport              ldap             rcS.d
apt                legal            resolv.conf
bash.bashrc         libaudit.conf   rmt
bash_completion     libnl-3          rpc
bash_completion.d  locale.alias    rsyslog.conf
bindresvport.blacklist  locale.gen    rsyslog.d
binfmt.d           localtime        screenrc
byobu               logcheck         security
ca-certificates    login.defs      selinux
ca-certificates.conf  logrotate.conf services
ca-certificates.conf.dpkg-old  logrotate.d    shadow
console-setup       lsb-release     shadow-
cron.d             machine-id     shells
cron.daily          magic           skel
cron.hourly         magic.mime     ssh
cron.monthly        manpath.config  ssl
```

- Then type `ls -al` and hit Enter key
 - Take screenshot and explain what new file or directory you found?

Ans: Executing the `ls -al` command after changing to the `/etc` directory will display a detailed list of all files and directories, including hidden files, in long format. It includes file permissions also



A terminal window titled "rohith@coderunner:/etc" showing the output of the command "ls -al". The output lists numerous files and directories in the /etc directory, including "init.d", "inputrc", "iproute2", "python3", "python3.10", and "rc0.d". The listing includes columns for file type, permissions, inode number, last modified date, and file name.

```
init.d                               python3                  zsh_command_not_found
inputrc                             python3.10
iproute2                            rc0.d
rohith@coderunner:/etc$ ls -al
total 728
drwxr-xr-x  73 root root  4096 Jun 13 22:38 .
drwxr-xr-x  19 root root  4096 Jun 13 22:38 ..
-rw-----   1 root root     0 May  2 03:05 .pwd.lock
drwxr-xr-x  2 root root  4096 May  2 03:05 PackageKit
drwxr-xr-x  4 root root  4096 May  2 03:05 X11
-rw-r--r--  1 root root  3028 May  2 03:05 adduser.conf
drwxr-xr-x  2 root root  4096 Jun 13 09:21 alternatives
drwxr-xr-x  3 root root  4096 May  2 03:05 apparmor
drwxr-xr-x  8 root root  4096 Jun 13 09:21 apparmor.d
drwxr-xr-x  3 root root  4096 Jun 13 09:21 apport
drwxr-xr-x  8 root root  4096 May  2 03:06 apt
-rw-r--r--  1 root root  2319 Jan  6 2022 bash.bashrc
-rw-r--r--  1 root root     45 Nov 11 2021 bash_completion
drwxr-xr-x  2 root root  4096 Jun 13 09:21 bash_completion.d
-rw-r--r--  1 root root    367 Dec 16 2020 bindresvport.blacklist
drwxr-xr-x  2 root root  4096 Apr  8 2022 binfmt.d
drwxr-xr-x  2 root root  4096 May  2 03:05 byobu
drwxr-xr-x  3 root root  4096 May  2 03:05 ca-certificates
-rw-r--r--  1 root root  6253 Jun 13 09:21 ca-certificates.conf
-rw-r--r--  1 root root  5532 May  2 03:05 ca-certificates.conf.dpkg-old
drwxr-xr-x  2 root root  4096 May  2 03:05 console-setup
```

- Then use **ls -i** and hit **Enter** key
 - Now see what different output its shows and take screenshot?

Ans :it displays a detailed list of files and directories along with their respective inode numbers. The inode number is a unique identifier assigned to each file or directory on a file system.

```
rohith@coderunner:/etc      X  + | - | □
drwxr-xr-x  4 root root    4096 May  2 03:05 xdg
-rw-r--r--  1 root root     460 Dec  8 2021 zsh_command_not_found
rohith@coderunner:/etc$ ls -i
28 PackageKit
31 X11
37 adduser.conf
38 alternatives
150 apparmor
155 apparmor.d
327 apport
332 apt
351 bash.bashrc
352 bash_completion
353 bash_completion.d
356 bindresvport.blacklist
357 binfmt.d
358 byobu
361 ca-certificates
23454 ca-certificates.conf
363 ca-certificates.conf.dpkg-old
365 console-setup
405 cron.d
408 cron.daily
415 cron.hourly
417 cron.monthly
419 cron.weekly
569 modules
570 modules-load.d
572 mtab
573 nanorc
574 netconfig
575 netplan
576 networkd-dispatcher
583 networks
584 newt
588 nftables.conf
589 nsswitch.conf
590 opt
591 os-release
592 pam.conf
593 pam.d
29470 passwd
29448 passwd-
615 perl
618 pm
621 polkit-1
631 profile
632 profile.d
640 protocols
```

- o Then use **ls -help** and see other options about **ls** command
- o Explore it and try with other attribute we can use with **ls** command

Ans: **ls -help** command shows different attributes which can be used with **ls** and it shows its usage also



```
rohith@coderunner:/etc$ ls --help
Usage: ls [OPTION]... [FILE]...
List information about the FILEs (the current directory by default).
Sort entries alphabetically if none of -cftuvSUX nor --sort is specified.

Mandatory arguments to long options are mandatory for short options too.
-a, --all          do not ignore entries starting with .
-A, --almost-all   do not list implied . and ..
--author          with -l, print the author of each file
-b, --escape        print C-style escapes for nongraphic characters
--block-size=SIZE   with -l, scale sizes by SIZE when printing them;
                   e.g., '--block-size=M'; see SIZE format below
-B, --ignore-backups do not list implied entries ending with ~
-c                with -lt: sort by, and show, ctime (time of last
                   modification of file status information);
                   with -l: show ctime and sort by name;
                   otherwise: sort by ctime, newest first
                   list entries by columns
                   colorize the output; WHEN can be 'always' (default
                   if omitted), 'auto', or 'never'; more info below
-d, --directory    list directories themselves, not their contents
-D, --dired         generate output designed for Emacs' dired mode
-f                do not sort, enable -aU, disable -ls --color
-F, --classify     append indicator (one of */=>@|) to entries
--file-type        likewise, except do not append '*'
--format=WORD       across -x, commas -m, horizontal -x, long -l,
```

Assignment-5

Know where you are and where you working

Here we use **pwd**, **cd** and **ls** as combine task to understand where you working on terminal and how you can switch from one directory to another one.

- Open terminal after restart the linux
 - Check which location you working, type **pwd** and take screenshot
- Ans : pwd command shows/print the current working directory**
- Now use **cd /var** and hit **Enter** key
 - Do **ls**, and see what output comes, give screenshot?
- Ans : The /var directory in Linux is used to store variable data files. It contains files that may change in size and content during the normal operation of the system. eg : log, cache, tmp, etc..**
- Do explore other help options of each command to learn more other things we can do with these commands

```
rohith@coderunner:~/var X + ▾
rohith@coderunner:~$ cd ~
rohith@coderunner:~$ pwd
/home/rohith
rohith@coderunner:~$ cd /var
rohith@coderunner:/var$ ls
backups cache crash lib local lock log mail opt run snap spool tmp
rohith@coderunner:/var$ cd --help
cd: cd [-L|[-P [-e]] [-@]] [dir]
      Change the shell working directory.

Change the current directory to DIR.  The default DIR is the value of the
HOME shell variable.

The variable CDPATH defines the search path for the directory containing
DIR.  Alternative directory names in CDPATH are separated by a colon (:).
A null directory name is the same as the current directory.  If DIR begins
with a slash (/), then CDPATH is not used.

If the directory is not found, and the shell option 'cdable_vars' is set,
the word is assumed to be a variable name.  If that variable has a value,
its value is used for DIR.

Options:
  -L      force symbolic links to be followed: resolve symbolic
         links in DIR after processing instances of '..
  -P      use the physical directory structure without following
```

