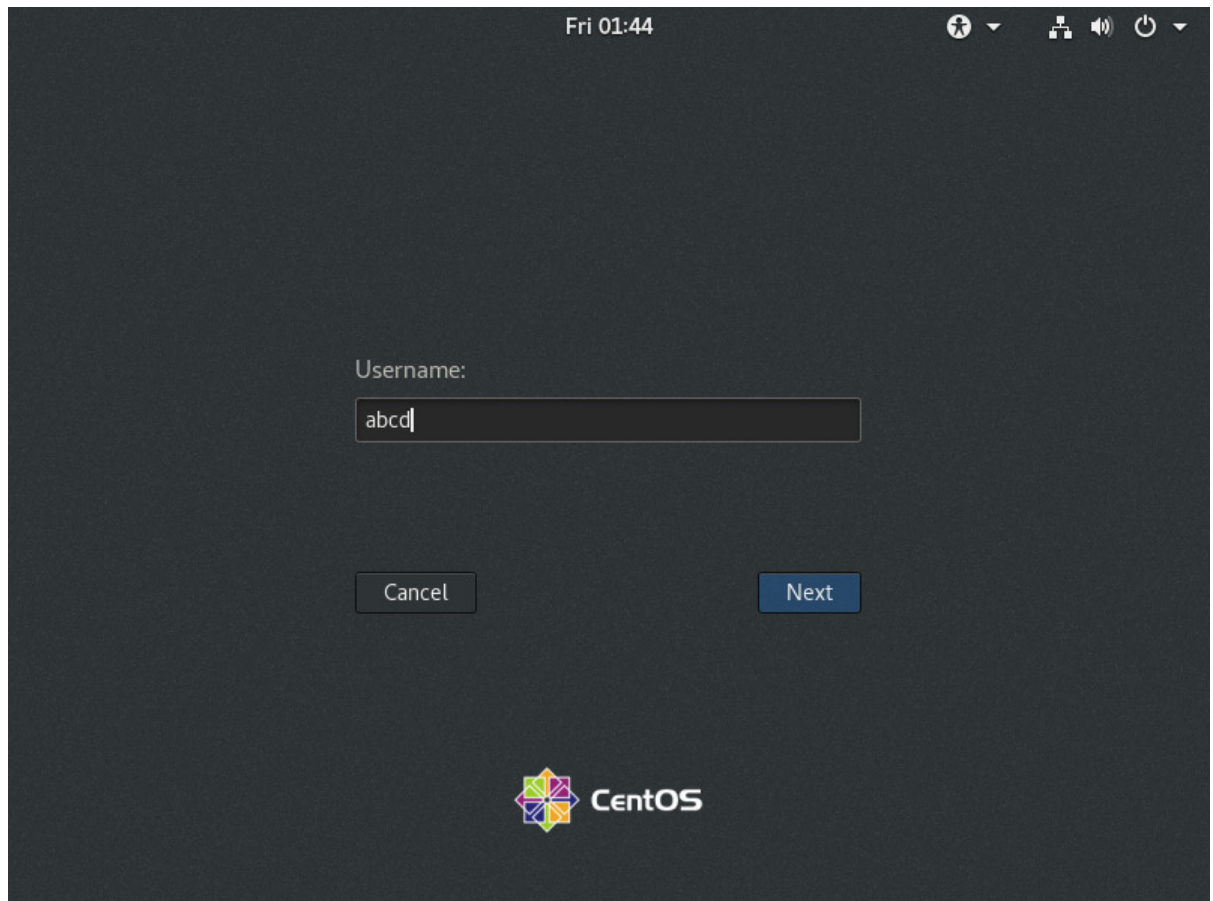


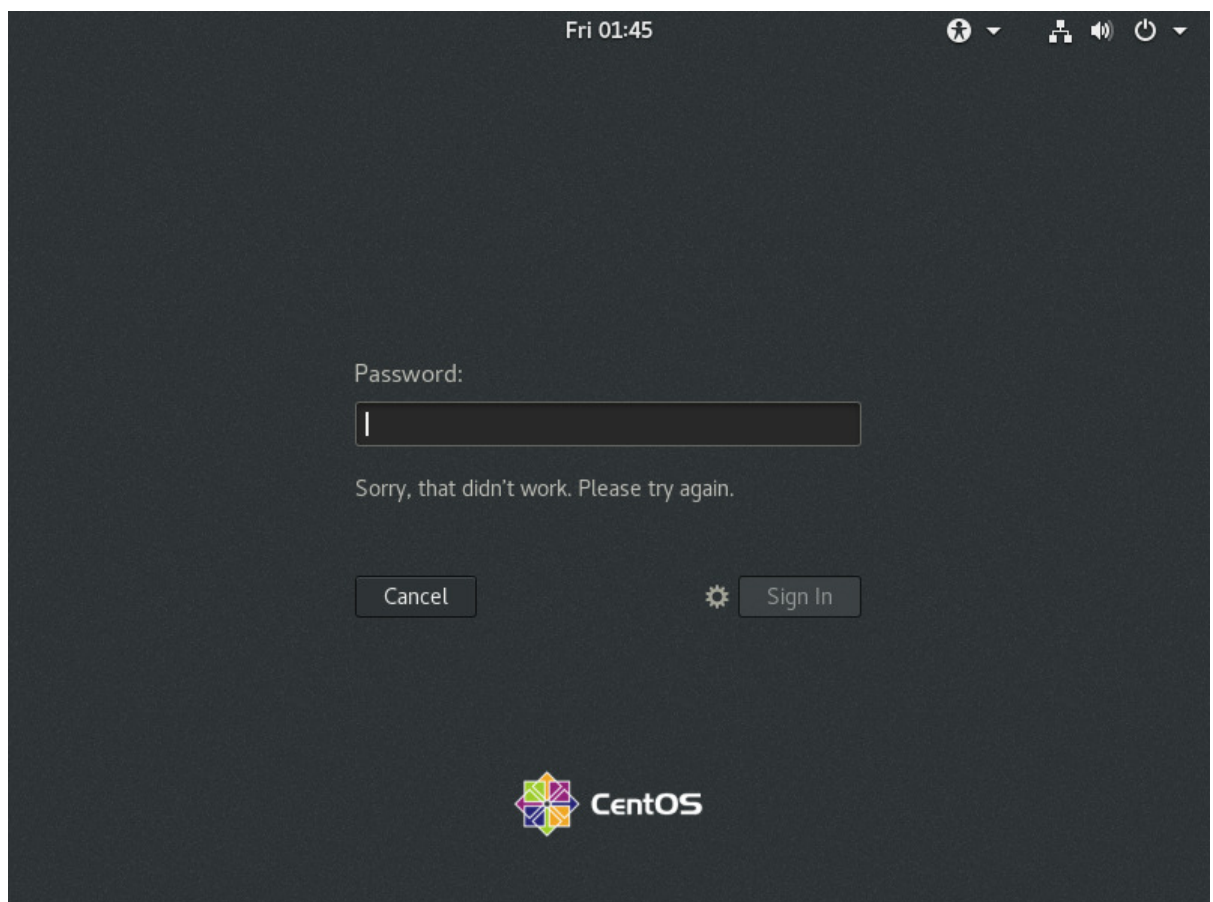
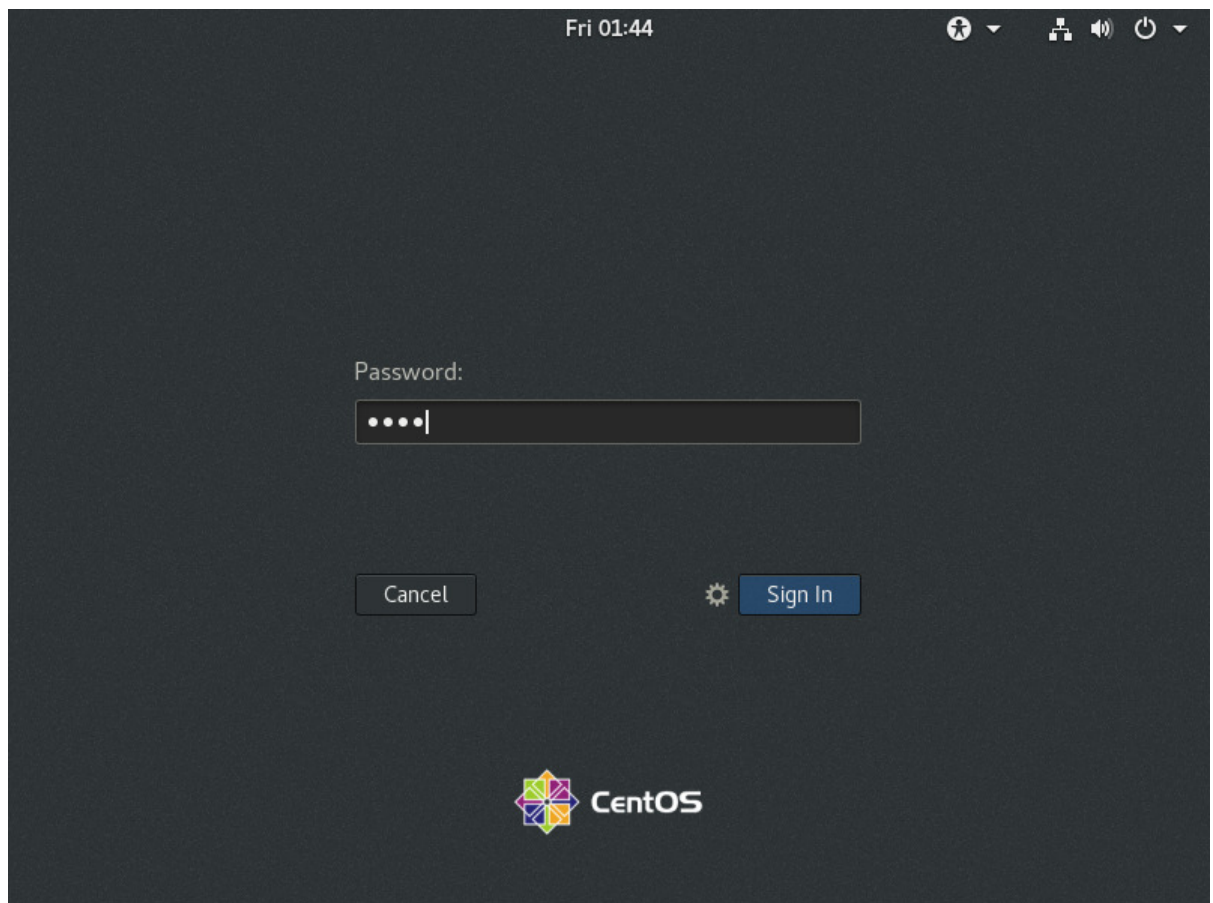
Linux Assignment Set

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?



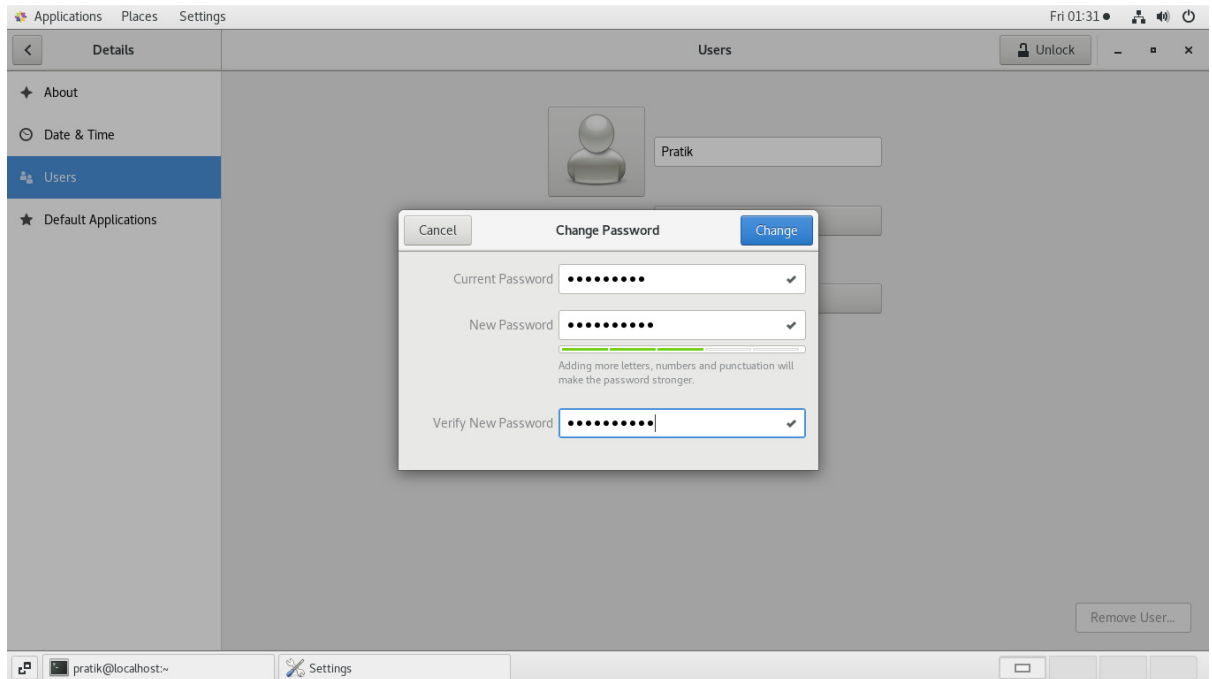


- Cant login to a non-existent username.

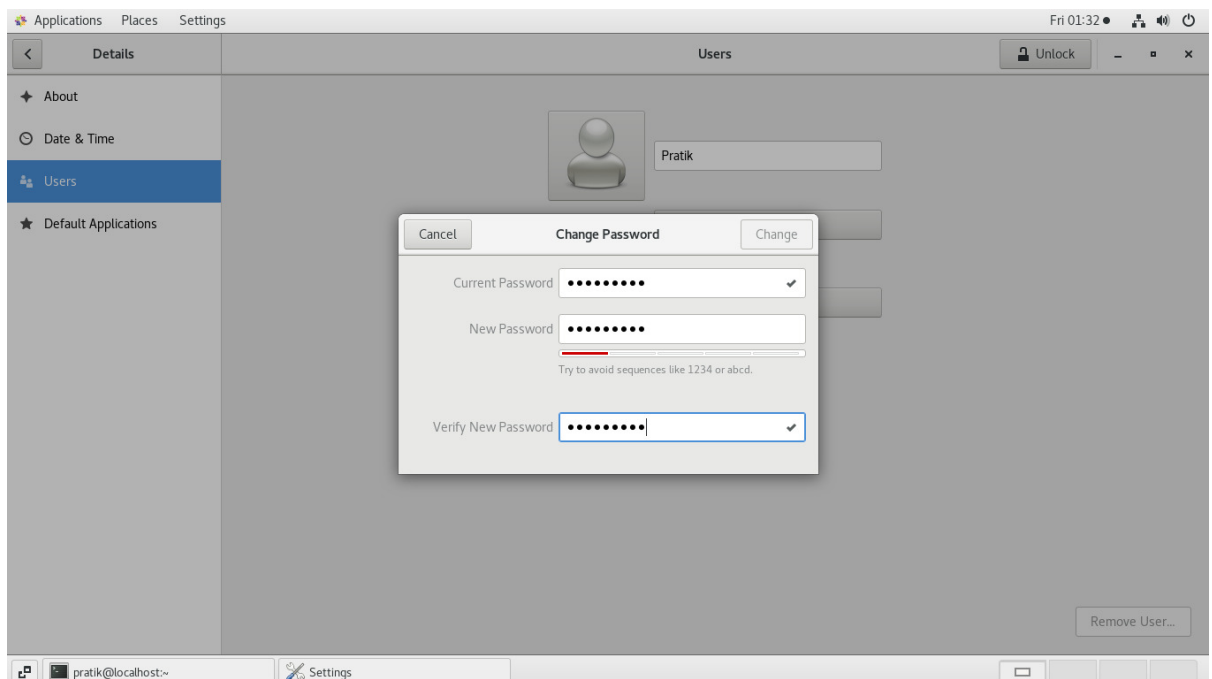
Assignment 2

Password changing

- Login into your account and then change password?
 - Change your password into lneuR0n#42 and hit the Enter key
 - Explain what happen and give screenshot?

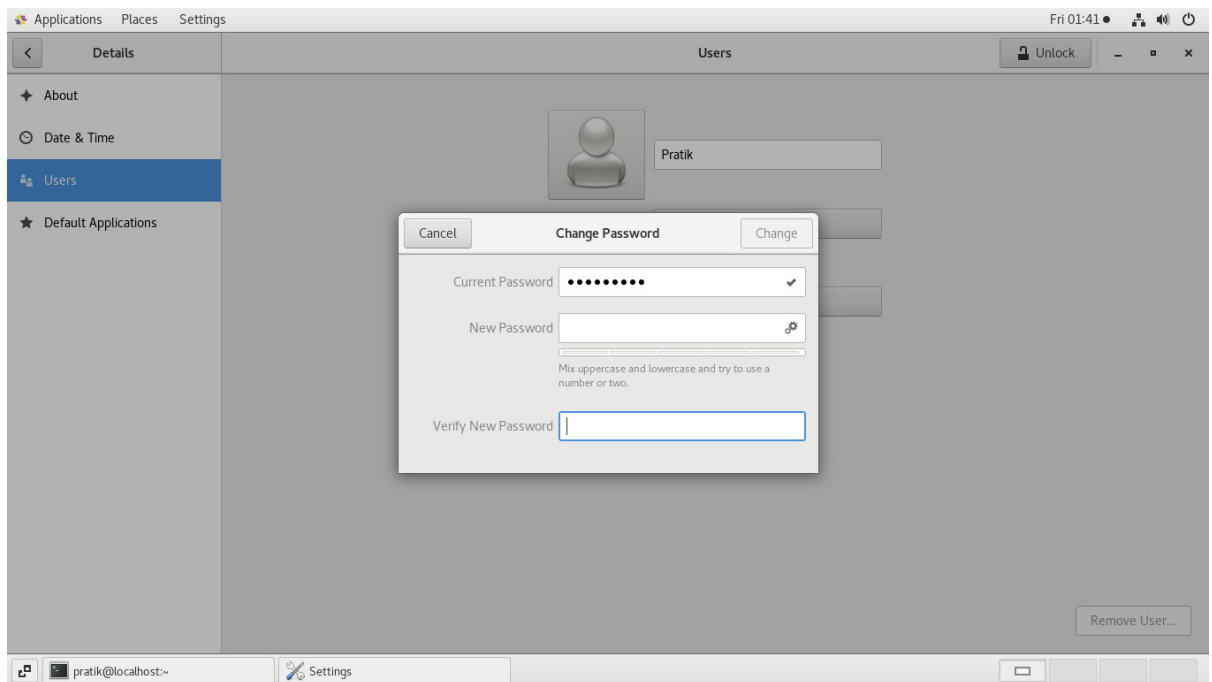


- User login password is changes to new password.
- Try again to change password but use like password 1234 or abcd
 - Explain what happen and give screenshot?



- Doesnt allows to change password to generic sequences like "1234".

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

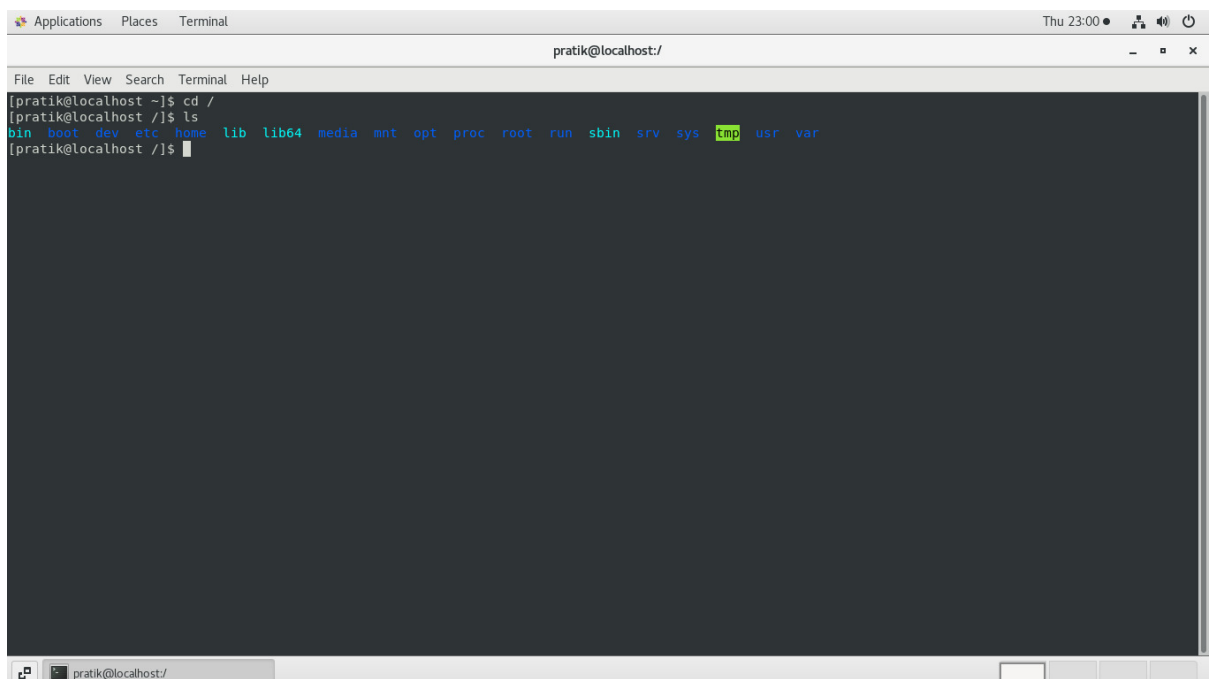


- Cant change password.

Assignment 3

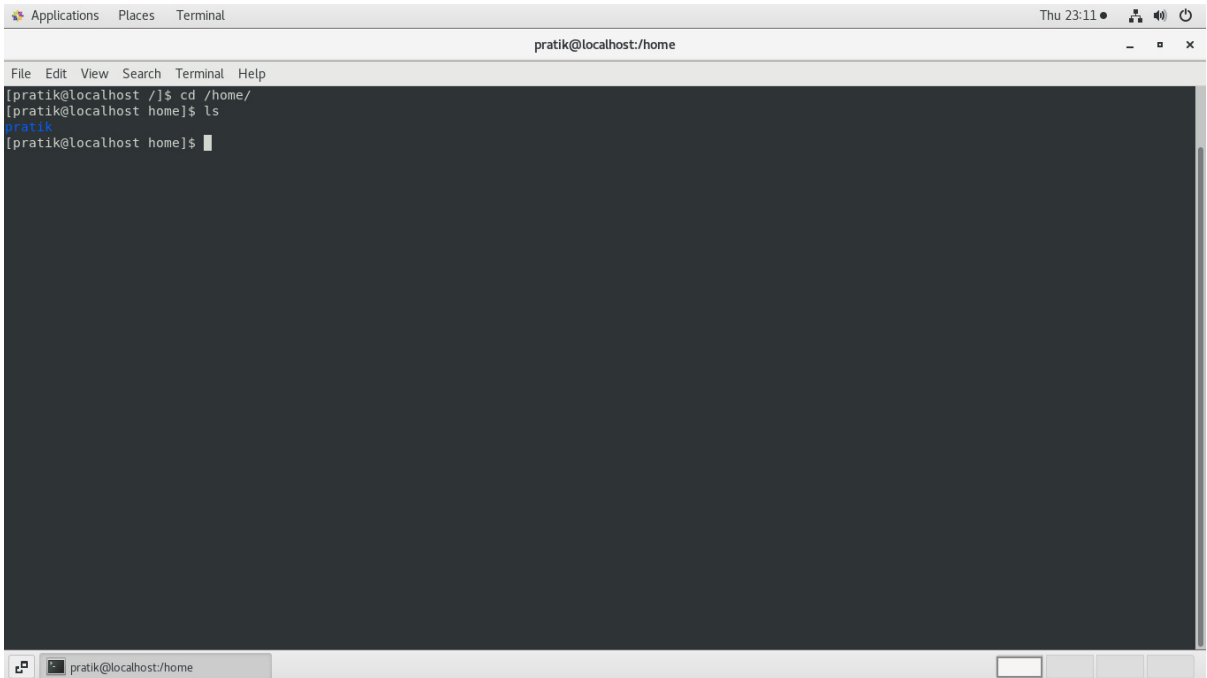
Working with Directories

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



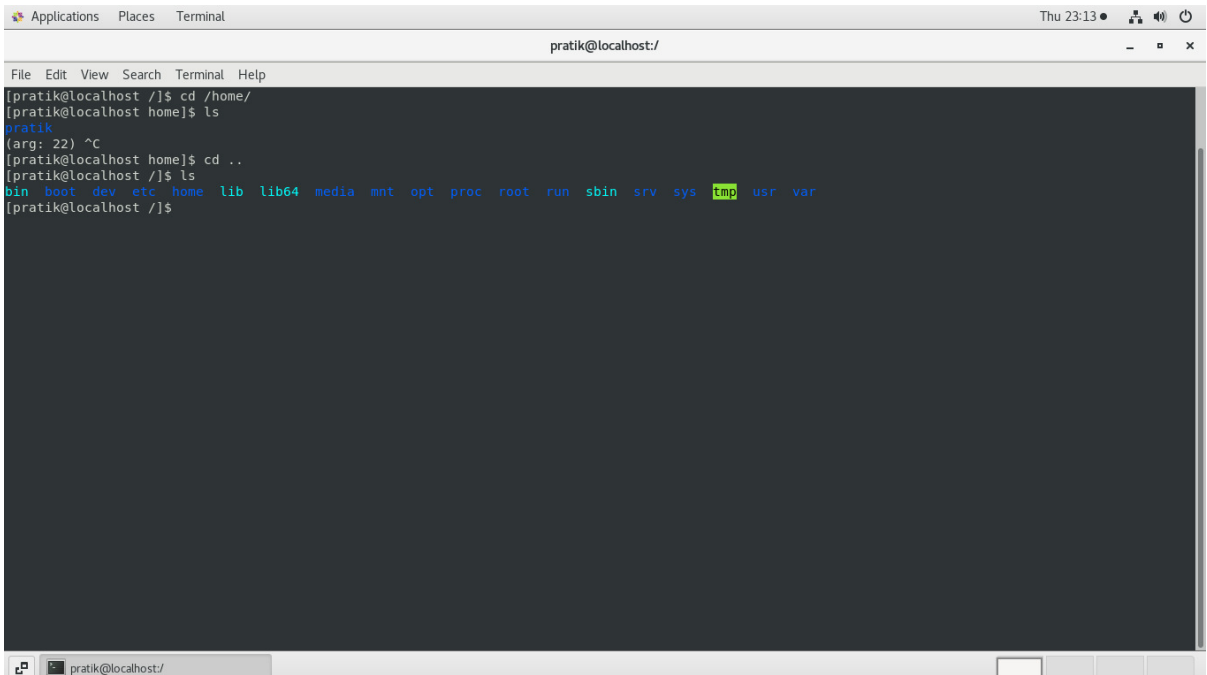
- "/" is the root directory in linux OS.

- Everything in linux begins from this directory.
- Enter the command now `cd /home` and then hit Enter key
 - Do `ls`, provide screenshot and explain what is `/home` directory used for?



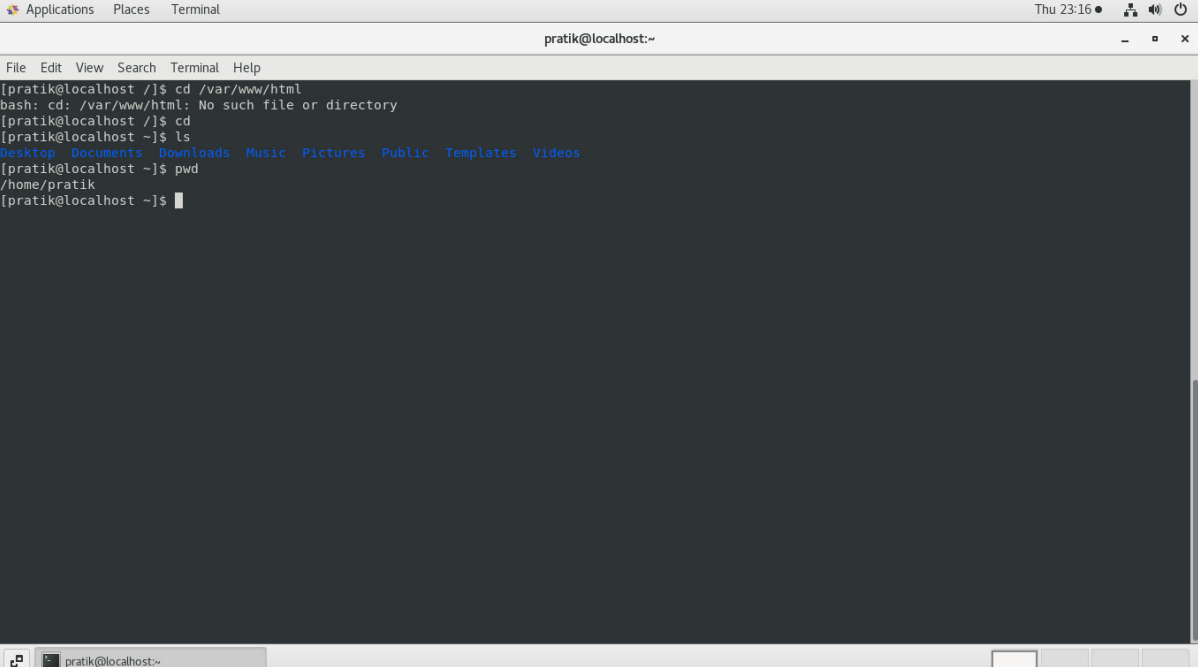
```
pratik@localhost:~$ cd /home/
pratik@localhost:~$ ls
pratik
pratik@localhost:~$
```

- `/home` directory lists the number of directories for specific users in system.
- Enter `cd ..` and hit Enter key [Note: here we have space after `cd` then use double dot]
 - Check what happen and give screenshot?



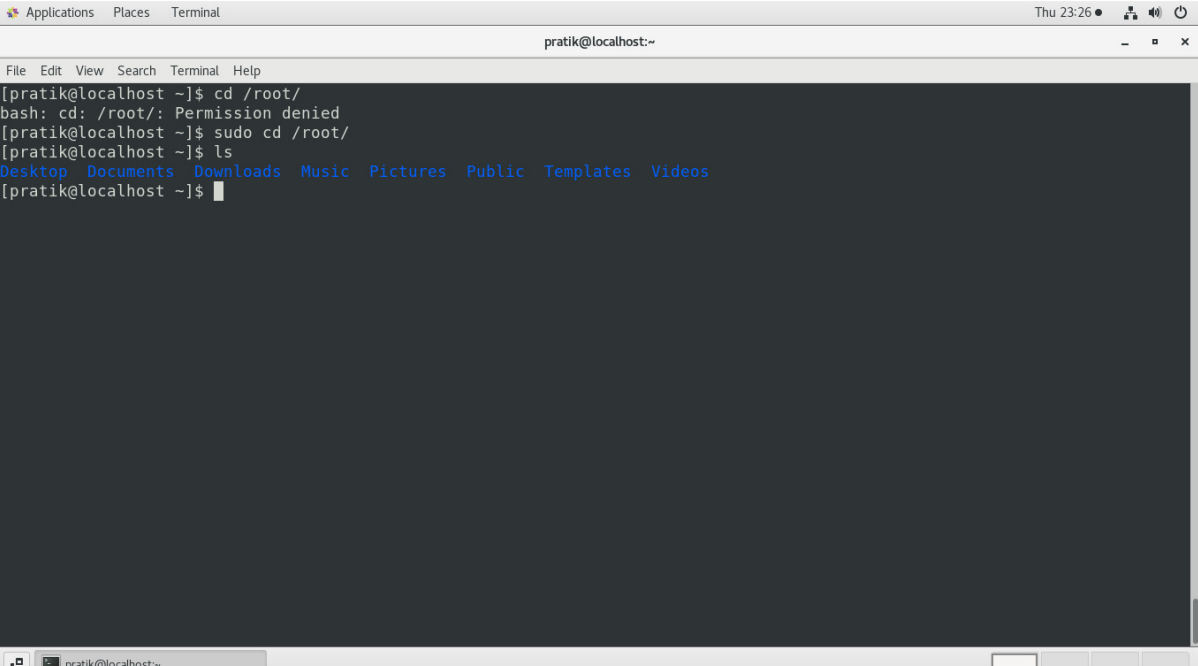
```
pratik@localhost:~$ cd ..
pratik@localhost:/$ ls
bin  boot  dev  etc  home  lib  lib64  media  mnt  opt  proc  root  run  sbin  srv  sys  tmp  usr  var
pratik@localhost:/$
```

- It takes us to `/` directory ie one directory up.
- Now enter `cd /var/www/html` and then type `cd` and hit Enter key
 - Explain what happen and give screenshot?

A terminal window titled 'pratik@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[pratik@localhost ~]$ cd /var/www/html
bash: cd: /var/www/html: No such file or directory
[pratik@localhost ~]$ cd
[pratik@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[pratik@localhost ~]$ pwd
/home/pratik
[pratik@localhost ~]$
```

- Since there is not such folder such as www/html inside /var it gave us the error that "No such file or folder"
- cd + Enter takes us to the home directory of the user.
- Now type cd /root and then hit Enter key
 - Do ls, check any output we have on screen if yes then take screenshot?

A terminal window titled 'pratik@localhost:~' with a menu bar (File, Edit, View, Search, Terminal, Help). The terminal shows the following commands and output:

```
[pratik@localhost ~]$ cd /root/
bash: cd: /root/: Permission denied
[pratik@localhost ~]$ sudo cd /root/
[pratik@localhost ~]$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
[pratik@localhost ~]$
```

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?

```

[pratik@localhost ~]$ cd /etc/
[pratik@localhost etc]$ ls
abrt                exports.d           krb5.conf          pam.d              services
adjtime            favicon.png        krb5.conf.d       papersize          sestatus.conf
aliases            fcoe              ksmtd.conf        passwd            setroubleshoot
aliases.db         festival          ld.so.cache       passwd-           setupptool.d
alsa              filesystems       ld.so.conf        pbm2ppa.conf     sgml
alternatives       firefox           ld.so.conf.d     pinforc          shadow
anacrontab        firewallld       libaudit.conf    pkcs11           shadow-
asound.conf       flatpak          libblockdev       pki              shells
at.deny           fonts            libbverbs.d      plymouth         skel
audit             fprintd.conf     libnl             pm               smartmontools
audit             fstab            libpaper.d        pnm2ppa.conf     sos.conf
avahi             fuse.conf        libreport         polkit-1         speech-dispatcher
bash_completion.d fwupd            libuser.conf     popt.d           ssh
bashrc            gconf            libvirt           postfix          ssl
binfmt.d          gcrypt           locale.conf      ppp              statetab
bluetooth         gdbinit          localtime        prelink.conf.d  statetab.d
brlty             gdbinit.d        login.defs        printcap         subgid
brlty.conf        gdm              logrotate.conf   profile          subuid
centos-release    geoclue          logrotate.d      profile.d        sudo.conf
centos-release-upstream GeoIP.conf       lsm              protocols        sudoers
chkconfig.d       ghostscript      lvm              pulse            sudoers.d
chrony.conf       glvnd            machine-id       purple           sudo-ldap.conf
chrony.keys       gnupg            magic            python            sysconfig
cifs-utils        GREP_COLORS      mail.rc          qemu-ga          sysctl.conf
cron.d            groff            makedumpfile.conf.sample qemu-kvm          sysctl.d
cron.daily        group            man_db.conf      radvd.conf       systemd
cron.deny         group-           maven            ras              system-release
  
```

- System configuration files are stored in /etc

- Then type `ls -al` and hit Enter key

- Take screenshot and explain what new file or directory you found?

```

[pratik@localhost etc]$ ls -al
total 1368
drwxr-xr-x. 139 root root    8192 Oct 13 22:43 .
dr-xr-xr-x.  17 root root    224 Oct 11 11:58 ..
drwxr-xr-x.   3 root root    101 Oct 11 11:03 abrt
-rw-r--r--.   1 root root    16 Oct 11 11:58 adjtime
-rw-r--r--.   1 root root  1529 Apr  1 2020 aliases
-rw-r--r--.   1 root root 12288 Oct 11 12:13 aliases.db
drwxr-xr-x.   3 root root    65 Oct 11 11:27 alsa
drwxr-xr-x.   2 root root  4096 Oct 11 13:08 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 11 11:07 audit
drwxr-xr-x.   3 root root    83 Oct 11 12:12 auditd
drwxr-xr-x.   4 root root    71 Oct 11 11:28 avahi
drwxr-xr-x.   2 root root  4096 Oct 11 12:49 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 11 11:00 bluetooth
drwxr-xr-x.   2 root root 12288 Oct 11 11:15 brlty
-rw-r--r--.   1 root root 21929 Apr 11 2018 brlty.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
-rw-r--r--.   1 root root   1108 Aug  8 2019 chrony.conf
-rw-r--r--.   1 root chrony  481 Aug  8 2019 chrony.keys
drwxr-xr-x.   2 root root    26 Oct 11 12:43 cifs-utils
drwxr-xr-x.   2 root root    54 Oct 11 12:36 cron.d
  
```

- `ls -l`: to list files and folders is list format
- `ls -a`: to list all files and folders (including hidden files) in current directory
- `ls -la`: to list all files and folders (including hidden files) is list format

- Then use `ls -i` and hit Enter key

- Now see what different output its shows and take screenshot?

```
[pratik@localhost etc]$ ls -li
17724152 abrt
8986886 adjtime
8388778 aliases
9751965 aliases.db
1675090 alsa
17150034 alternatives
9050122 anacrontab
8803887 asound.conf
9102134 at.deny
26084022 audisp
9094453 audit
18459899 avahi
74276 bash_completion.d
8388779 bashrc
25924682 binfmt.d
25995009 bluetooth
9273053 brltty
9273054 brltty.conf
8388777 centos-release
8388712 centos-release-upstream
25204727 chkconfig.d
9102006 chrony.conf
9102008 chrony.keys
26825789 cifs-utils
17737612 cron.d
17596609 cron.daily
9112942 cron.deny
8388789 hosts.allow
8388790 hosts.deny
9108197 hp
8943799 idmapd.conf
8496272 init.d
8388786 inittab
8388791 inputrc
8552156 iproute2
9094450 ipsec.conf
26295934 ipsec.d
9094451 ipsec.secrets
1306884 iscsi
8388713 issue
8388714 issue.net
8921834 java
1102014 jvm
8921837 jvm-common
9102132 kdump.conf
26825786 kernel
9752923 krb5.conf
8684715 krb5.conf.d
9078816 ksmtd.conf
8397609 ld.so.cache
9752915 ld.so.conf
25193552 ld.so.conf.d
8496260 libaudit.conf
25993221 libblockdev
8388795 profile
25165949 profile.d
8388796 protocols
17633742 pulse
2175077 purple
8684435 python
2893675 qemu-ga
26417745 qemu-kvm
9108194 radvd.conf
26820050 ras
9168858 rc0.d
9168859 rc1.d
9168860 rc2.d
9168861 rc3.d
8412222 rc4.d
8412223 rc5.d
9168862 rc6.d
126363 rc.d
8397527 rc.local
1368351 rdma
8388716 redhat-release
8647193 request-key.conf
17207192 request-key.d
9078483 resolv.conf
9752916 rpc
16816281 rpm
9048463 rsyncd.conf
```

- Displays all files in list format along with its inode number.
- inode number is a unique identifier for a specific piece of metadata on a given filesystem.
- Then use `ls -help` and see other options about `ls` command
- Explore it and try with other attribute we can use with `ls` command

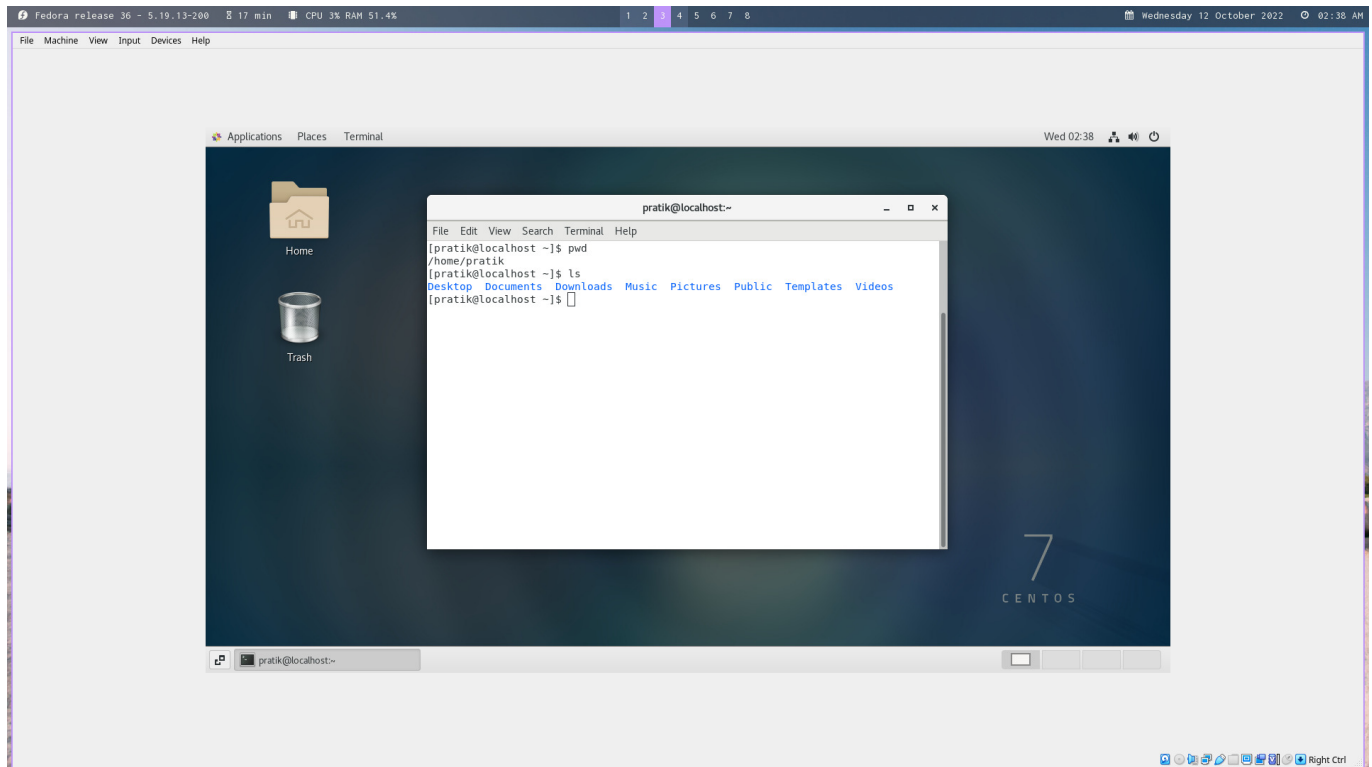
```
[pratik@localhost ~]$ ls -lsh
total 36K
4.0K drwx----- 15 pratik pratik 4.0K Oct 13 22:45 .
0 drwxr-xr-x. 3 root root 20 Oct 11 11:58 ..
4.0K -rw----- 1 pratik pratik 323 Oct 14 01:13 .bash_history
4.0K -rw-r--r-- 1 pratik pratik 18 Apr 1 2020 .bash_logout
4.0K -rw-r--r-- 1 pratik pratik 193 Apr 1 2020 .bash_profile
4.0K -rw-r--r-- 1 pratik pratik 231 Apr 1 2020 .bashrc
4.0K drwx----- 16 pratik pratik 4.0K Oct 12 02:30 .cache
4.0K drwxr-xr-x. 14 pratik pratik 4.0K Oct 12 02:35 .config
0 drwx----- 3 pratik pratik 25 Oct 11 12:24 .dbus
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Desktop
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Documents
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Downloads
4.0K -rw----- 1 pratik pratik 16 Oct 11 12:24 .esd_auth
4.0K -rw----- 1 pratik pratik 930 Oct 13 22:45 .ICEauthority
0 drwx----- 3 pratik pratik 19 Oct 11 12:24 .local
0 drwxr-xr-x. 4 pratik pratik 39 Oct 11 10:32 .mozilla
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Music
0 drwxr-xr-x. 2 pratik pratik 100 Oct 13 22:57 Pictures
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Public
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Templates
0 drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Videos
```

- `ls -s`: shows size of each file.
- `ls -h`: shows sizes in human readable format

Assignment 5

Know where your are and where you are working.

- Here we use commands :
 - `pwd`: to find current/present working directory
 - `cd`: to change directory or go into other folder
 - `ls`: to list files and folders in current directory
- 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?

```

[pratik@localhost ~]$ cd /var
[pratik@localhost var]$ ls
account  adm  cache  crash  db  empty  games  gopher  kerberos  lib  local  lock  log  mail  nis  opt  preserve  run  spool  tmp  yp
[pratik@localhost var]$ ls -la
total 16
drwxr-xr-x. 20 root root 282 Oct 11 12:12 .
dr-xr-xr-x. 17 root root 224 Oct 11 11:58 ..
drwxr-xr-x. 2 root root 19 Oct 11 11:29 account
drwxr-xr-x. 2 root root 6 Apr 11 2018 adm
drwxr-xr-x. 12 root root 141 Oct 11 12:13 cache
drwxr-xr-x. 2 root root 6 Jun 9 2021 crash
drwxr-xr-x. 3 root root 34 Oct 11 12:31 db
drwxr-xr-x. 3 root root 18 Oct 11 11:28 empty
drwxr-xr-x. 2 root root 6 Apr 11 2018 games
drwxr-xr-x. 2 root root 6 Apr 11 2018 gopher
drwxr-xr-x. 3 root root 18 Jun 20 21:01 kerberos
drwxr-xr-x. 57 root root 4096 Oct 11 11:41 lib
drwxr-xr-x. 2 root root 6 Apr 11 2018 local
lrwxrwxrwx. 1 root root 11 Oct 11 10:31 lock -> ../run/lock
drwxr-xr-x. 18 root root 4096 Oct 12 02:24 log
lrwxrwxrwx. 1 root root 10 Oct 11 10:31 mail -> spool/mail
drwxr-xr-x. 2 root root 6 Apr 11 2018 nis
drwxr-xr-x. 2 root root 6 Apr 11 2018 opt
drwxr-xr-x. 2 root root 6 Apr 11 2018 preserve
lrwxrwxrwx. 1 root root 6 Oct 11 10:31 run -> ../run
drwxr-xr-x. 12 root root 140 Oct 11 11:30 spool
drwxrwxrwt. 17 root root 4096 Oct 12 02:56 tmp
-rw-r--r--. 1 root root 163 Oct 11 10:31 .updated
drwxr-xr-x. 2 root root 6 Apr 11 2018 yp
[pratik@localhost var]$

```

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

```

[pratik@localhost ~]$ ls -a
.  .bash_profile  .dbus  .esd_auth  Music  Videos
.  .bashrc  Desktop  .ICEauthority  Pictures
.  .bash_history  .cache  Documents  .local  Public
.  .bash_logout  .config  Downloads  .mozilla  Templates
[pratik@localhost ~]$ ls -l
total 0
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Desktop
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Documents
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Downloads
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Music
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Pictures
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Public
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Templates
[pratik@localhost ~]$ ls -la
total 36
drwx----- 15 pratik pratik 4096 Oct 12 02:33
drwxr-xr-x. 3 root root 29 Oct 11 11:58
-rw----- 1 pratik pratik 7 Oct 12 02:33 .bash_history
-rw-r--r-- 1 pratik pratik 18 Apr 1 2020 .bash_logout
-rw-r--r-- 1 pratik pratik 193 Apr 1 2020 .bash_profile
-rw-r--r-- 1 pratik pratik 231 Apr 1 2020 .bashrc
drwx----- 16 pratik pratik 4096 Oct 12 02:30 .cache
drwxr-xr-x. 14 pratik pratik 4096 Oct 12 02:35 .config
drwx----- 3 pratik pratik 25 Oct 11 12:24 .dbus
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Desktop
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Documents
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Downloads
-rw----- 1 pratik pratik 16 Oct 11 12:24 .esd_auth
-rw----- 1 pratik pratik 620 Oct 12 02:24 .ICEauthority
drwx----- 3 pratik pratik 19 Oct 11 12:24 .local
drwxr-xr-x. 4 pratik pratik 39 Oct 11 10:32 .mozilla
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Music
drwxr-xr-x. 2 pratik pratik 6 Oct 11 12:24 Pictures

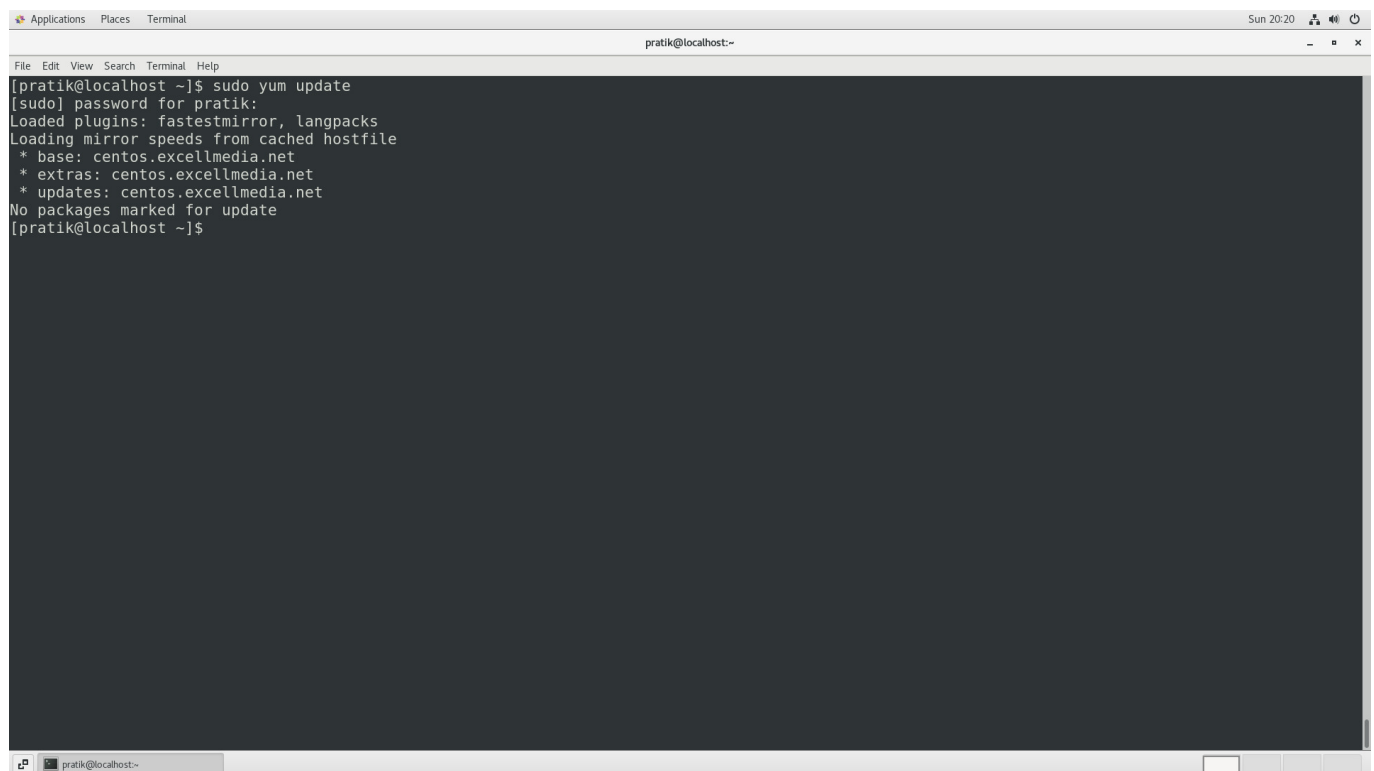
```

- Here we use commands:
 - `ls -l`: to list files and folders in list format
 - `ls -a`: to list all files and folders (including hidden files) in current directory
 - `ls -la`: to list all files and folders (including hidden files) in list format

Extra Assignment 1

System was updated using command

```
sudo yum update
```



```
pratik@localhost:~$ sudo yum update
[sudo] password for pratik:
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: centos.excellmedia.net
 * extras: centos.excellmedia.net
 * updates: centos.excellmedia.net
No packages marked for update
pratik@localhost:~$
```

Extra Assignment 2

Was able to run Virtual machine in fullscreen after installing gcc, kernel-devel-\$(uname -r), elfutils-libelf-devel

```
sudo yum install gcc

sudo yum install kernel-devel-$(uname -r)

sudo yum install elfutils-libelf-devel
```

