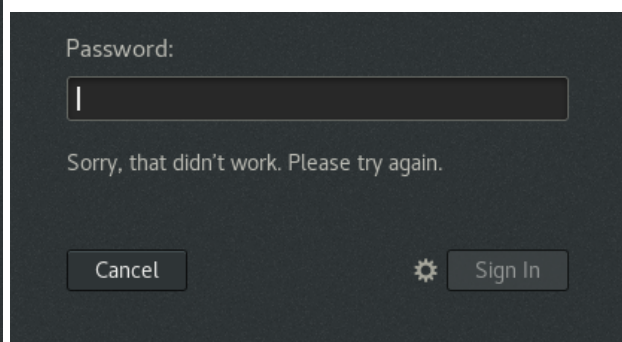
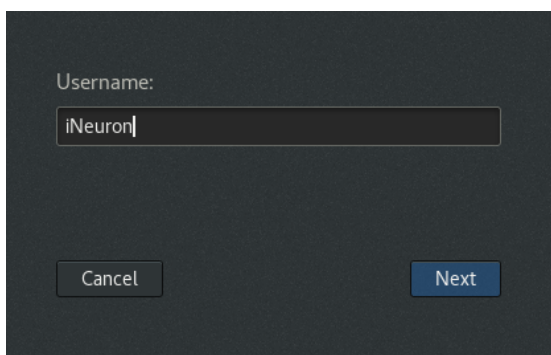
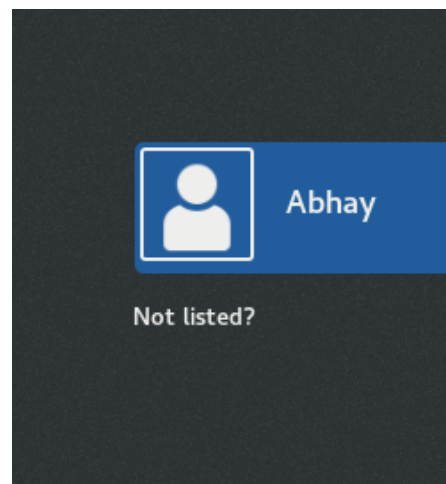
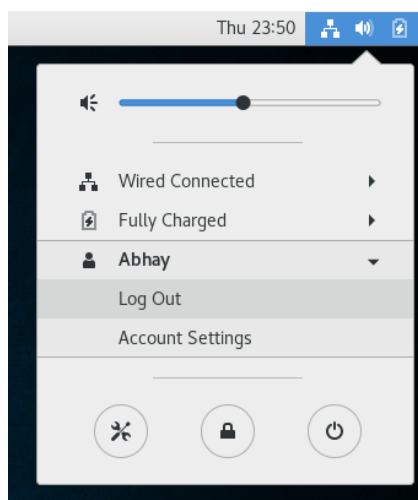


## Assignment 1

TASK: Connect and disconnect with login Access

- What happens when you login a non-existent user or username?
  - Provide Screenshot and What you understand, explain in short brief?



Step 1 : Logout from the existent user.

Step 2 : Click on Not Listed?

Step 3 : Type any non-existent users or username.

Step 4 : Type any password

Step 5 : An Error arises

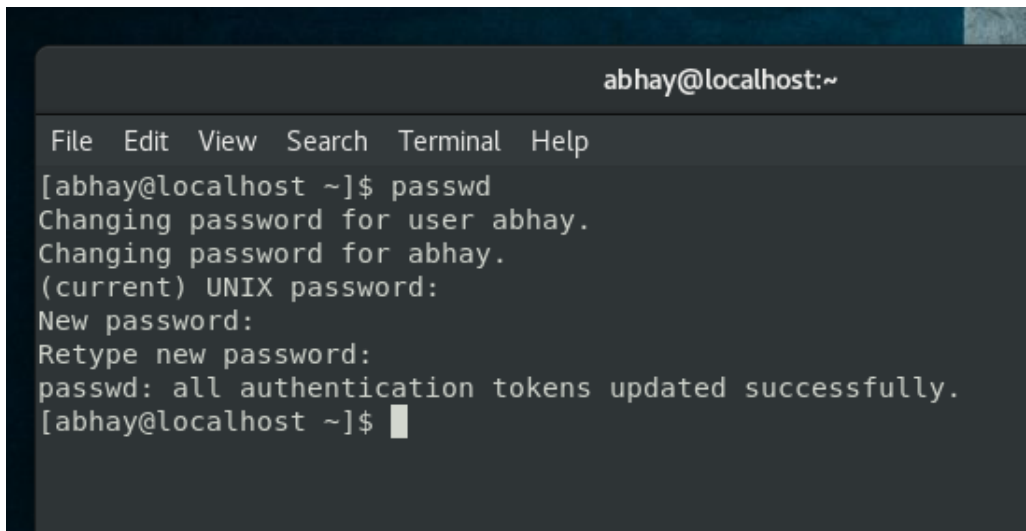
Explanation : As the entered user was not in the login user config file so it wasn't recognised and gave an error while trying to login.

## Assignment 2

### TASK : Password changing

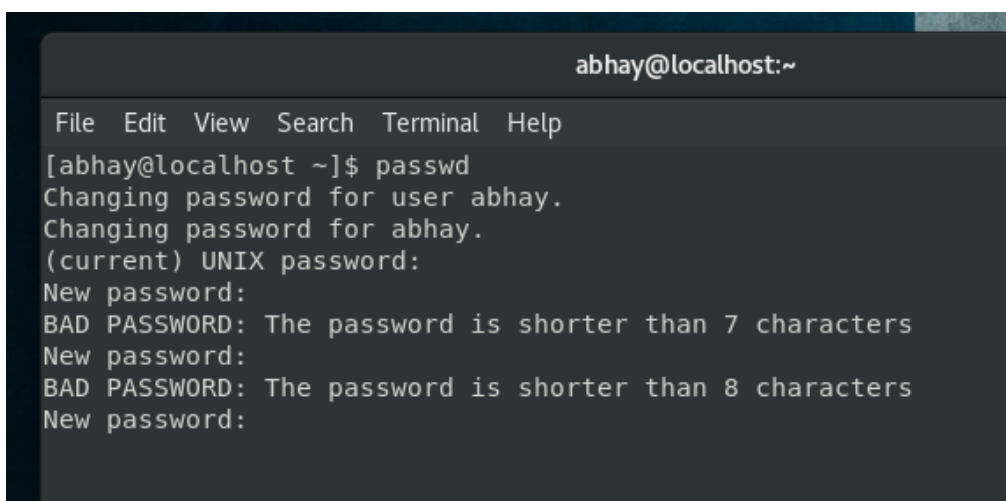
- Login into your account and then change password?
  - Change your password into IneuR0n#42 and hit the Enter key
    - Explain what happen and give screenshot?
  - Try again to change password but use like password 1234 or abcd
    - Explain what happen and give screenshot?
  - Try again to change password but now don't use any password just hit Enter key
    - Explain what happen and give screenshot?

### Task 1:-

A terminal window titled 'abhay@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The user enters 'passwd' at the prompt. The terminal shows the process of changing the password for user 'abhay', including prompts for the current password, new password, and retype new password. It concludes with 'passwd: all authentication tokens updated successfully.' and returns to the shell prompt.

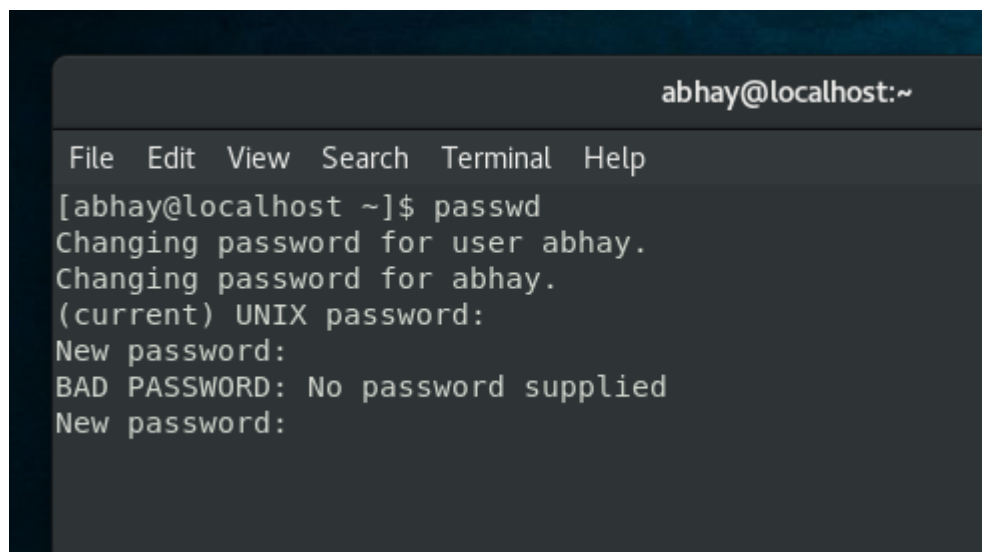
```
abhay@localhost:~  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ passwd  
Changing password for user abhay.  
Changing password for abhay.  
(current) UNIX password:  
New password:  
Retype new password:  
passwd: all authentication tokens updated successfully.  
[abhay@localhost ~]$
```

### Task 2:-

A terminal window titled 'abhay@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The user enters 'passwd' at the prompt. The terminal shows the process of changing the password for user 'abhay'. It prompts for the current password, new password, and retype new password. However, the new password is rejected twice with error messages: 'BAD PASSWORD: The password is shorter than 7 characters' and 'BAD PASSWORD: The password is shorter than 8 characters'. The prompt for the new password is shown again.

```
abhay@localhost:~  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ passwd  
Changing password for user abhay.  
Changing password for abhay.  
(current) UNIX password:  
New password:  
BAD PASSWORD: The password is shorter than 7 characters  
New password:  
BAD PASSWORD: The password is shorter than 8 characters  
New password:
```

### Task 3:-

A terminal window titled 'abhay@localhost:~' with a menu bar containing 'File', 'Edit', 'View', 'Search', 'Terminal', and 'Help'. The terminal shows the execution of the 'passwd' command. It prompts for the current UNIX password, then asks for a new password. The first attempt results in 'BAD PASSWORD: No password supplied' because the password was empty. The second attempt is successful.

```
abhay@localhost:~  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ passwd  
Changing password for user abhay.  
Changing password for abhay.  
(current) UNIX password:  
New password:  
BAD PASSWORD: No password supplied  
New password:
```

### Explanation:-

Case 1: Password was secure and accepted by linux os. It was according to its password policy.

Case 2: Password was weak so not accepted by the system as it can be easily cracked by any dictionary based attack.

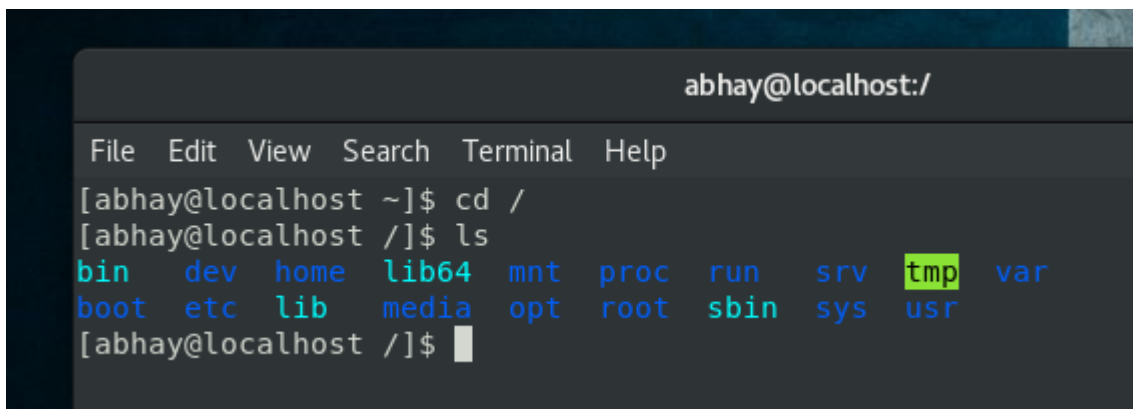
Case 3: Empty password is also not accepted by linux os.

## Assignment 3

### Task 3 : Working with Directories

- Enter the command `cd /` and then `ls` and then hit Enter key
  - Take screenshot and explain what output we got?
- Enter the command now `cd /home` and then hit Enter key
  - Do `ls`, provide screenshot and explain what is `/home` directory used for?
- Enter `cd ..` and hit Enter key [ Note: here we have space after `cd` then use double dot]
  - Check what happen and give screenshot?
- Now enter `cd /var/www/html` and then type `cd` and hit Enter key
  - Explain what happen and give screenshot?
- Now type `cd /root` and then hit Enter key
  - Do `ls`, check any output we have on screen if yes then take screenshot?

### Task 1:-



```
abhay@localhost:/  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ cd /  
[abhay@localhost /]$ ls  
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var  
boot  etc  lib  media  opt  root  sbin  sys  usr  
[abhay@localhost /]$
```

Explanation: this command is used to change directory to the root directory, The root directory is the first directory in your filesystem hierarchy

## Task 2:-

```
abhay@localhost:/home

File Edit View Search Terminal Help

[abhay@localhost ~]$ cd /
[abhay@localhost /]$ ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot etc  lib   media  opt  root  sbin sys  usr
[abhay@localhost /]$ cd /home
[abhay@localhost home]$ ls
abhay
[abhay@localhost home]$
```

Explanation: Home directory is like a working space for all users having all their rights except for root. Like we have 2 users abhay and ineuron then doing ls would show abhay and ineuron. There is a separate directory for every user.

## Task 3:-

```
abhay@localhost:/

File Edit View Search Terminal Help

[abhay@localhost ~]$ cd /
[abhay@localhost /]$ ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot etc  lib   media  opt  root  sbin sys  usr
[abhay@localhost /]$ cd /home
[abhay@localhost home]$ ls
abhay
[abhay@localhost home]$ cd ..
[abhay@localhost /]$ pwd
/
[abhay@localhost /]$
```

Explanation: this command is used to move to the parent directory of the current directory, or the directory one level up from the current directory. ".." represents the parent directory.

#### Task 4:-

```
[abhay@localhost ~]$ cd /var/www/html
bash: cd: /var/www/html: No such file or directory
[abhay@localhost ~]$ cd
[abhay@localhost ~]$ pwd
/home/abhay
[abhay@localhost ~]$
```

Explanation: First we tried to change directory from present to var dir having www dir inside it having html which showed error as there was no such file or directory. Next, the cd command is used to change directory to the home directory.

#### Task 5:-

```
root@localhost:~
File Edit View Search Terminal Help
[abhay@localhost ~]$ cd /root
bash: cd: /root: Permission denied
[abhay@localhost ~]$ su - root
Password:
Last login: Tue Oct 11 00:13:57 IST 2022 on pts/0
[root@localhost ~]# cd /root
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
[root@localhost ~]#
```

Explanation: Initially has no permission so gave root permission then tried moving to root directory and it showed directory content.

## 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?
- Then type `ls -al` and hit Enter key
  - Take screenshot and explain what new file or directory you found?
- Then use `ls -i` and hit Enter key
  - Now see what different output its shows and take screenshot?
- Then use `ls -help` and see other options about `ls` command
  - Explore it and try with other attribute we can use with `ls` command

### Task 1:-

```
abhay@localhost:/etc
File Edit View Search Terminal Help
[abhay@localhost ~]$ cd /etc
[abhay@localhost etc]$ ls
abrt                  hosts.deny            protocols
adjtime              hp                    pulse
aliases              idmapd.conf           purple
aliases.db           init.d                python
alsa                 inittab               qemu-ga
alternatives         inputrc               qemu-kvm
anacrontab           iproute2              radvd.conf
asound.conf          ipsec.conf            ras
at.deny              ipsec.d               rc0.d
audisp               ipsec.secrets          rc1.d
audit                iscsi                 rc2.d
avahi                issue                 rc3.d
bash_completion.d   issue.net              rc4.d
bashrc              java                  rc5.d
binfmt.d             jvm                   rc6.d
bluetooth            jvm-common            rc.d
brltty              kdump.conf            rc.local
brltty.conf          kernel                rdma
centos-release       krb5.conf             redhat-release
centos-release-upstream krb5.conf.d           request-key.conf
chkconfig.d          ksmtuned.conf         request-key.d
```

Explanation: All sort of linux configuration files are present here.

## Task 2:-

```
abhay@localhost:/etc
File Edit View Search Terminal Help
[abhay@localhost etc]$ ls -al
total 1372
drwxr-xr-x. 139 root root      8192 Oct 14 00:08 .
dr-xr-xr-x.  17 root root       224 Oct 10 22:53 ..
drwxr-xr-x.   3 root root       101 Oct 10 18:39 abrt
-rw-r--r--.   1 root root        16 Oct 10 18:47 adjtime
-rw-r--r--.   1 root root     1529 Apr  1 2020 aliases
-rw-r--r--.   1 root root    12288 Oct 10 19:41 aliases.db
drwxr-xr-x.   3 root root        65 Oct 10 18:42 alsa
drwxr-xr-x.   2 root root     4096 Oct 10 22:56 alternatives
-rw-----.   1 root root       541 Jan 13 2022 anacrontab
-rw-r--r--.   1 root root        55 Aug  8 2019 asound.conf
-rw-r--r--.   1 root root         1 May 18 21:24 at.deny
drwxr-x---.   3 root root        43 Oct 10 18:40 audisp
drwxr-x---.   3 root root        83 Oct 10 19:41 audit
drwxr-xr-x.   4 root root        71 Oct 10 18:42 avahi
drwxr-xr-x.   2 root root     4096 Oct 11 00:14 bash_completion.d
-rw-r--r--.   1 root root     2853 Apr  1 2020 bashrc
drwxr-xr-x.   2 root root         6 Sep  1 20:27 binfmt.d
drwxr-xr-x.   2 root root        23 Oct 10 18:39 bluetooth
drwxr-xr-x.   2 root root    12288 Oct 10 18:41 brltty
-rw-r--r--.   1 root root    21929 Apr 11 2018 brltty.conf
-rw-r--r--.   1 root root         37 Nov 23 2020 centos-release
-rw-r--r--.   1 root root         51 Nov 23 2020 centos-release-upstream
drwxr-xr-x.   2 root root         6 Oct 13 2020 chkconfig.d
```

Explanation: Let's divide in parts this command

- ls = lists all directory and files
- -a = list all the hidden files started with (DOT '.') format along with the normal files
- -l = display a long listing format of content one per line of the current directory (file or directory permission, Owner and Group Name, File size, created/modified date and time, file/folder name)



### Task 3:-

```
abhay@localhost:/etc
File Edit View Search Terminal Help
[abhay@localhost etc]$ ls -i
34739320 abrt
17319430 adjtime
16777386 aliases
17480395 aliases.db
1633362 alsa
34007986 alternatives
17371785 anacrontab
17106511 asound.conf
17440076 at.deny
51067414 audisp
17429269 audit
35365883 avahi
74276 bash_completion.d
16777387 bashrc
50870218 binfmt.d
50955361 bluetooth
17523133 brltty
17523134 brltty.conf
16777385 centos-release
16777320 centos-release-upstream
50372567 chkconfig.d
17439766 chrony.conf
17439768 chrony.keys
51826909 cifs-utils
34614412 cron.d
34506840 cron.daily
2865766 mcelog
17162153 mke2fs.conf
17197105 modprobe.d
1175880 modules-load.d
16777400 motd
16777284 mtab
16935257 mtools.conf
17523537 multipath
17202288 my.cnf
17202289 my.cnf.d
17945472 nanorc
34766212 ndctl
17162174 netconfig
34614418 NetworkManager
17548809 networks
17319472 nfs.conf
17319474 nfsmount.conf
17197340 nsswitch.conf
16808271 nsswitch.conf.bak
51826877 ntp
17371769 numad.conf
51067402 oddjob
17429249 oddjobd.conf
1567072 oddjobd.conf.d
17201854 openldap
16777412 opt
```

Explanation: The 'ls -i' option will list the index (called inode) number of each file and directory.

#### Task 4:-

```
abhay@localhost:/etc
File Edit View Search Terminal Help
[abhay@localhost 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        scale sizes by SIZE before printing them; e.g.,
                          '--block-size=M' prints sizes in units of
                          1,048,576 bytes; 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
-C                       list entries by columns
--color[=WHEN]           colorize the output; WHEN can be 'never', 'auto',
                          or 'always' (the default); 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,
                          single-column -l, verbose -l, vertical -C
--full-time              like -l --time-style=full-iso
-g                       like -l, but do not list owner
--group-directories-first
```

Explanation: Shows all arguments and help for ls command.

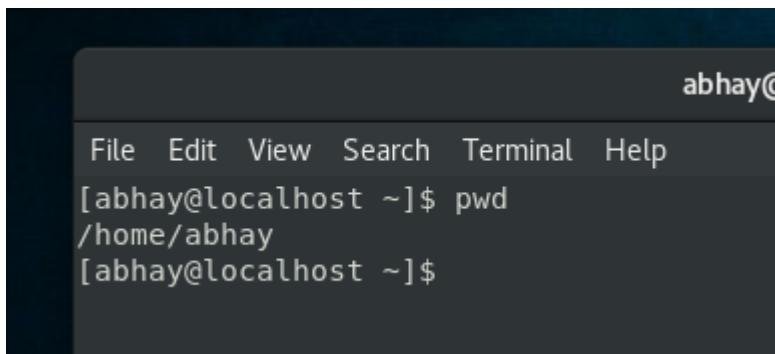
## Assignment 5

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.

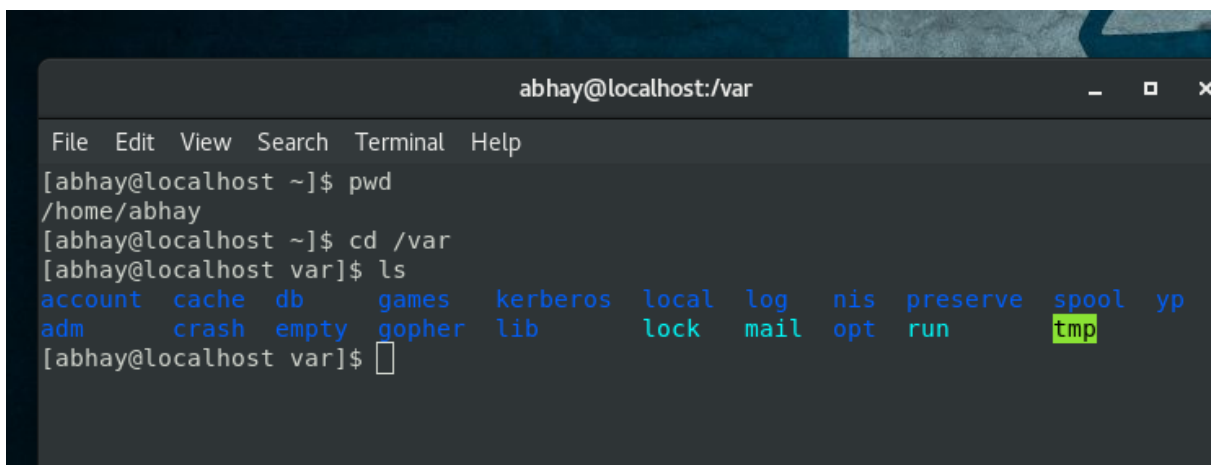
- Open terminal after restart the linux
  - Check which location you working, type pwd and take screenshot
- Now use cd /var and hit Enter key
  - Do ls, and see what output comes, give screenshot?
- Do explore other help options of each command to learn more other things we can do with these commands

Task 1:-

A terminal window titled 'abhay@' showing the execution of the 'pwd' command. The output is '/home/abhay'.

```
abhay@  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ pwd  
/home/abhay  
[abhay@localhost ~]$
```

Task 2:-

A terminal window titled 'abhay@localhost:/var' showing the execution of 'pwd', 'cd /var', and 'ls' commands. The 'ls' command output lists various directories in the /var folder, with 'tmp' highlighted in yellow.

```
abhay@localhost:/var  
File Edit View Search Terminal Help  
[abhay@localhost ~]$ pwd  
/home/abhay  
[abhay@localhost ~]$ cd /var  
[abhay@localhost var]$ ls  
account  cache  db      games  kerberos  local  log  nis  preserve  spool  yp  
adm      crash  empty  gopher  lib       lock  mail  opt  run      tmp  
[abhay@localhost var]$
```

### Task 3:-

```
admin crash empty gopher lib
[abhay@localhost var]$ pwd --help
bash: pwd: --: invalid option
pwd: usage: pwd [-LP]
[abhay@localhost var]$ cd --help
bash: cd: --: invalid option
cd: usage: cd [-L|[-P [-e]]] [dir]
[abhay@localhost var]$
```