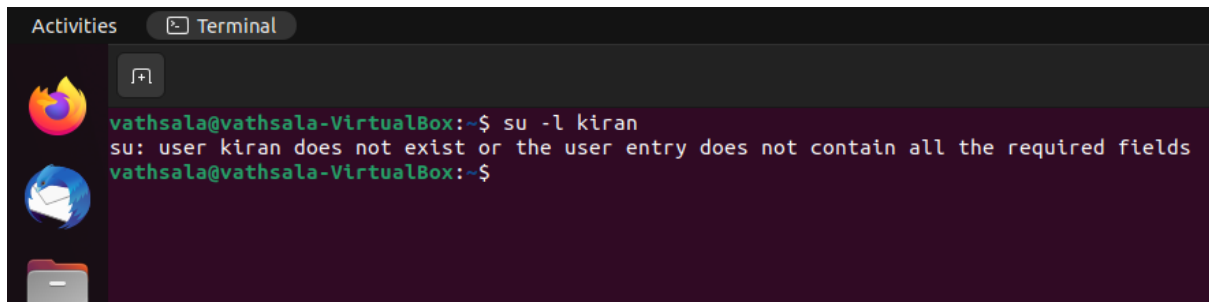


Linux Assignments Set 1

Assignment-1

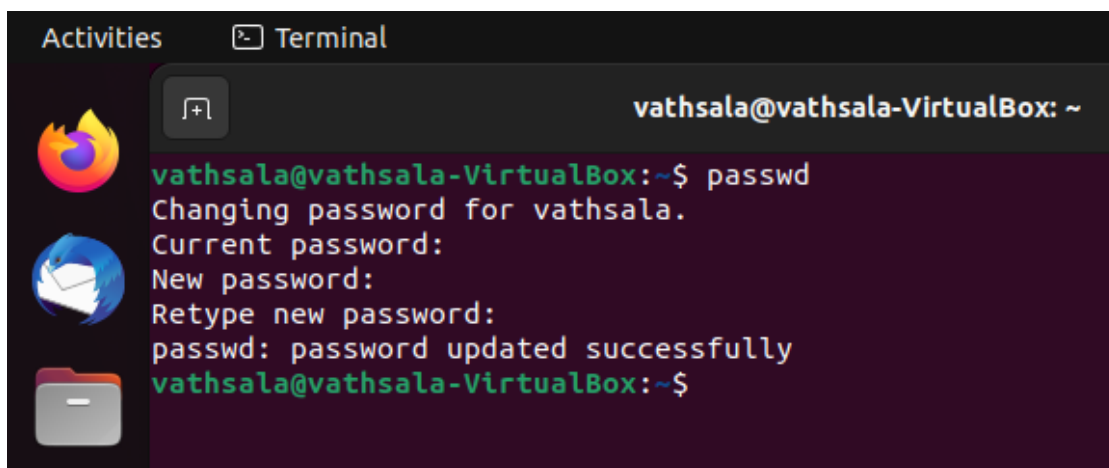


```
Activities Terminal
vathsala@vathsala-VirtualBox:~$ su -l kiran
su: user kiran does not exist or the user entry does not contain all the required fields
vathsala@vathsala-VirtualBox:~$
```

There are two ways we can switch users. One is through the terminal using su command. The above screenshot indicates that when I try to login with non-existent username it displays user does not exist.

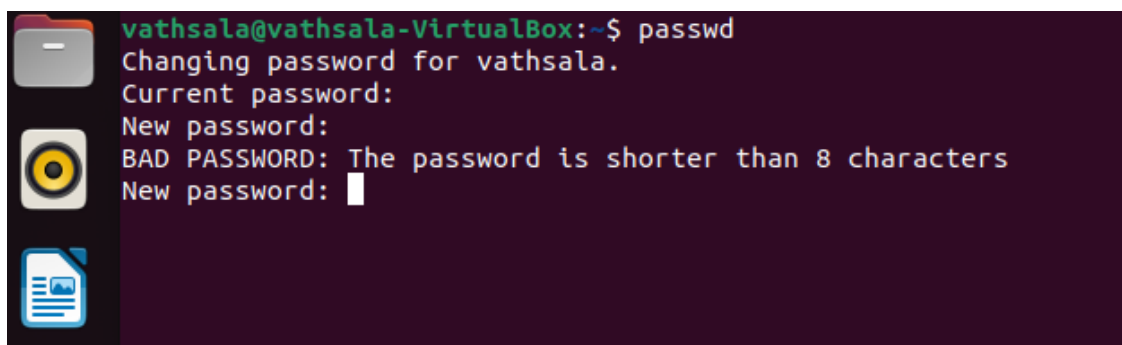
In a multi user operating system Linux we can switch users , it allows more than one user to login and perform operations without affecting other users in the system provided the user or username exists.

Assignment-2



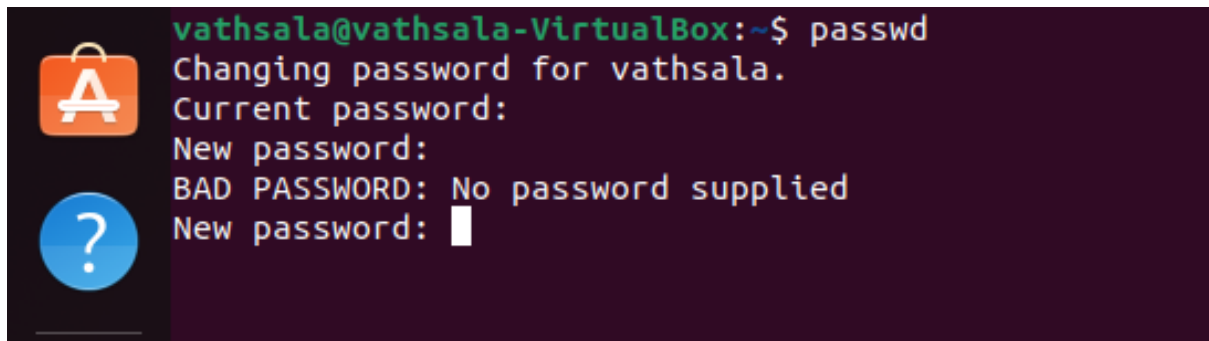
```
Activities Terminal
vathsala@vathsala-VirtualBox: ~
vathsala@vathsala-VirtualBox:~$ passwd
Changing password for vathsala.
Current password:
New password:
Retype new password:
passwd: password updated successfully
vathsala@vathsala-VirtualBox:~$
```

passwd command is used to change the password. As per the requirement I changed the password to lneuR0n#42 , it got updated successfully as shown above as it meets the basic password requirements with minimum length 8 i.e. combination a-z,A-Z,0-9 and special characters.



```
vathsala@vathsala-VirtualBox:~$ passwd
Changing password for vathsala.
Current password:
New password:
BAD PASSWORD: The password is shorter than 8 characters
New password: 
```

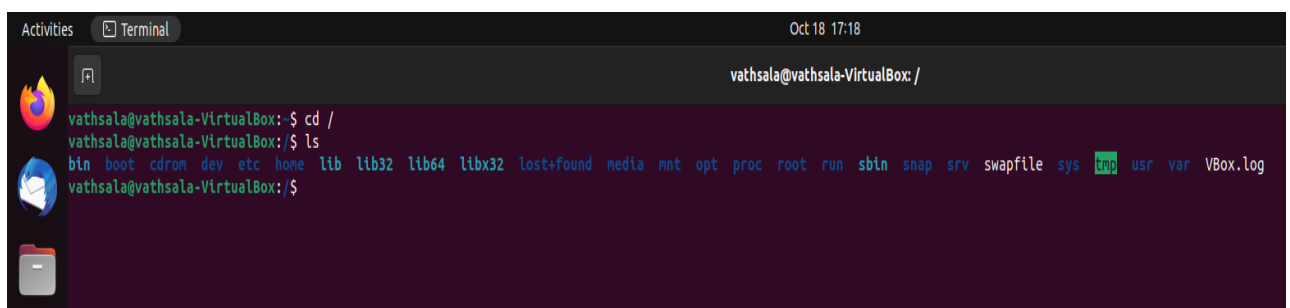
Again, change the password with the value 1234 it gives message as bad password shown above. Because it doesn't meet the criteria of minimum length.

A terminal window with a dark purple background. On the left, there are two icons: an orange shopping bag with a white 'A' and a blue circle with a white question mark. The terminal text shows a user 'vathsala' at 'vathsala-VirtualBox' running the 'passwd' command. It prompts for the current password, then the new password. The user enters a password, but it is rejected with the message 'BAD PASSWORD: No password supplied'. The prompt for the new password is shown with a white cursor.

```
vathsala@vathsala-VirtualBox:~$ passwd
Changing password for vathsala.
Current password:
New password:
BAD PASSWORD: No password supplied
New password: 
```

Again, change the password but with the empty field in new password gives error message as No password supplied because the password cannot be empty.

Assignment-3

A terminal window titled 'Terminal' with a date and time 'Oct 18 17:18'. The prompt is 'vathsala@vathsala-VirtualBox: /'. The user runs 'cd /' and then 'ls'. The output of 'ls' lists various system directories and files: bin, boot, cdrom, dev, etc, home, lib, lib32, lib64, libx32, lost+found, media, mnt, opt, proc, root, run, sbin, snap, srv, swapfile, sys, tmp, usr, var, and VBox.log.

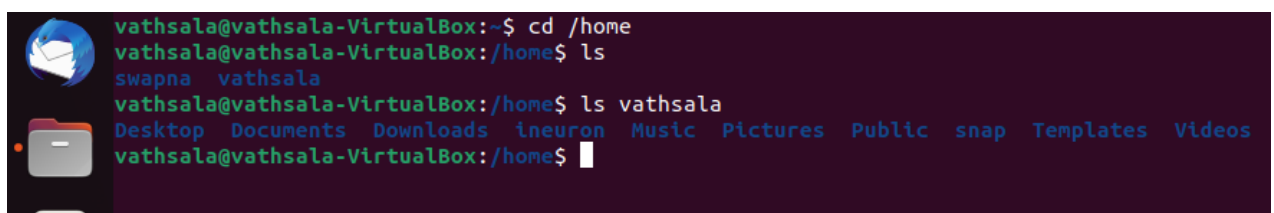
```
Activities Terminal Oct 18 17:18
vathsala@vathsala-VirtualBox: /
vathsala@vathsala-VirtualBox:~$ cd /
vathsala@vathsala-VirtualBox:/$ ls
bin boot cdrom dev etc home lib lib32 lib64 libx32 lost+found media mnt opt proc root run sbin snap srv swapfile sys tmp usr var VBox.log
vathsala@vathsala-VirtualBox:/$
```

cd command is used to change the directories.

cd / command switches the present directory to **root** directory.

ls command list down all the files and directories present within the present working directory.

Here / is a root directory and bin boot cdrom.....VBox.log are all the files inside it.

A terminal window with a dark purple background. On the left, there are two icons: a blue circle with a white question mark and a folder icon. The terminal text shows a user 'vathsala' at 'vathsala-VirtualBox' running 'cd /home', then 'ls', and finally 'ls vathsala'. The output of 'ls vathsala' lists files and directories: Desktop, Documents, Downloads, ineuron, Music, Pictures, Public, snap, Templates, and Videos.

```
vathsala@vathsala-VirtualBox:~$ cd /home
vathsala@vathsala-VirtualBox:/home$ ls
swapna vathsala
vathsala@vathsala-VirtualBox:/home$ ls vathsala
Desktop Documents Downloads ineuron Music Pictures Public snap Templates Videos
vathsala@vathsala-VirtualBox:/home$ 
```

cd /home command move from any present working directory here it is / root directory to home directory.

ls command list down all the files inside home directory as shown above.

```

Activities  Terminal

vathsal@vathsal-VirtualBox:~$ su -l kiran
su: user kiran does not exist or the user entry does not contain all the required fields
vathsal@vathsal-VirtualBox:~$ cd /home
vathsal@vathsal-VirtualBox:/home$ ls
swapna  vathsal
vathsal@vathsal-VirtualBox:/home$ ls vathsal
Desktop Documents Downloads ineuron Music Pictures Public snap Templates Videos
vathsal@vathsal-VirtualBox:/home$ cd ..
vathsal@vathsal-VirtualBox:/$

```

cd .. command is used to move one level up from the current directory. Here it moves from home directory to root / directory.

```

Activities  Terminal

vathsal@vathsal-VirtualBox:/$ cd /var/www/html
bash: cd: /var/www/html: No such file or directory
vathsal@vathsal-VirtualBox:/$ cd
vathsal@vathsal-VirtualBox:~$ cd /var/www/html cd
bash: cd: too many arguments
vathsal@vathsal-VirtualBox:~$ cd /root
bash: cd: /root: Permission denied
vathsal@vathsal-VirtualBox:~$ ls
Desktop Documents Downloads ineuron Music Pictures Public snap Templates Videos
vathsal@vathsal-VirtualBox:~$

```

cd /var/www/html have a doubt on this**

Assignment- 4

```

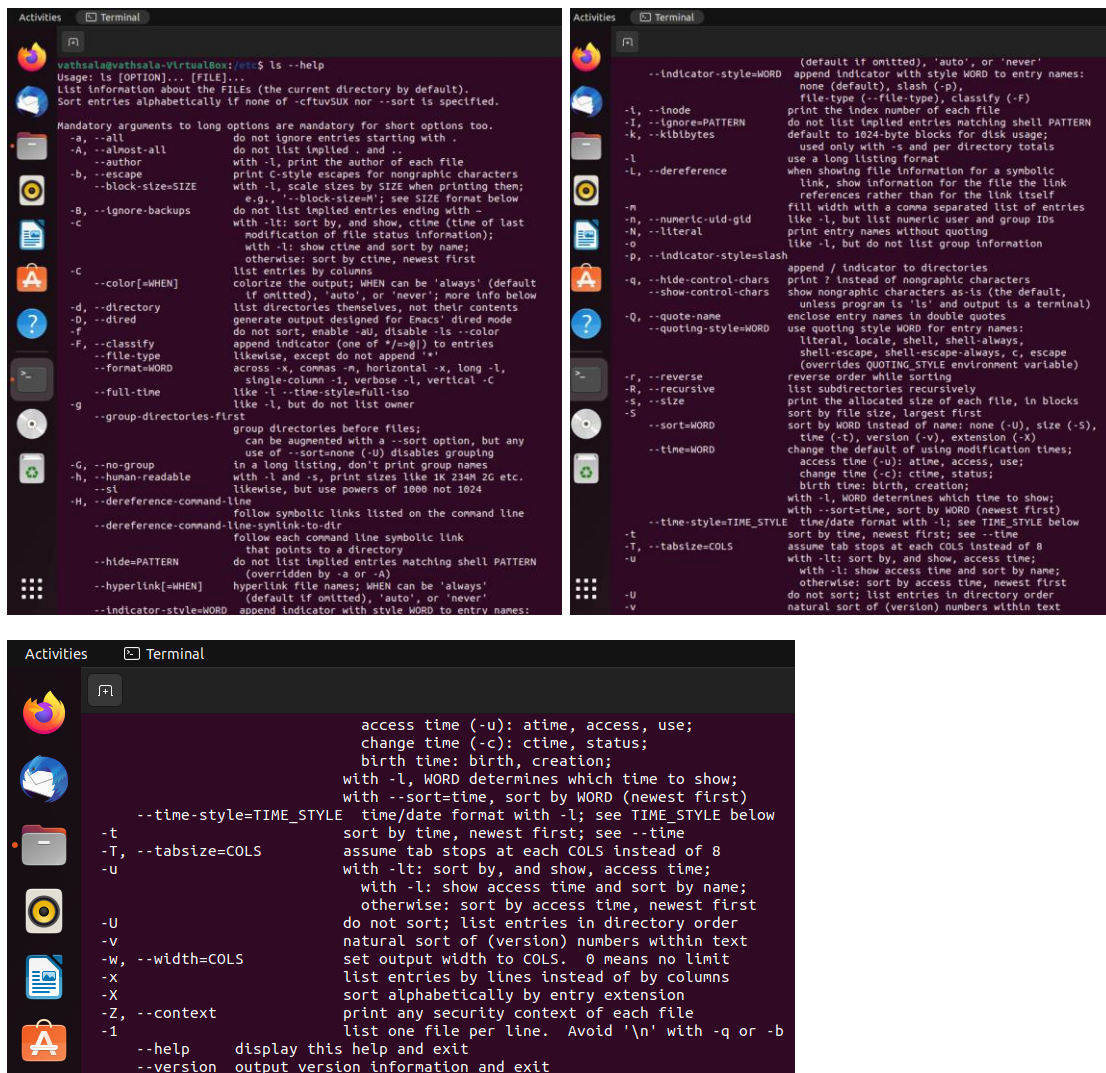
vathsal@vathsal-VirtualBox:~$ cd /etc
vathsal@vathsal-VirtualBox:~$ ls
acpi  adduser.conf  ca-certificates.conf  e2scrub.conf  gshadow  kernel-irq.conf  magic.mime  os-release  rc3.d  speech-dispatcher  ufw
alsa  alternatives  console-setup  emacs  gss  kerneloops.conf  mailcap  PackageKit  rc4.d  ssh
anacrontab  apt  cron.d  environment.d  gtk-3.0  ld.so.cache  mailcap.order  pan.conf  rc5.d  sudo
app.conf  apt.conf  cron.daily  firewalld  hdpam.conf  ld.so.conf  mime.types  paperSize  rc6.d  subgid
apm  apt.conf  cron.hourly  fonts  host.conf  legal  NodentManager  passwd  resolv.conf  subuid
apport  apt.conf  cron.monthly  fprind.conf  hostid  libao.conf  noderp.d  pcscd  rmt  subuid
apport  apt.conf  cron.weekly  fstab  hosts  libblockdev  perl  rpc  sudo.conf  sudoers
appstream.conf  apt.conf  cups  fuse.conf  hosts.allow  libltdl3  rsyslog.conf  sudoers.d  vmmware-tools
apt  apt.conf  cups-helpers  gal.conf  hosts.deny  libnl-3  rygel.conf  sudo_logsrvd.conf  vtrgb
avahi  apt.conf  dbus  gdm  init  libnfc  selinux  sysctl.conf  wpa_supplicant
bash.bashrc  apt.conf  dconf  gdm  init  libnfc  selinux  sysctl.conf  x11
bash_completion  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf
bindresvport.blacklist  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf
binfmt.d  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf
bluetooth  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf
brltty.conf  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf
ca-certificates  apt.conf  debconf.conf  gdm  init  libnfc  selinux  sysctl.conf  xattr.conf

```

cd /etc command moves to etc directory followed by **ls** lists all the different files inside it.

Basically **etc** is a directory which includes all the configuration files for the entire system. Using this can configure settings of kernel, servers and applications. It has password files, networking files and may other files which are useful to make changes in system configuration.

ls –help command gives all the options that can be implemented along with ls.

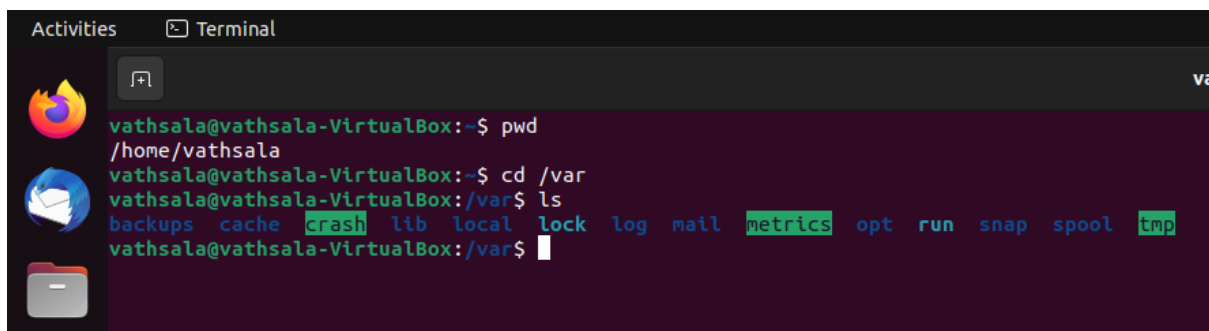


```
vathsala@vathsala-VirtualBox:~$ ls --help
Usage: ls [OPTION]... [FILE]...
List information about the FILES (the current directory by default).
Sort entries alphabetically if none of -ctuvSUX nor --sort is specified.

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                print C-style escapes for nongraphic characters
-b, --escape             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, --sort=CTIME          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 '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, --full-time           do not sort, enable -au, disable -ls --color
                        append indicator (one of */=>) to entries
                        likewise, except do not append '*'
-F, --classify           across -x, commas -n, horizontal -x, long -l,
                        single-column -l, verbose -l, vertical -C
                        like -l --time-style=full-iso
                        like -l, but do not list owner
-g, --group-directories-first
                        group directories before files;
                        can be augmented with a --sort option, but any
                        use of --sort=none (-U) disables grouping
-G, --no-group           in a long listing, don't print group names
-h, --human-readable     with -l and -s, print sizes like 1K 224M 2G etc.
                        likewise, but use powers of 1000 not 1024
-l, --long               list long
-L, --dereference-command-line
                        follow symbolic links listed on the command line
--dereference-command-line-symlink-to-dir
                        follow each command line symbolic link
                        that points to a directory
--hide=PATTERN           do not list implied entries matching shell PATTERN
                        (overrides by a or -A)
--hyperlink[=WHEN]       hyperlink file names; WHEN can be 'always'
                        (default if omitted), 'auto', or 'never'
--indicator-style=WORD   append indicator with style WORD to entry names:
                        (default if omitted), 'auto', or 'never'
                        append indicator with style WORD to entry names:
                        none (default), slash (-p),
                        file-type (--file-type), classify (-F)
-l, --inode              print the index number of each file
-L, --ignore=PATTERN     do not list implied entries matching shell PATTERN
-k, --kibibytes          default to 1024-byte blocks for disk usage;
                        used only with -s and per directory totals
-l, --dereference        use a long listing format
                        when showing file information for a symbolic
                        link, show information for the file the link
                        references rather than for the link itself
-n, --numeric-uid-gid     fill width with a comma separated list of entries
                        like -l, but list numeric user and group IDs
-N, --literal            print entry names without quoting
-o, --indicator-style=slash
                        like -l, but do not list group information
-p, --indicator-style=slash
                        append / indicator to directories
-q, --hide-control-chars
                        print ? instead of nongraphic characters
--show-control-chars     show nongraphic characters as-is (the default,
                        unless program ls 'ls' and output is a terminal)
-Q, --quote-name         enclose entry names in double quotes
                        use quoting style WORD for entry names:
                        literal, locale, shell, shell-always,
                        shell-escape, shell-escape-always, c, escape
                        (overrides QUOTING_STYLE environment variable)
-r, --reverse            reverse order while sorting
-R, --recursive          list subdirectories recursively
-s, --size               print the allocated size of each file, in blocks
                        sort by file size, largest first
-S, --sort=WORD           sort by WORD instead of name: none (-U), size (-S),
                        time (-t), version (-v), extension (-X)
--time=WORD              change the default of using modification times;
                        access time (-u): atime, access, use;
                        change time (-c): ctime, status;
                        birth time: btime, creation;
                        with -l, WORD determines which time to show;
                        with --sort=time, sort by WORD (newest first)
--time-style=TIME_STYLE  time/date format with -l; see TIME_STYLE below
-t, --sort=time          sort by time, newest first; see --time
-T, --tabsize=COLS       assume tab stops at each COLS instead of 8
-u, --sort=time           with -lt: sort by, and show, access time;
                        with -l: show access time and sort by name;
                        otherwise: sort by access time, newest first
-U, --sort=name           do not sort; list entries in directory order
                        natural sort of (version) numbers within text
-v, --sort=version        sort by time, newest first; see --time
                        assume tab stops at each COLS instead of 8
-w, --width=COLS         with -lt: sort by, and show, access time;
                        with -l: show access time and sort by name;
                        otherwise: sort by access time, newest first
                        do not sort; list entries in directory order
                        natural sort of (version) numbers within text
                        set output width to COLS. 0 means no limit
-X, --xdev               list entries by lines instead of by columns
-x, --horizontal         sort alphabetically by entry extension
-Z, --context            print any security context of each file
-1, --one-line           list one file per line. Avoid '\n' with -q or -b
--help                  display this help and exit
--version               output version information and exit
```

Assignment-5

pwd command gives present working directory.



```
vathsala@vathsala-VirtualBox:~$ pwd
/home/vathsala
vathsala@vathsala-VirtualBox:~$ cd /var
vathsala@vathsala-VirtualBox:/var$ ls
backups  cache  crash  lib  local  lock  log  mail  metrics  opt  run  snap  spool  tmp
vathsala@vathsala-VirtualBox:/var$
```

Firstly when a user logs in by default it will be in a home directory as it is shown above.

cd /var command moves to variable directory. It stores runtime information like system logging, user tracking, cache and all other files to store information on system behaviour.