



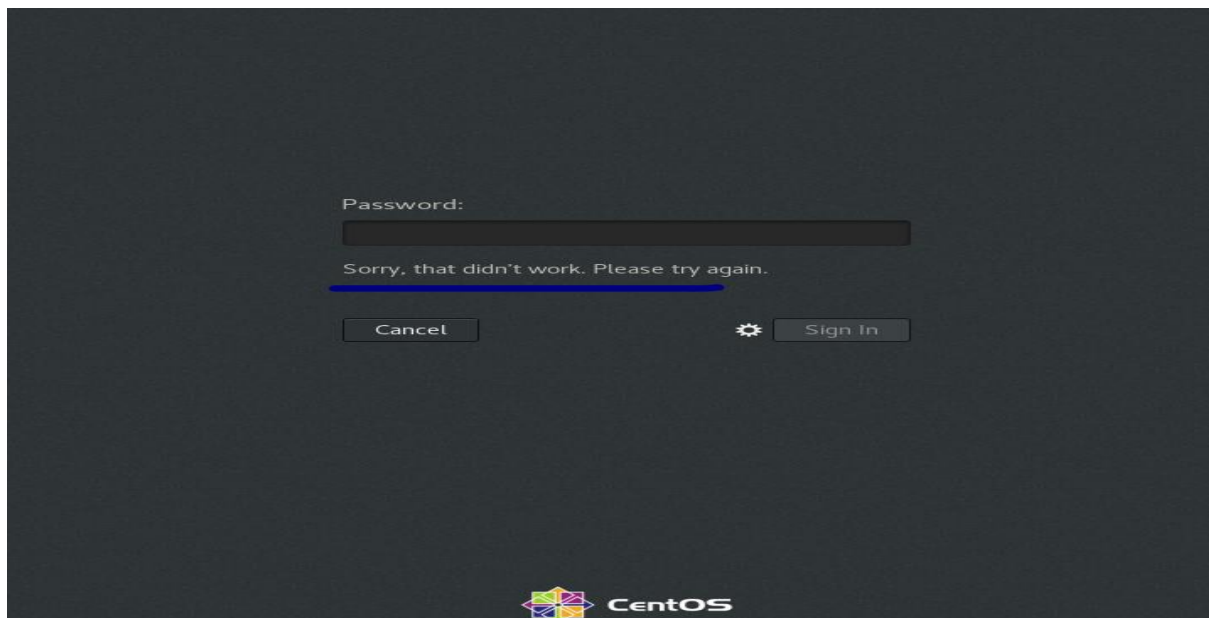
Basic Linux Commands Assignments

Assignment-1

Connect and disconnect with login Access

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

Ans-

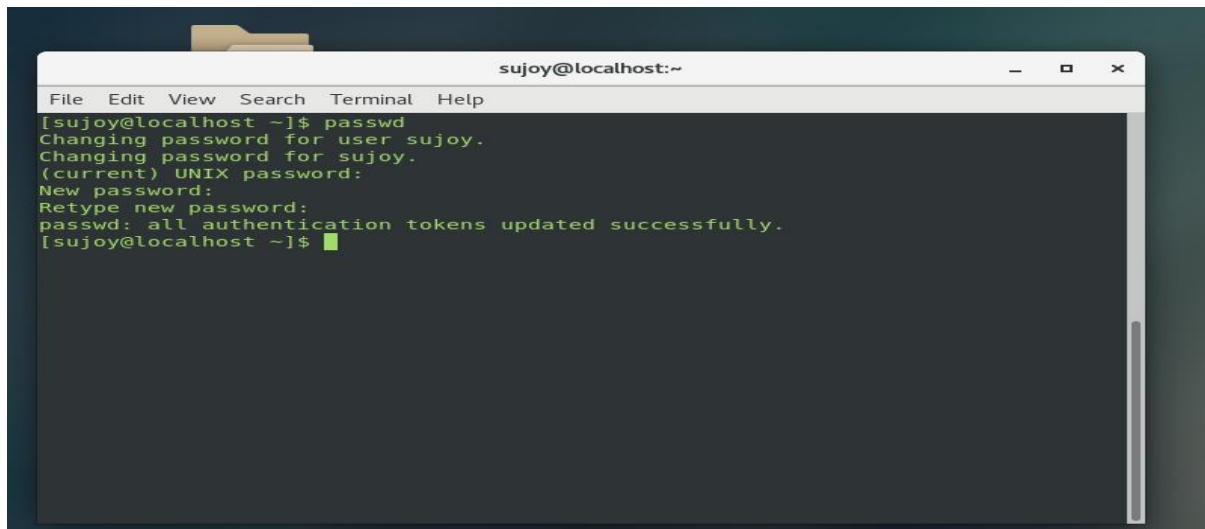


Non-existent user means user is not created or do not exists in the system in that case if we put an nonexisting username than further it will as for password after that system will display that "Sorry, that didn't work. Please try again."

Assignment-2

Password changing

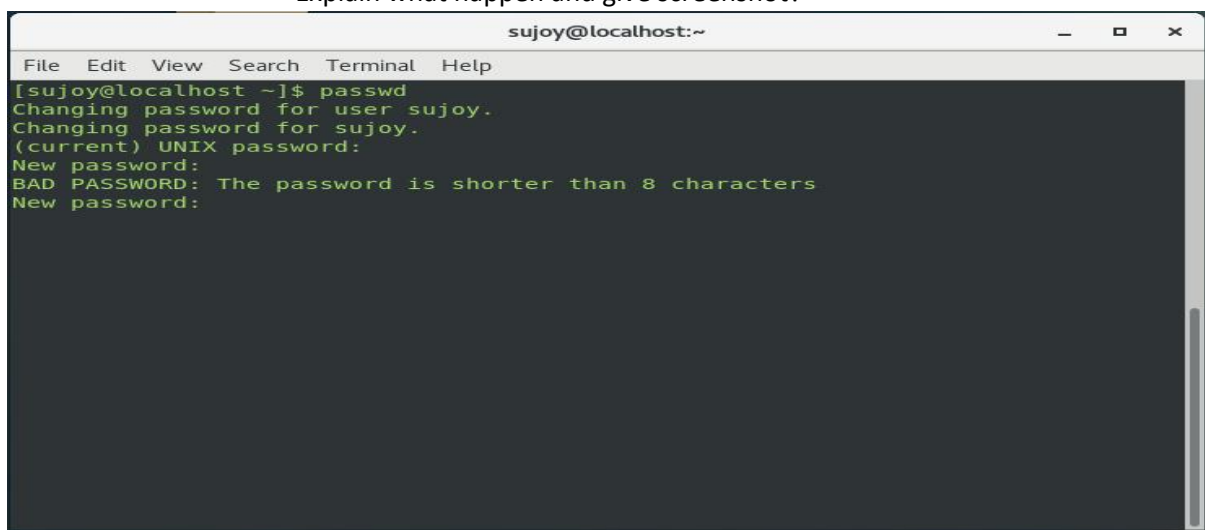
- Login into your account and then change password?
 - Change your password into ***IneuR0n#42*** and hit the **Enter** key
 - Explain what happen and give screenshot?



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

Changed existing password to new password(IneuR0n#42), after hitting enter “all authentication tokens updated successfully” message appears.

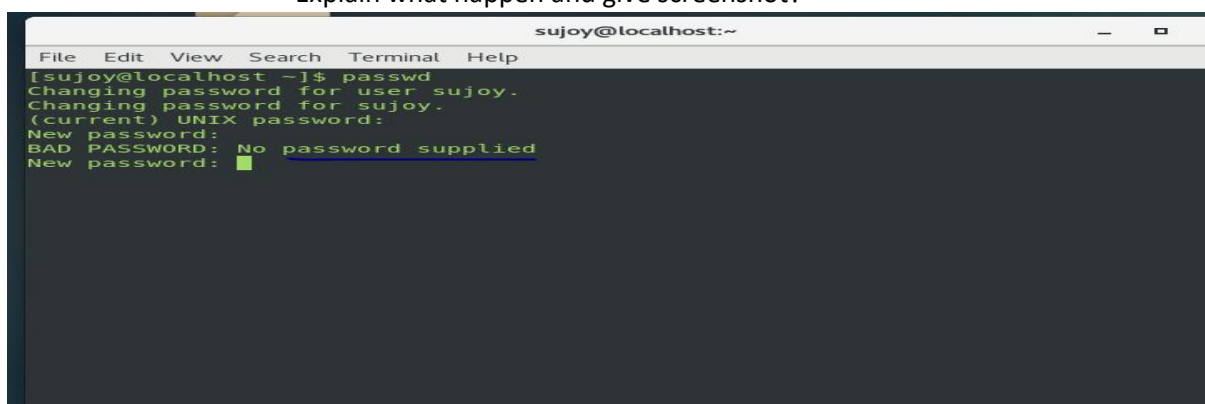
- Try again to change password but use like password **1234** or **abcd**
 - Explain what happen and give screenshot?



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

We can’t use 1234 or abcd as a password because we are using 4 characters, password should be more than or equal to 8 characters.

- Try again to change password but now don’t use any password just hit **Enter** key
 - Explain what happen and give screenshot?



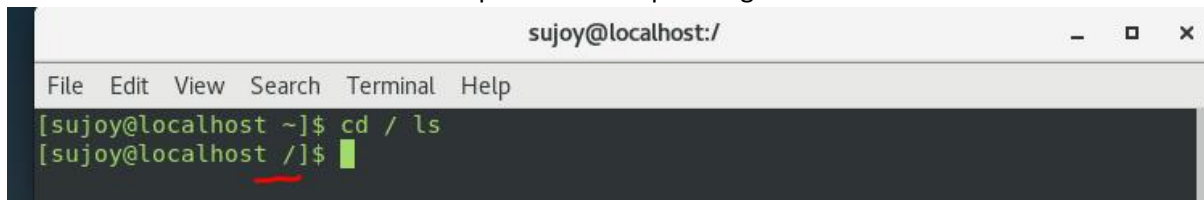
```
sujoy@localhost:~  
File Edit View Search Terminal Help  
[sujoy@localhost ~]$ passwd  
Changing password for user sujoy.  
Changing password for sujoy.  
(current) UNIX password:  
New password:  
BAD PASSWORD: No password supplied  
New password:
```

When we try to change password and hit enter without enter any password then system gives us a error "BAD PASSWORD: No password supplied" .

Assignment-3

Working with Directories

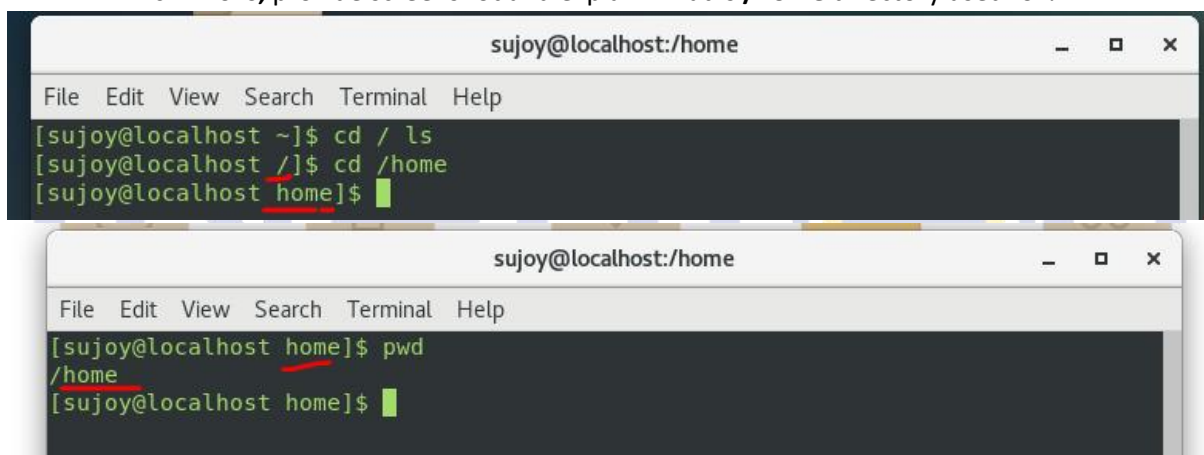
- Enter the command **cd /** and then **ls** and then hit **Enter** key
 - Take screenshot and explain what output we got?



```
sujoy@localhost:/  
File Edit View Search Terminal Help  
[sujoy@localhost ~]$ cd / ls  
[sujoy@localhost /]$
```

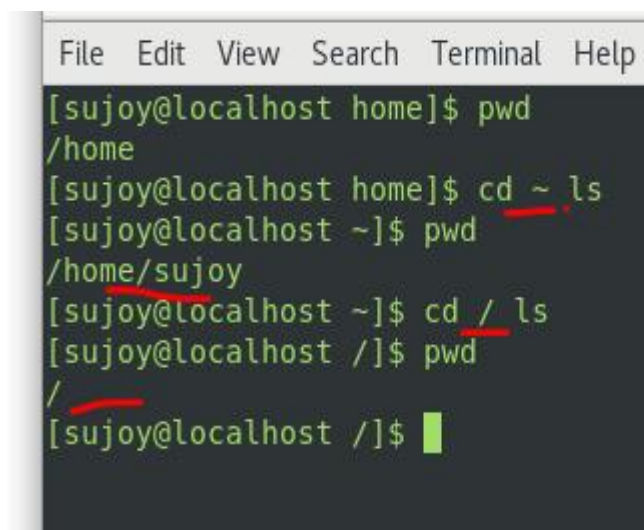
When we write command **cd /** **ls** and hit enter, tilde changes to forwardSlash, tilde (~) which represents the home directory of the currently logged in user, cahnges to forward slash (/) which represents the "root" of the filesystem.

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



```
sujoy@localhost:/home  
File Edit View Search Terminal Help  
[sujoy@localhost ~]$ cd / ls  
[sujoy@localhost /]$ cd /home  
[sujoy@localhost home]$  
  
sujoy@localhost:/home  
File Edit View Search Terminal Help  
[sujoy@localhost home]$ pwd  
/home  
[sujoy@localhost home]$
```

Changes to home directory which contains the personal files of a particular user of the system.



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

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

```
[sujoy@localhost home]$ cd ..
[sujoy@localhost /]$
```

Moved to the root of the filesystem.

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

```
sujoy@localhost:~
File Edit View Search Terminal Help
[sujoy@localhost /]$ cd/var/www/html cd
bash: cd/var/www/html: No such file or directory
[sujoy@localhost /]$ cd/var/www/html
bash: cd/var/www/html: No such file or directory
[sujoy@localhost /]$ cd
[sujoy@localhost ~]$
```

- Now type **cd /root** and then hit **Enter** key

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

Permission denied because user 'sujoy' is not root user, if we switch to root user and then try the same it will work.

```
[sujoy@localhost /]$ su
Password:
su: Authentication failure
[sujoy@localhost /]$ su
Password:
su: Authentication failure
[sujoy@localhost /]$ su
Password:
[root@localhost /]# ls
bin  dev  home  lib64  mnt  proc  run  srv  tmp  var
boot  etc  lib  media  opt  root  sbin  sys  usr
[root@localhost /]# cd /root
[root@localhost ~]# ls
anaconda-ks.cfg  initial-setup-ks.cfg
```

- Do **ls**, check any output we have on screen if yes then take screenshot?

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?

The screenshot shows a terminal window titled 'sujoy@localhost:/etc'. The user has navigated to the /etc directory and executed the 'ls' command. The output displays a list of files and directories in three columns. The 'tmp' directory is highlighted in yellow in the original image.

```

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

Using `cd /etc` command we manage to access the etc folder which contain all system configuration files in it.

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

The screenshot shows the same terminal window with the command `ls -al` executed. The output provides detailed information for each file and directory, including permissions, owner, group, size, and modification date. The command 'ls -al' is underlined in the original image.

```

[sujoy@localhost etc]$ ls -al
total 1372
drwxr-xr-x. 140 root root    8192 Nov 10 23:59 .
dr-xr-xr-x.  17 root root    224 Oct 27 23:00 ..
drwxr-xr-x.   3 root root    101 Oct 27 22:55 abrt
-rw-r--r--.   1 root root     16 Oct 27 23:00 adjtime
-rw-r--r--.   1 root root   1529 Apr  1 2020 aliases
-rw-r--r--.   1 root root  12288 Oct 27 23:01 aliases.db
drwxr-xr-x.   3 root root     65 Oct 27 22:56 alsa
drwxr-xr-x.   2 root root   4096 Oct 28 00:34 alternatives
-rw-r--r--.   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-xr-x.   3 root root     43 Oct 27 22:55 audisp
drwxr-xr-x.   3 root root     83 Oct 27 23:01 audit
drwxr-xr-x.   4 root root     71 Oct 27 22:56 avahi
drwxr-xr-x.   2 root root   4096 Oct 28 00:22 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 27 22:55 bluetooth
drwxr-xr-x.   2 root root  12288 Oct 27 22:55 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
  
```

After using `ls -al` command we found all the files in the directory, both hidden and not and also the long listing of information about files and directory with their permissions, owner name, owner group, file size in bytes and last updated time.

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

```
sujoy@localhost:/etc
File Edit View Search Terminal Help
drwxr-xr-x. 6 root root 100 Oct 27 22:34 yum
-rw-r--r--. 1 root root 970 Oct 1 2020 yum.conf
drwxr-xr-x. 2 root root 246 Oct 28 00:19 yum.repos.d
[sujoy@localhost etc]$ ls -i
51072385 abrt 35080971 mcelog
17407431 adjtime 17298551 mke2fs.conf
16777386 aliases 34196447 modprobe.d
17463147 aliases.db 17390931 modules-load.d
17545695 alsa 16777400 motd
50437840 alternatives 16777284 mtab
17576844 anacrontab 16875993 mtools.conf
17237259 asound.conf 51535376 multipath
17235316 at.deny 17368886 my.cnf
1785454 audisp 34168122 my.cnf.d
34366892 audit 18642429 nanorc
3112890 avahi 51071922 ndctl
74276 bash_completion.d 17238301 netconfig
16777387 bashrc 51017826 NetworkManager
1377605 binfmt.d 17407441 networks
1539546 bluetooth 17485678 nfs.conf
34528802 brltty 17740131 nfsmount.conf
17657188 brltty.conf 17406794 nsswitch.conf
18554769 centos-release 16799152 nsswitch.conf.bak
16777320 centos-release-upstream 18607374 ntp
185350 chkconfig.d 17485679 numad.conf
17545651 chcon.conf 17954114 oddjob
```

`ls -i` output the list of files along with their index number.

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

```
sujoy@localhost:/etc
File Edit View Search Terminal Help
Try 'ls --help' for more information.
[sujoy@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 ..
-l, --long 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, --sort=TYPE 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, --color[=WHEN] list entries by columns
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, --full 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, --group like -l, but do not list owner
```

The `ls --help` command used to provide more information on another command.


```

[sujoy@localhost etc]$ ls -t
cups                brltty
shadow              purple
resolv.conf         fwupd
ld.so.cache         cupshelpers
alternatives        flatpak
rpm                 geoclue
bash_completion.d  UPower
sysconfig           hp
logrotate.d         unbound
pam.d               speech-dispatcher
kdump.conf          setroubleshoot
prelink.conf.d      audisp
cifs-utils          oddjobd.conf.d
profile.d           plymouth
ssh                 xdg
default             abrt
tuned               festival
modprobe.d          ndctl
gdm                 dracut.conf.d
qemu-kvm            sane.d
pulse               bluetooth
libvirt             libblockdev
sasl2               egl
ld.so.conf.d         glvnd
request-key.d       libreport
gssproxy            gconf
group               dconf
lvm                 dbus-1
DIR_COLORS.256color
DIR_COLORS.lightbgcolor
chkconfig.d
yum.conf
libpaper.d
papersize
ghostscript
magic
mke2fs.conf
dracut.conf
gdbinit
gdbinit.d
my.cnf
e2fsck.conf
sudo.conf
sudoers
sudo-ldap.conf
nsswitch.conf.bak
ipsec.conf
ipsec.secrets
ipsec.d
environment
subgid
subuid
aliases
csh.login
protocols
bashrc

```

ls -t -> Sort the list by time of modification.

```

sujoy@localhost:/etc
File Edit View Search Terminal Help
fcoe                DIR_COLORS
[sujoy@localhost etc]$ ls -S
services            ssh
ld.so.cache         securetty
dnsmasq.conf        ppp
brltty.conf         logrotate.d
aliases.db          sestatus.conf
brltty              statetab
nanorc              ld.so.conf.d
kdump.conf          vmware-tools
tcsd.conf           libvirt
protocols           libaudit.conf
pnm2ppa.conf        libreport
DIR_COLORS.256color grub.d
man_db.conf         modprobe.d
makedumpfile.conf.sample iproute2
DIR_COLORS          hosts
oddjobd.conf        postfix
idmapd.conf         pki
enscript.cfg        systemd
DIR_COLORS.lightbgcolor NetworkManager
wgetrc              sos.conf
sudoers             firewallld
alternatives        rpm
bash_completion.d   rc.d
cups                xdg
libibverbs.d        e2fsck.conf
pam.d               magic
profile.d           tuned
sane.d              gconf
security            gdm
setuptools.d        prelink.conf.d
DIR_COLORS.256color
DIR_COLORS.lightbgcolor
chkconfig.d
yum.conf
libpaper.d
papersize
ghostscript
magic
mke2fs.conf
dracut.conf
gdbinit
gdbinit.d
my.cnf
e2fsck.conf
sudo.conf
sudoers
sudo-ldap.conf
nsswitch.conf.bak
ipsec.conf
ipsec.secrets
ipsec.d
environment
subgid
subuid
aliases
csh.login
protocols
bashrc

```

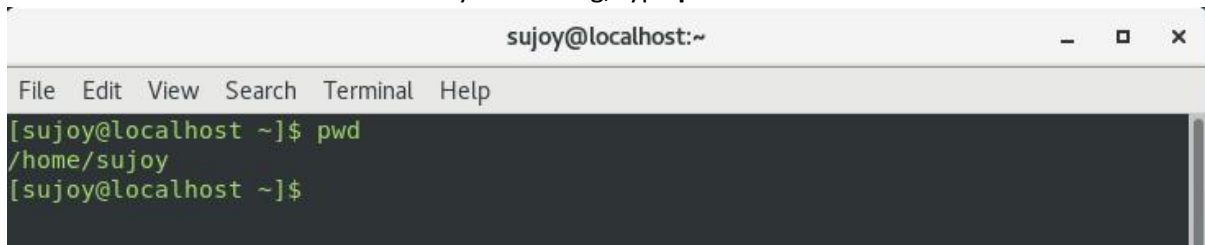
ls -S -> sort the list by size, with the largest at the top.

Assignment-5

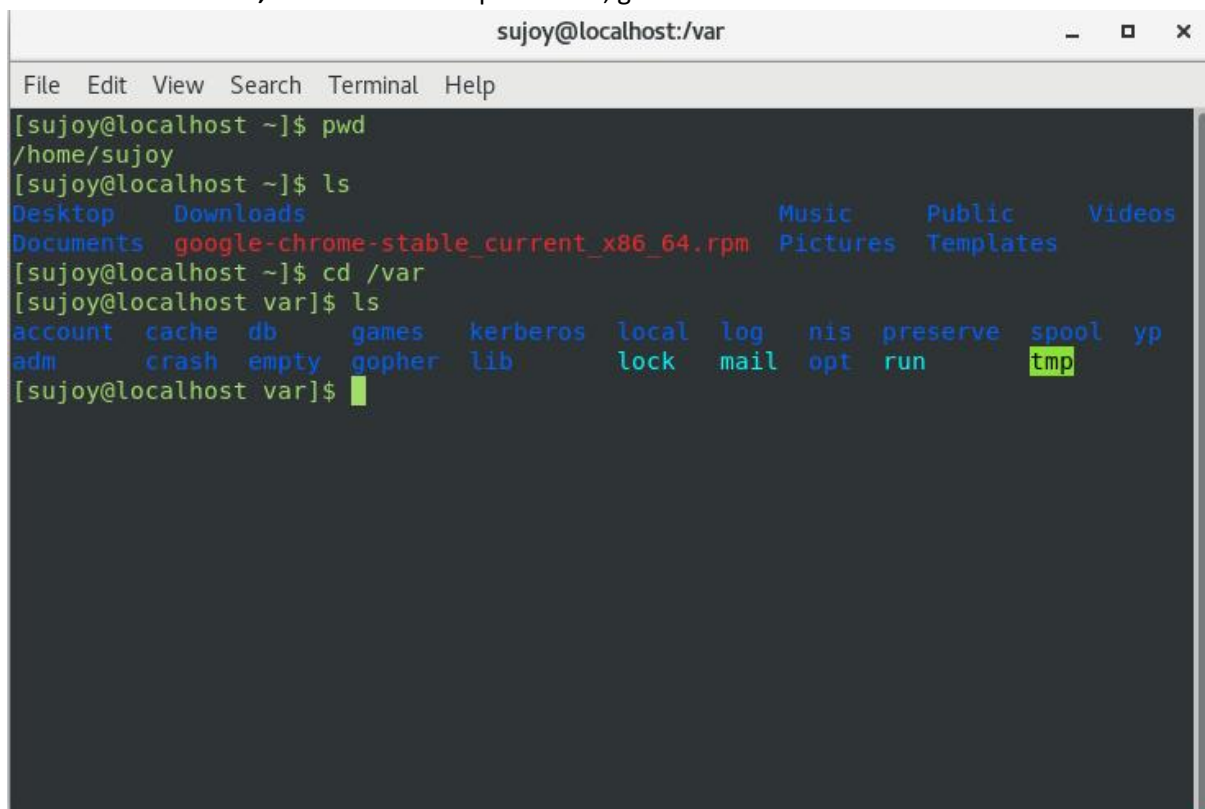
Know where you are and where you working

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

A terminal window titled 'sujoy@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The command '[sujoy@localhost ~]\$ pwd' has been entered, and the output is '/home/sujoy'. The prompt is now '[sujoy@localhost ~]\$'.

- Now use **cd /var** and hit **Enter** key
 - Do **ls**, and see what output comes, give screenshot?

A terminal window titled 'sujoy@localhost:/var' with a menu bar (File, Edit, View, Search, Terminal, Help). The sequence of commands and outputs is: '[sujoy@localhost ~]\$ pwd' outputs '/home/sujoy'; '[sujoy@localhost ~]\$ ls' outputs a list of files and directories including Desktop, Downloads, Music, Public, Videos, Documents, google-chrome-stable_current_x86_64.rpm, Pictures, and Templates; '[sujoy@localhost ~]\$ cd /var' changes the directory; and '[sujoy@localhost var]\$ ls' outputs a list of files and directories including account, cache, db, games, kerberos, local, log, nis, preserve, spool, yp, adm, crash, empty, gopher, lib, lock, mail, opt, run, and tmp. The 'tmp' directory is highlighted in green.

- Do explore other help options of each command to learn more other things we can do with these commands