

Lab1_Linux

1. Install CentOS /RHEL

2. What is the difference between cat and more command?

‘Cat’ command displays the contents of the selected file, it will scroll off the screen when the file contents are more than one screen page.

‘More’ command displays the contents of the selected file page by page.

3. What is the difference between rm and rmdir using man?

```
@ubuntu: ~
RM(1)                                User Commands                                RM(1)

NAME
rm - remove files or directories

SYNOPSIS
rm [OPTION]... [FILE]...

DESCRIPTION
This manual page documents the GNU version of rm. rm removes each
specified file. By default, it does not remove directories.

If the -I or --interactive=once option is given, and there are more
than three files or the -r, -R, or --recursive are given, then rm
prompts the user for whether to proceed with the entire operation. If
the response is not affirmative, the entire command is aborted.

Otherwise, if a file is unwritable, standard input is a terminal, and
the -f or --force option is not given, or the -i or --interac-
tive=always option is given, rm prompts the user for whether to remove
the file. If the response is not affirmative, the file is skipped.
```

```
@ubuntu: ~
RMDIR(1)                             User Commands                             RMDIR(1)

NAME
rmdir - remove empty directories

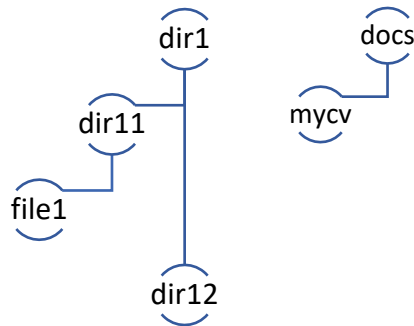
SYNOPSIS
rmdir [OPTION]... DIRECTORY...

DESCRIPTION
Remove the DIRECTORY(ies), if they are empty.

--ignore-fail-on-non-empty
ignore each failure that is solely because a directory
is non-empty
```

4. Create the following hierarchy under your home directory:

```
mkdir dir1
mkdir docs
cd /home/dir1
mkdir dir11
cd /home/dir1/dir11
touch file1
cd /home/dir1
mkdir dir12
cd..
cd /home/docs
touch mycv
```



```
samaa@ubuntu: ~/docs
samaa@ubuntu:~/dir1/dir11$ ls
file1
samaa@ubuntu:~/dir1/dir11$ cd ../../
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music     Public    Videos
dir1     Documents examples.desktop Pictures  Templates
samaa@ubuntu:~$ cd /home/samaa/dir1
samaa@ubuntu:~/dir1$ ls
dir11  dir12  samaa.  samaa.txt
samaa@ubuntu:~/dir1$ rm samaa.
samaa@ubuntu:~/dir1$ rm samaa.txt
samaa@ubuntu:~/dir1$ ls
dir11  dir12
samaa@ubuntu:~/dir1$ cd /home/samaa/dir1/dir11
samaa@ubuntu:~/dir1/dir11$ ls
file1
samaa@ubuntu:~/dir1/dir11$ cd ../../
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music     Public    Videos
dir1     Documents examples.desktop Pictures  Templates
samaa@ubuntu:~$ cd /home/samaa/docs
samaa@ubuntu:~/docs$ ls
mycv
samaa@ubuntu:~/docs$
```

- a. Remove dir11 in one-step. What did you notice? And how did you overcome that?

```
samaa@ubuntu:~/dir1$ rm -r dir11
samaa@ubuntu:~/dir1$ ls
dir12
samaa@ubuntu:~/dir1$
```

We have to use `rm -r` to remove a non-empty directory.

- b. Then remove dir12 using `rmdir -p` command. State what happened to the hierarchy (Note: you are in your home directory).

```
samaa@ubuntu:~/dir1$ ls
dir12
samaa@ubuntu:~/dir1$ rmdir -p dir12
samaa@ubuntu:~/dir1$ ls
samaa@ubuntu:~/dir1$
```

- c. The output of the command `pwd` was `/home/user`. Write the absolute and relative path for the file `mycv`

```
sys.X.Y.Z:sys:/dev:/usr/sbin/nologin
samaa@ubuntu:/etc$ cd
samaa@ubuntu:~$ pwd
/home/samaa
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music     Pictures  Templates
dir1     Documents examples.desktop  oldpasswd Public     Videos
samaa@ubuntu:~$ cd docs
samaa@ubuntu:~/docs$ pwd
/home/samaa/docs
samaa@ubuntu:~/docs$
```

5. Copy the `/etc/passwd` file to your home directory making its name is `mypasswd`.

```
samaa@ubuntu:/etc$ cd ..
samaa@ubuntu:/$ cp /etc/passwd /home/samaa
cp: cannot create regular file '/home/samaa': No such file or directory
samaa@ubuntu:/$ cp /etc/passwd /home/samaa
samaa@ubuntu:/$ cd /home/samaa
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music  Pictures  Templates
dir1     Documents examples.desktop  passwd  Public     Videos
samaa@ubuntu:~$ mv passwd mypasswd
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music  Pictures  Templates
dir1     Documents examples.desktop  mypasswd  Public     Videos
samaa@ubuntu:~$
```

6. Rename this new file to be `oldpasswd`.

```
samaa@ubuntu:~$ mv passwd mypasswd
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music  Pictures  Templates
dir1     Documents examples.desktop  mypasswd  Public     Videos
samaa@ubuntu:~$ mv mypasswd oldpasswd
samaa@ubuntu:~$ ls
Desktop  docs      Downloads  Music  Pictures  Templates
dir1     Documents examples.desktop  oldpasswd  Public     Videos
samaa@ubuntu:~$
```

7. You are in /usr/bin, list four ways to go to your home directory

```
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ cd ~
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ cd ..
samaa@ubuntu:/usr$ cd ..
samaa@ubuntu:/$ cd /home/samaa
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ cd ../../
samaa@ubuntu:/$ cd /home/samaa
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ cd -
/home/samaa
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ cd
samaa@ubuntu:~$
```

8. List Linux commands in /usr/bin that start with letter w

```
samaa@ubuntu:~$ cd /usr/bin
samaa@ubuntu:/usr/bin$ ls w*
w
wall
watch
watchgnupg
wbmptopbm
wc
webapp-container
webapp-container-hook
webbrowser-app
samaa@ubuntu:/usr/bin$
```

wftopfa	winicontoppm
wget	wish
whatis	wish8.6
whereis	word-list-compress
which	wpa_passphrase
who	w.procps
whoami	write
whoopsie	
whoopsie-preferences	

9. Display the first 4 lines of /etc/passwd

```
samaa@ubuntu:~$ cd /etc
samaa@ubuntu:/etc$ head -4 passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
samaa@ubuntu:/etc$
```

10. Display the last 7 lines of /etc/passwd

```
sys:x:3:3:sys:/dev:/usr/sbin/nologin
samaa@ubuntu:/etc$ tail -7 passwd
hplip:x:115:7:HPLIP system user,,,:/var/run/hplip:/bin/false
kernoops:x:116:65534:Kernel Oops Tracking Daemon,,,:/bin/false
pulse:x:117:124:PulseAudio daemon,,,:/var/run/pulse:/bin/false
rtkit:x:118:126:RealtimeKit,,,:/proc:/bin/false
saned:x:119:127::/var/lib/saned:/bin/false
usbmux:x:120:46:usbmux daemon,,,:/var/lib/usbmux:/bin/false
samaa:x:1000:1000:Samaa,,,:/home/samaa:/bin/bash
samaa@ubuntu:/etc$
```

11. Display the man pages of passwd the command and the file sequentially in one command.

```
bash: /etc/passwd: Permission denied
samaa@ubuntu:~$ cd /etc/passwd
bash: cd: /etc/passwd: Not a directory
samaa@ubuntu:~$ cd /etc
samaa@ubuntu:/etc$ man passwd, man 5 passwd
No manual entry for passwd,
--Man-- next: passwd(5) [ view (return) | skip (Ctrl-D) | quit (Ctrl-C) ]
```

```
@ubuntu: /etc 9:15 AM
PASSWD(1) User Commands PASSWD(1)

NAME
    passwd - change user password

SYNOPSIS
    passwd [options] [LOGIN]

DESCRIPTION
    The passwd command changes passwords for user accounts. A normal user
    may only change the password for his/her own account, while the
    superuser may change the password for any account. passwd also changes
    the account or associated password validity period.

    Password Changes
    The user is first prompted for his/her old password, if one is present.
    This password is then encrypted and compared against the stored
    password. The user has only one chance to enter the correct password.
    The superuser is permitted to bypass this step so that forgotten
    passwords may be changed.

    After the password has been entered, password aging information is
    checked to see if the user is permitted to change the password at this
    time. If not, passwd refuses to change the password and exits.

    The user is then prompted twice for a replacement password. The second
    entry is compared against the first and both are required to match in
    order for the password to be changed.

    Then, the password is tested for complexity. As a general guideline,
    passwords should consist of 6 to 8 characters including one or more
    characters from each of the following sets:

Manual page passwd(1) line 1 (press h for help or q to quit)
```

12. Display the man page of the passwd file.

```
ubuntu:/etc 9:34 AM
MAN(1) Manual pager utils MAN(1)

NAME
    man - an interface to the on-line reference manuals

SYNOPSIS
    man [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L
    locale] [-m system[,...]] [-M path] [-S list] [-e extension] [-i|-I]
    [--regex|--wildcard] [--names-only] [-a] [-u] [--no-subpages] [-P
    pager] [-r prompt] [-7] [-E encoding] [--no-hyphenation] [--no-justifi-
    cation] [-p string] [-t] [-T[device]] [-H[browser]] [-X[dpi]] [-Z]
    [[section] page ...] ...
    man -k [apropos options] regexp ...
    man -K [-w|-W] [-S list] [-i|-I] [--regex] [section] term ...
    man -f [whatis options] page ...
    man -l [-C file] [-d] [-D] [--warnings[=warnings]] [-R encoding] [-L
    locale] [-P pager] [-r prompt] [-7] [-E encoding] [-p string] [-t]
    [-T[device]] [-H[browser]] [-X[dpi]] [-Z] file ...
    man -w|-W [-C file] [-d] [-D] page ...
    man -c [-C file] [-d] [-D] page ...
    man [-?V]

DESCRIPTION
    man is the system's manual pager. Each page argument given to man is
    normally the name of a program, utility or function. The manual page
    associated with each of these arguments is then found and displayed. A
    section, if provided, will direct man to look only in that section of
    the manual. The default action is to search in all of the available
    sections following a pre-defined order ("1 n l 8 3 2 3posix 3pm 3perl 5
    4 9 6 7" by default, unless overridden by the SECTION directive in
    /etc/manpath.config), and to show only the first page found, even if
    page exists in several sections.

Manual page man(1) line 1 (press h for help or q to quit)
```



```

root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemo
mon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin www-data:x:33:33:www-
data:/var/www:/usr/sbin/nologin backup:x:34:34:backup:/var/back-
ups:/usr/sbin/nologin list:x:38:38:Mailing List Manager
:/var/list:/usr/sbin/nologin irc:x:39:39:ircd:/var/run/ir-
cd:/usr/sbin/nologin gnats:x:41:41:Gnats Bug-Reporting System
(admin):/var/lib/gnats:/usr/sbin/nologin nobody:x:65534:65534:no-
body:/nonexistent:/usr/sbin/nologin systemd-
timesync:x:100:102:systemd Time Synchronization,,,:/run/sys-
temd:/bin/false systemd-network:x:101:103:systemd Network Manage-
ment,,,:/run/systemd/netif:/bin/false systemd-re-
solve:x:102:104:systemd Resolver,,,:/run/systemd/re-
solve:/bin/false systemd-bus-proxy:x:103:105:systemd Bus
Proxy,,,:/run/systemd:/bin/false syslog:x:104:108::/home/sys-
log:/bin/false apt:x:105:65534::/nonexistent:/bin/false message-
bus:x:106:110::/var/run/dbus:/bin/false
uidd:x:107:111::/run/uidd:/bin/false lightdm:x:108:114:Light
Display Manager:/var/lib/lightdm:/bin/false whoop-
sie:x:109:117::/nonexistent:/bin/false avahi-au-
toipd:x:110:119:Avahi autoip daemon,,,:/var/lib/avahi-au-
toipd:/bin/false avahi:x:111:120:Avahi mDNS dae-
mon,,,:/var/run/avahi-daemon:/bin/false dnsmasq:x:112:65534:dns-
Manual page passwd line 1 (press h for help or q to quit)

```

13. Display a list of all the commands that contain the keyword passwd in their man page.

```

samaa@ubuntu:/etc$ man -k passwd
chgrp(8) - update group passwords in batch mode
chpasswd(8) - update passwords in batch mode
fgetpwent_r(3) - get passwd file entry reentrantly
getpwent_r(3) - get passwd file entry reentrantly
gpasswd(1) - administer /etc/group and /etc/gshadow
grub-mkpasswd-pbkdf2(1) - generate hashed password for GRUB
pam_localuser(8) - require users to be listed in /etc/passwd
passwd(1) - change user password
passwd(1ssl) - compute password hashes
passwd(5) - the password file
passwd2des(3) - RFS password encryption
update-passwd(8) - safely update /etc/passwd, /etc/shadow and /etc/group
samaa@ubuntu:/etc$

```

```

samaa@ubuntu:/etc$ man -f passwd
passwd(1) - change user password
passwd(1ssl) - compute password hashes
passwd(5) - the password file
samaa@ubuntu:/etc$

```