

## 1. Install Ubuntu Desktop Version



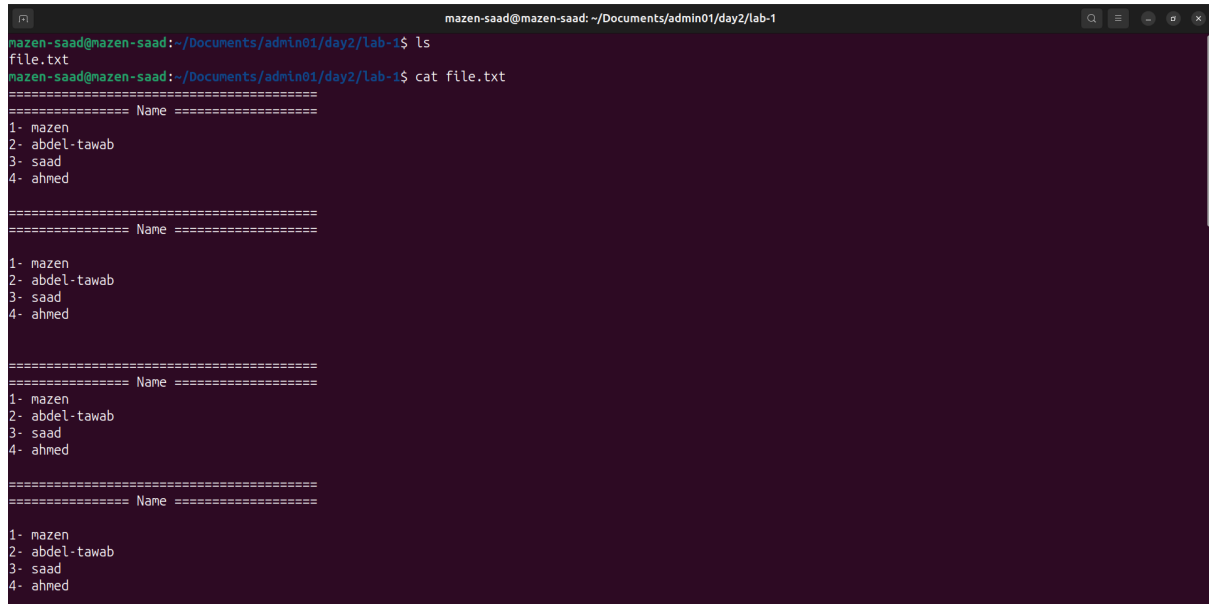
2. What is the different between cat and more command?

cat file.txt

more file.txt

cat => Displays the entire content of a file

more => Displays the content of a file one screen at a time.

A terminal window with a dark background and light green text. The window title is 'mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1'. The user enters 'ls' and then 'cat file.txt'. The output of 'cat file.txt' is displayed, showing a list of names: '1- mazen', '2- abdel-tawab', '3- saad', and '4- ahmed'. The output is repeated four times, suggesting the user pressed the spacebar to scroll through the file.

```
mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1
mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1$ ls
file.txt
mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1$ cat file.txt
===== Name =====
1- mazen
2- abdel-tawab
3- saad
4- ahmed
===== Name =====
1- mazen
2- abdel-tawab
3- saad
4- ahmed
===== Name =====
1- mazen
2- abdel-tawab
3- saad
4- ahmed
===== Name =====
1- mazen
2- abdel-tawab
3- saad
4- ahmed
```

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

rm: Removes files or directories.

rmdir: Removes empty directories.

man rm

man rmdir

```
mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1
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 --interactive=always option is given, rm prompts the user for whether to remove the file. If the response is not affirmative, the file is skipped.

OPTIONS
Remove (unlink) the FILE(s).

-f, --force
    ignore nonexistent files and arguments, never prompt

-i
    prompt before every removal

-I
    prompt once before removing more than three files, or when removing recursively; less intrusive than -i, while still giving protection against most mistakes

--interactive[=WHEN]
    prompt according to WHEN: never, once (-I), or always (-i); without WHEN, prompt always

--one-file-system
    when removing a hierarchy recursively, skip any directory that is on a file system different from that of the corresponding command line argument

--no-preserve-root
    do not treat '/' specially

--preserve-root[=all]
    do not remove '/' (default); with 'all', reject any command line argument on a separate device from its parent

-r, -R, --recursive
    remove directories recursively

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

```
mazen-saad@mazen-saad: ~/Documents/admin01/day2/lab-1
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 to remove a non-empty directory

-p, --parents
    remove DIRECTORY and its ancestors; e.g., 'rmdir -p a/b' is similar to 'rmdir a/b a'

-v, --verbose
    output a diagnostic for every directory processed

--help
    display this help and exit

--version
    output version information and exit

AUTHOR
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REPORTING BUGS
GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Report any translation bugs to <https://translationproject.org/team/>

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This is free software: you are free to change and redistribute it. There is NO WARRANTY, to the extent permitted by law.

SEE ALSO
rmdir(2)

Full documentation <https://www.gnu.org/software/coreutils/rmdir>
Manual page rmdir(1) line 1 (press h for help or q to quit)
```

4. Create the following hierarchy under your home directory:

dir1

```
|— dir12
|— dir11
|   |— file1
```

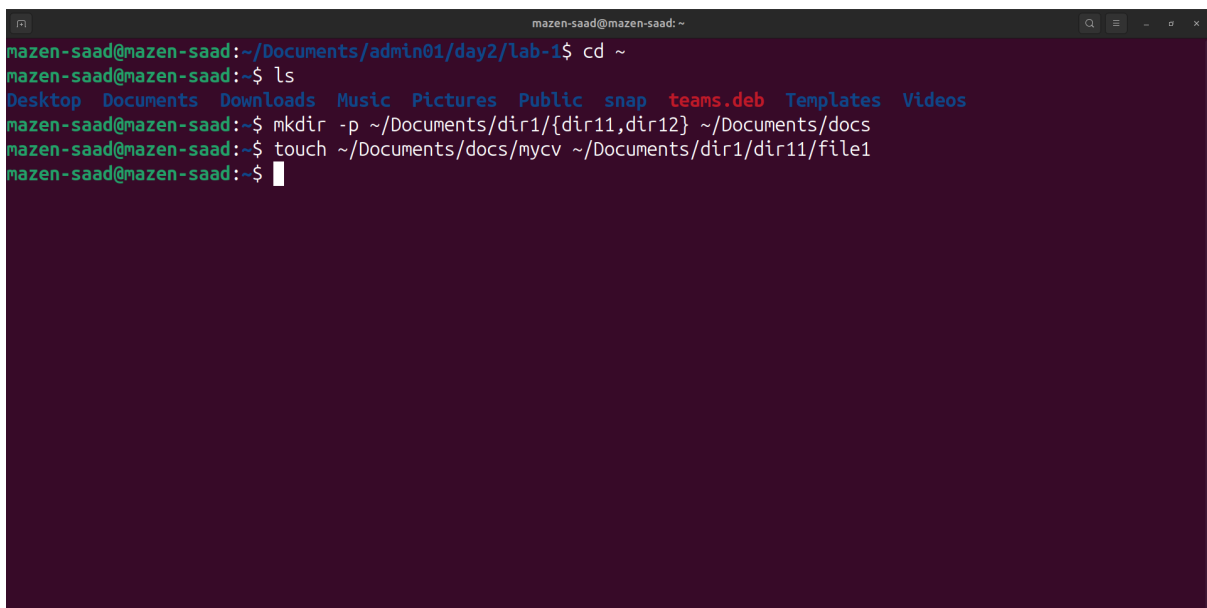
docs

```
|— mycv
```

cd ~

mkdir -p ~/Documents/dir1/{dir11,dir12} ~/Documents/docs

touch ~/Documents/docs/mycv ~/Documents/dir1/dir11/file1

A terminal window with a dark purple background. The title bar shows 'mazen-saad@mazen-saad: ~'. The terminal text is as follows:

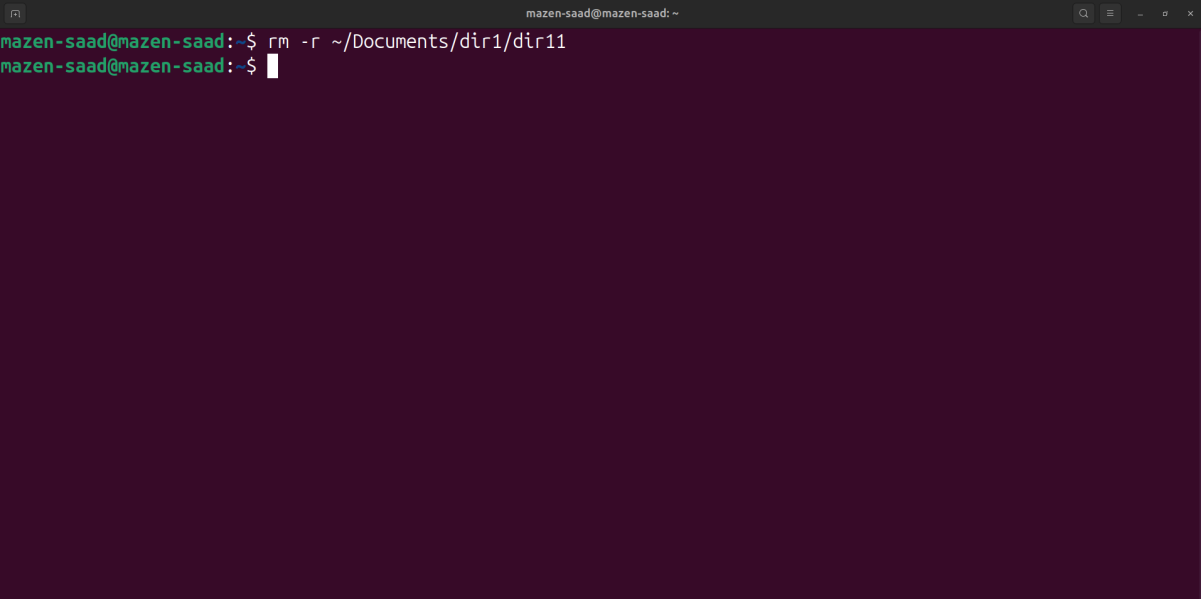
```
mazen-saad@mazen-saad:~/Documents/admin01/day2/lab-1$ cd ~
mazen-saad@mazen-saad:~$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  snap  teams.deb  Templates  Videos
mazen-saad@mazen-saad:~$ mkdir -p ~/Documents/dir1/{dir11,dir12} ~/Documents/docs
mazen-saad@mazen-saad:~$ touch ~/Documents/docs/mycv ~/Documents/dir1/dir11/file1
mazen-saad@mazen-saad:~$
```

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

`rm -rf dir11` #-r removes directories

`rm -r ~/Documents/dir1/dir11`

note: deletion of directories and their contents.

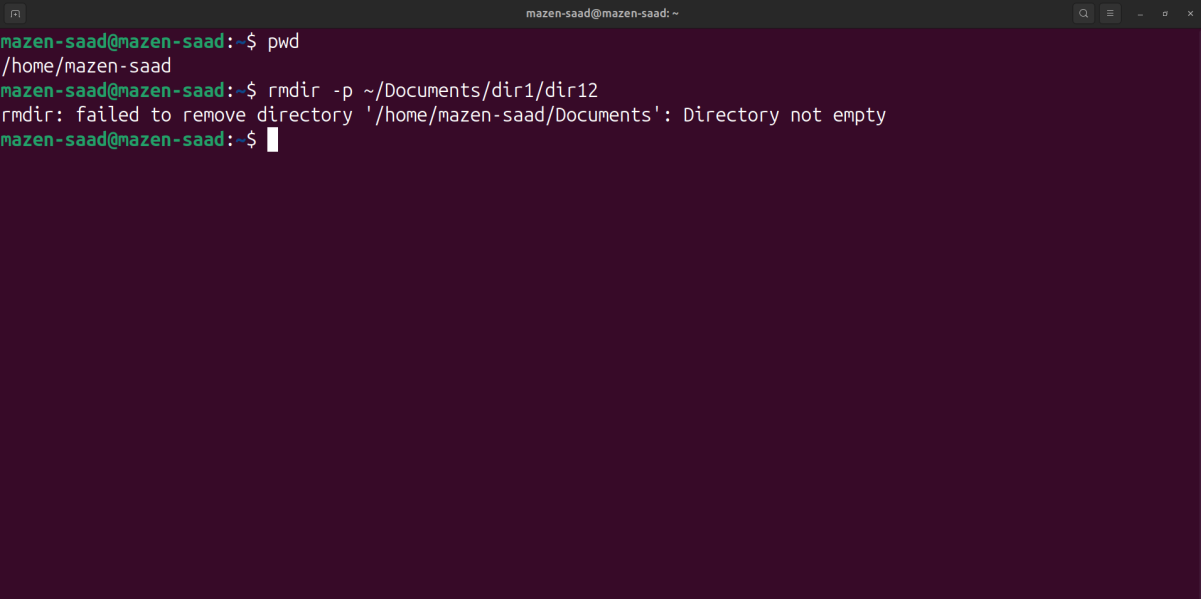
A terminal window with a dark purple background. The title bar at the top reads "mazen-saad@mazen-saad: ~". The terminal shows two lines of text: the first line is "mazen-saad@mazen-saad:~\$ rm -r ~/Documents/dir1/dir11" and the second line is "mazen-saad@mazen-saad:~\$" followed by a white cursor. The rest of the terminal area is empty.

6. Then remove dir12 using `rmdir -p` command. State what happened to the hierarchy

(Note: you are in your home directory).

`rmdir -p ~/Documents/dir1/dir12`

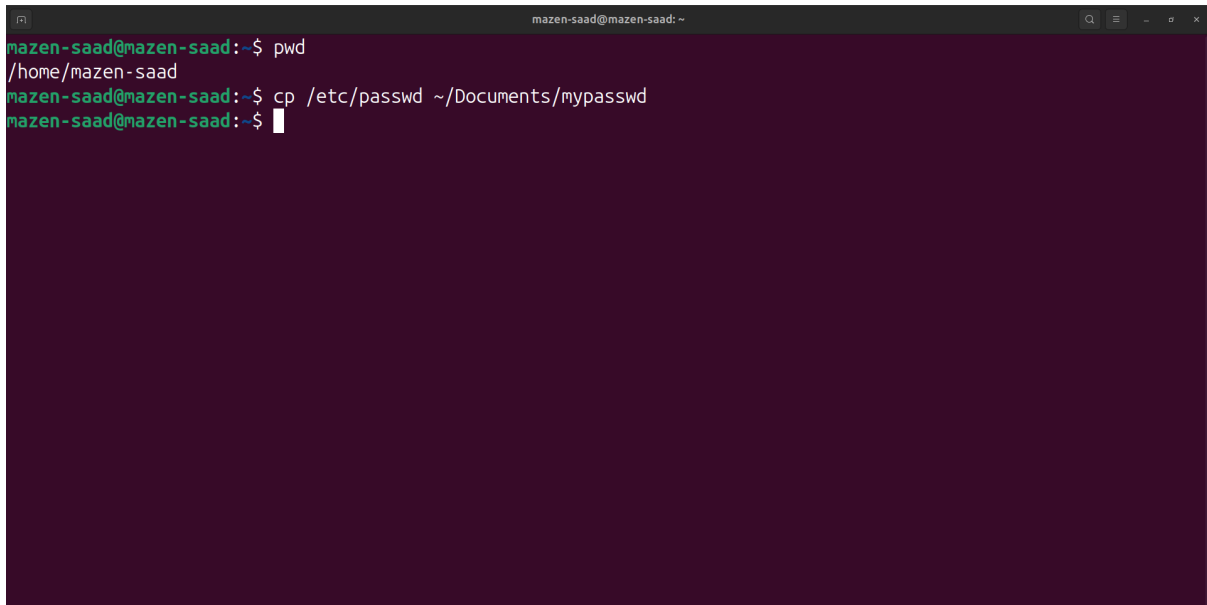
note: `-p` removes parent directories if empty

A terminal window with a dark purple background. The window title is "mazen-saad@mazen-saad: ~". The prompt is "mazen-saad@mazen-saad:~\$". The user enters "pwd", and the output is "/home/mazen-saad". The user then enters "rmdir -p ~/Documents/dir1/dir12". The output is "rmdir: failed to remove directory '/home/mazen-saad/Documents': Directory not empty". The prompt returns to "mazen-saad@mazen-saad:~\$".

```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ rmdir -p ~/Documents/dir1/dir12
rmdir: failed to remove directory '/home/mazen-saad/Documents': Directory not empty
mazen-saad@mazen-saad:~$
```

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

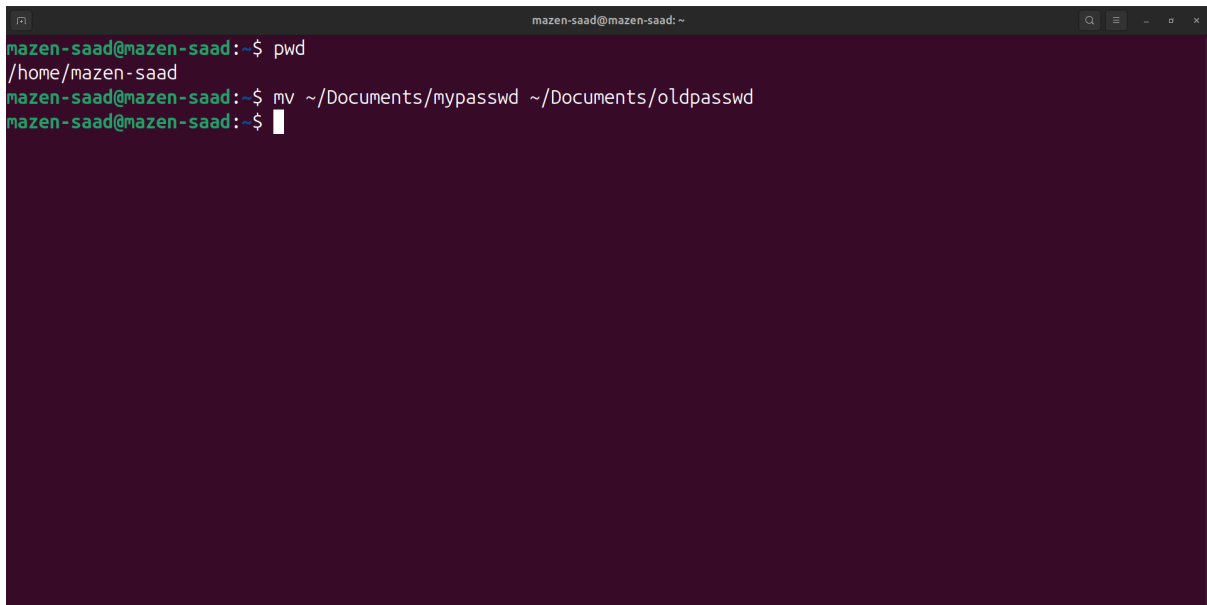
```
cp /etc/passwd ~/Documents/mypasswd
```

A terminal window with a dark purple background. The title bar at the top reads 'mazen-saad@mazen-saad: ~'. The terminal shows three lines of text: the first line is 'mazen-saad@mazen-saad:~\$ pwd' followed by the output '/home/mazen-saad'; the second line is 'mazen-saad@mazen-saad:~\$ cp /etc/passwd ~/Documents/mypasswd'; and the third line is 'mazen-saad@mazen-saad:~\$' followed by a white cursor. The window has standard Linux window controls (search, list, zoom, close) in the top right corner.

```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ cp /etc/passwd ~/Documents/mypasswd
mazen-saad@mazen-saad:~$
```

8. Rename this new file to be oldpasswd.

```
mv ~/Documents/mypasswd ~/Documents/oldpasswd
```

A terminal window with a dark purple background. The title bar at the top reads "mazen-saad@mazen-saad: ~". The terminal shows three lines of text: the first line is "mazen-saad@mazen-saad:~\$ pwd" followed by the output "/home/mazen-saad" on the next line; the second line is "mazen-saad@mazen-saad:~\$ mv ~/Documents/mypasswd ~/Documents/oldpasswd"; and the third line is "mazen-saad@mazen-saad:~\$" followed by a white cursor. The text is in a green monospaced font.

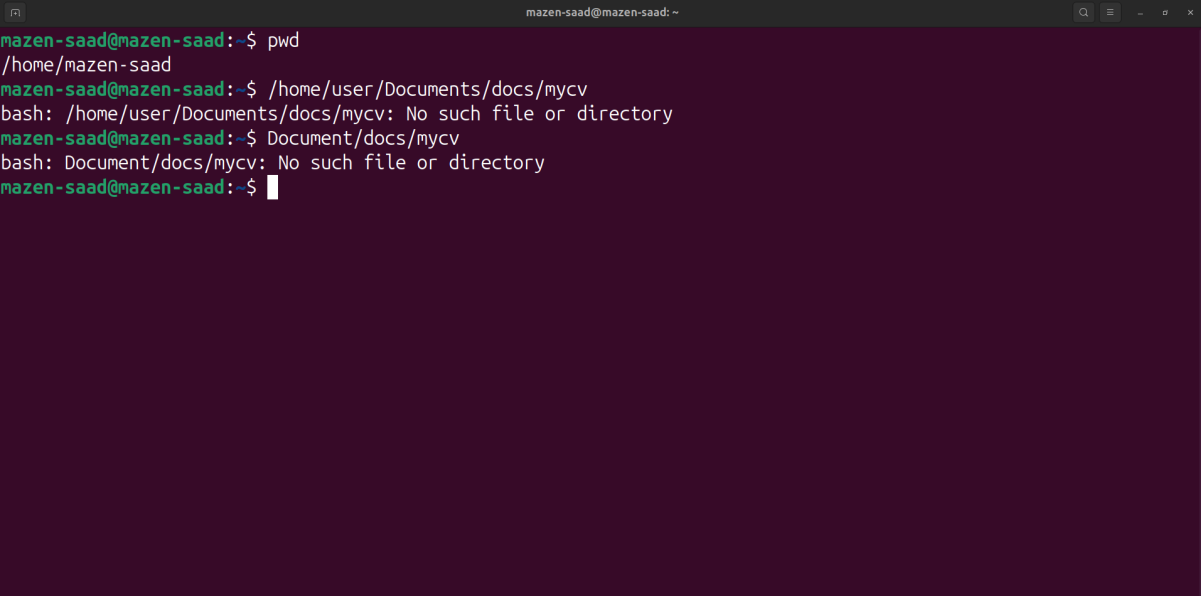
```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ mv ~/Documents/mypasswd ~/Documents/oldpasswd
mazen-saad@mazen-saad:~$
```



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

Absolute: `/home/user/Documents/docs/mycv`

Relative: `Document/docs/mycv`

A terminal window with a dark purple background. The title bar shows 'mazen-saad@mazen-saad: ~'. The terminal text is as follows:

```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ /home/user/Documents/docs/mycv
bash: /home/user/Documents/docs/mycv: No such file or directory
mazen-saad@mazen-saad:~$ Document/docs/mycv
bash: Document/docs/mycv: No such file or directory
mazen-saad@mazen-saad:~$
```

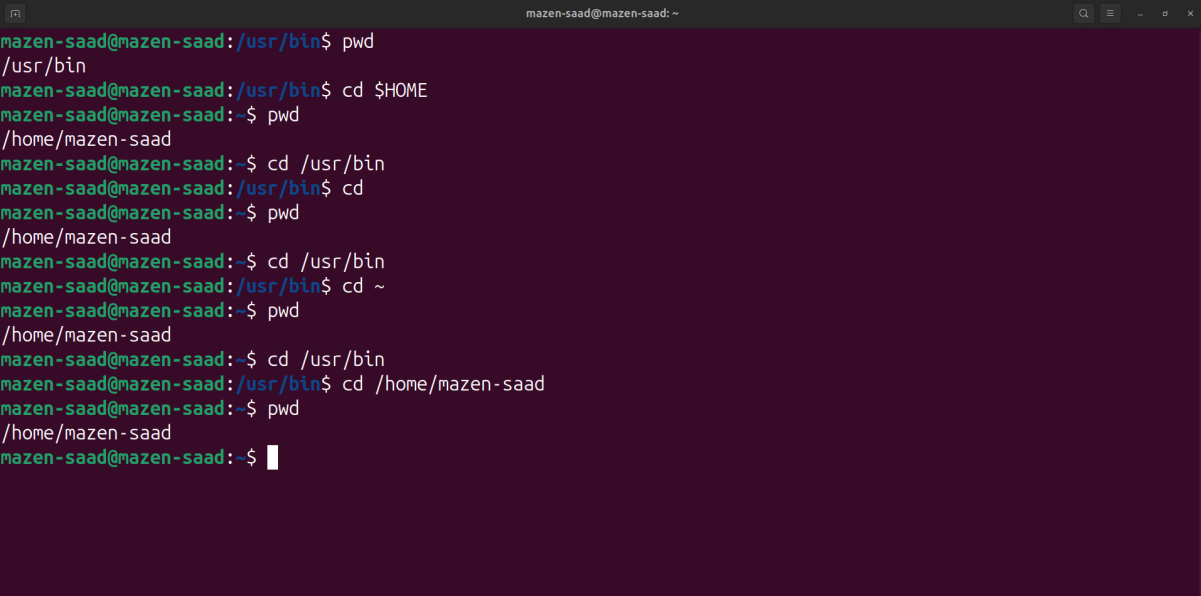
10. You are in /usr/bin, list four ways to go to your home directory

cd \$HOME

cd

cd ~

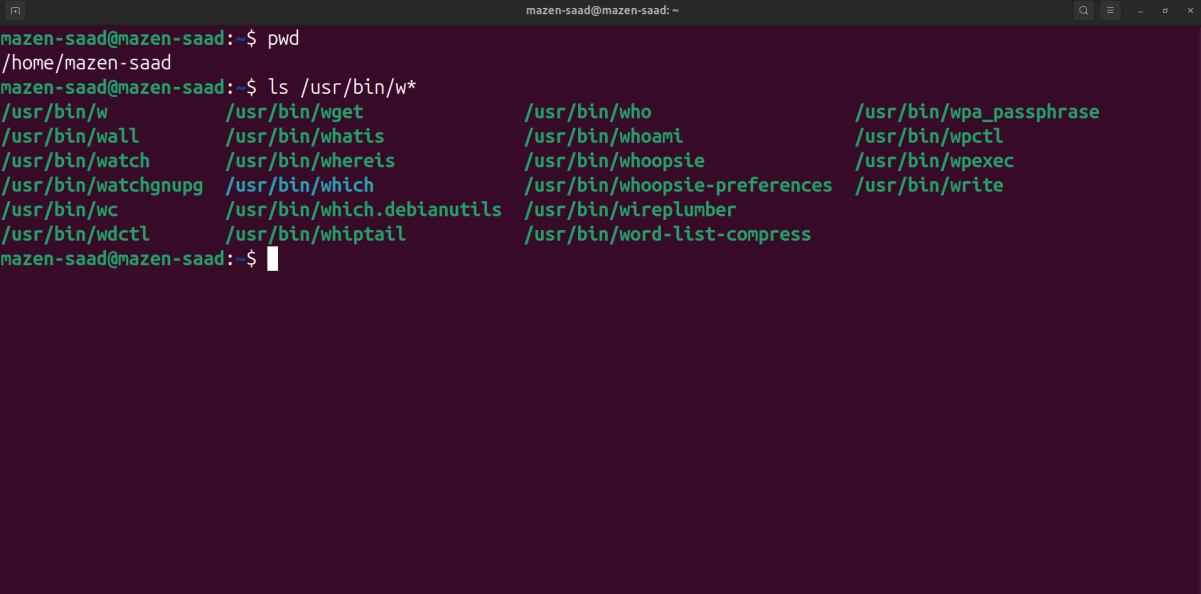
cd /home/mazen-saad



```
mazen-saad@mazen-saad: /usr/bin$ pwd
/usr/bin
mazen-saad@mazen-saad: /usr/bin$ cd $HOME
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ cd /usr/bin
mazen-saad@mazen-saad: /usr/bin$ cd
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ cd /usr/bin
mazen-saad@mazen-saad: /usr/bin$ cd ~
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ cd /usr/bin
mazen-saad@mazen-saad: /usr/bin$ cd /home/mazen-saad
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$
```

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

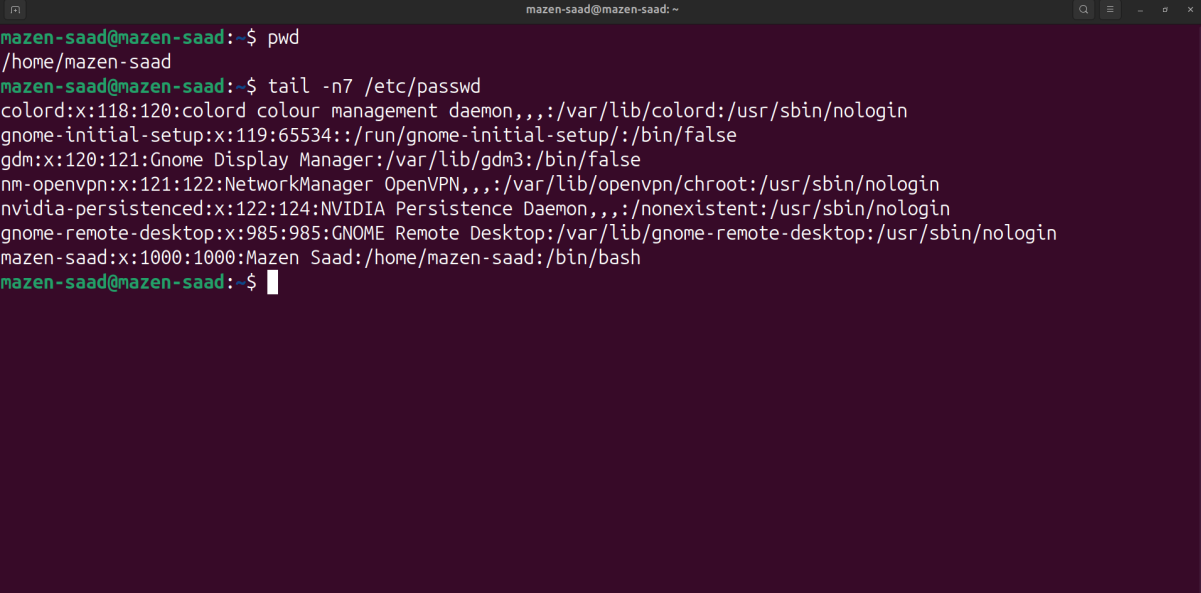
ls /usr/bin/w\*



```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ ls /usr/bin/w*
/usr/bin/w          /usr/bin/wget          /usr/bin/who          /usr/bin/wpa_passphrase
/usr/bin/wall       /usr/bin/whatism       /usr/bin/whoami       /usr/bin/wpctl
/usr/bin/watch      /usr/bin/whereis       /usr/bin/whoopsie     /usr/bin/wpexec
/usr/bin/watchgnupg /usr/bin/which         /usr/bin/whoopsie-preferences /usr/bin/write
/usr/bin/wc         /usr/bin/which.debianutils /usr/bin/wireplumber
/usr/bin/wdctl      /usr/bin/whiptail      /usr/bin/word-list-compress
mazen-saad@mazen-saad:~$
```

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

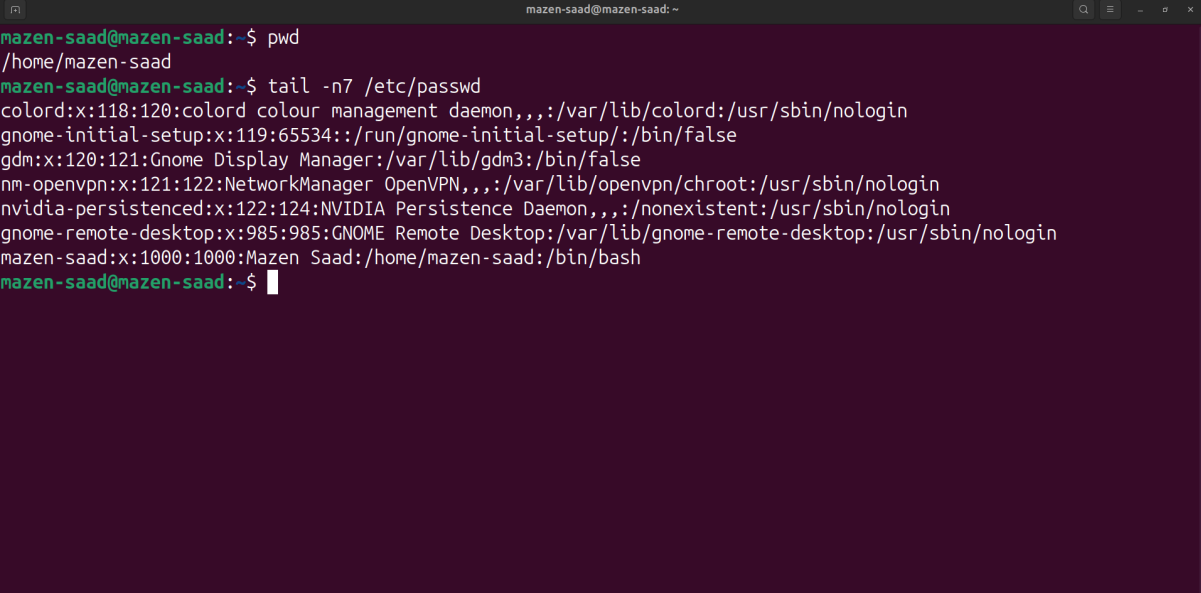
`head -n4 /etc/passwd`



```
mazen-saad@mazen-saad: ~  
mazen-saad@mazen-saad:~$ pwd  
/home/mazen-saad  
mazen-saad@mazen-saad:~$ tail -n7 /etc/passwd  
colord:x:118:120:colord colour management daemon,,,:/var/lib/colord:/usr/sbin/nologin  
gnome-initial-setup:x:119:65534:./run/gnome-initial-setup:/bin/false  
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false  
nm-openvpn:x:121:122:NetworkManager OpenVPN,,,:/var/lib/openvpn/chroot:/usr/sbin/nologin  
nvidia-persistenced:x:122:124:NVIDIA Persistence Daemon,,,:/nonexistent:/usr/sbin/nologin  
gnome-remote-desktop:x:985:985:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin  
mazen-saad:x:1000:1000:Mazen Saad:/home/mazen-saad:/bin/bash  
mazen-saad@mazen-saad:~$
```

### 13. Display the last 7 lines of /etc/passwd

`tail -n7 /etc/passwd`

A terminal window with a dark purple background. The title bar at the top reads "mazen-saad@mazen-saad: ~". The terminal shows the following commands and output:

```
mazen-saad@mazen-saad:~$ pwd
/home/mazen-saad
mazen-saad@mazen-saad:~$ tail -n7 /etc/passwd
colord:x:118:120:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin
gnome-initial-setup:x:119:65534:./run/gnome-initial-setup:/bin/false
gdm:x:120:121:Gnome Display Manager:/var/lib/gdm3:/bin/false
nm-openvpn:x:121:122:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin
nvidia-persistenced:x:122:124:NVIDIA Persistence Daemon,,:/nonexistent:/usr/sbin/nologin
gnome-remote-desktop:x:985:985:GNOME Remote Desktop:/var/lib/gnome-remote-desktop:/usr/sbin/nologin
mazen-saad:x:1000:1000:Mazen Saad:/home/mazen-saad:/bin/bash
mazen-saad@mazen-saad:~$
```

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

`man passwd /etc/passwd`



```
mazen-saad@mazen-saad: ~  
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 their 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 their 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.  
Manual page passwd(1) line 1 (press h for help or q to quit)
```

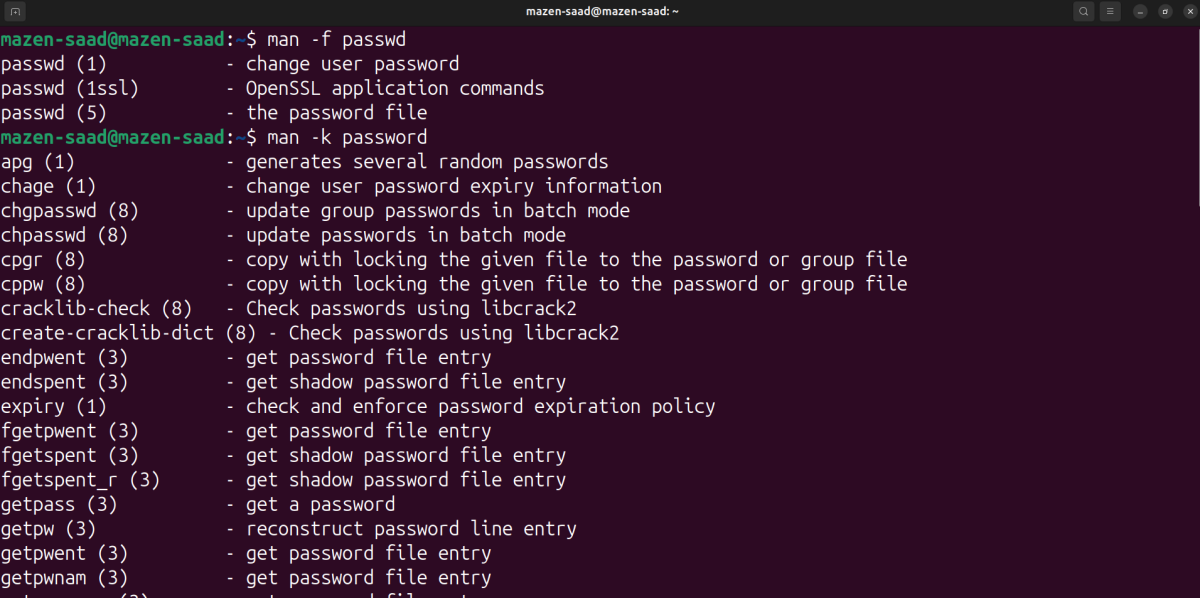
15. Display the man page of the passwd file.

`man /etc/passwd`

```
mazen-saad@mazen-saad: ~  
root:x:0:0:root:/root:/bin/bash  
daemon:x:1:1:daemo-  
n:/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 Man-  
ager:/var/list:/usr/sbin/nologin  
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin  
_apt:x:42:65534:./nonexistent:/usr/sbin/nologin no-  
body:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin systemd-  
network:x:998:998:systemd Network Management:./usr/sbin/nologin  
systemd-timesync:x:996:996:systemd Time Synchroniza-  
tion:./usr/sbin/nologin dhcpcd:x:100:65534:DHCP Client Dae-  
mon,,./usr/lib/dhcpcd:/bin/false messagebus:x:101:101:./nonexis-  
Manual page passwd line 1/58 35% (press h for help or q to quit)
```

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

man -f passwd



```
mazen-saad@mazen-saad: ~  
mazen-saad@mazen-saad:~$ man -f passwd  
passwd (1) - change user password  
passwd (1ssl) - OpenSSL application commands  
passwd (5) - the password file  
mazen-saad@mazen-saad:~$ man -k password  
apg (1) - generates several random passwords  
chage (1) - change user password expiry information  
chgpaswd (8) - update group passwords in batch mode  
chpasswd (8) - update passwords in batch mode  
cpgr (8) - copy with locking the given file to the password or group file  
cppw (8) - copy with locking the given file to the password or group file  
cracklib-check (8) - Check passwords using libcrack2  
create-cracklib-dict (8) - Check passwords using libcrack2  
endpwent (3) - get password file entry  
endspent (3) - get shadow password file entry  
expiry (1) - check and enforce password expiration policy  
fgetpwent (3) - get password file entry  
fgetspent (3) - get shadow password file entry  
fgetspent_r (3) - get shadow password file entry  
getpass (3) - get a password  
getpw (3) - reconstruct password line entry  
getpwent (3) - get password file entry  
getpwnam (3) - get password file entry  
getspnam (3) - get shadow password file entry
```