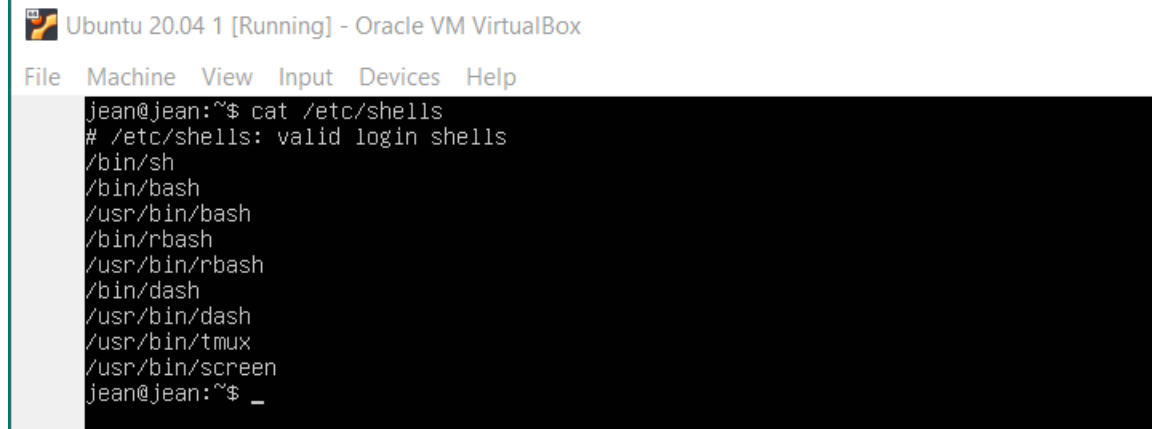


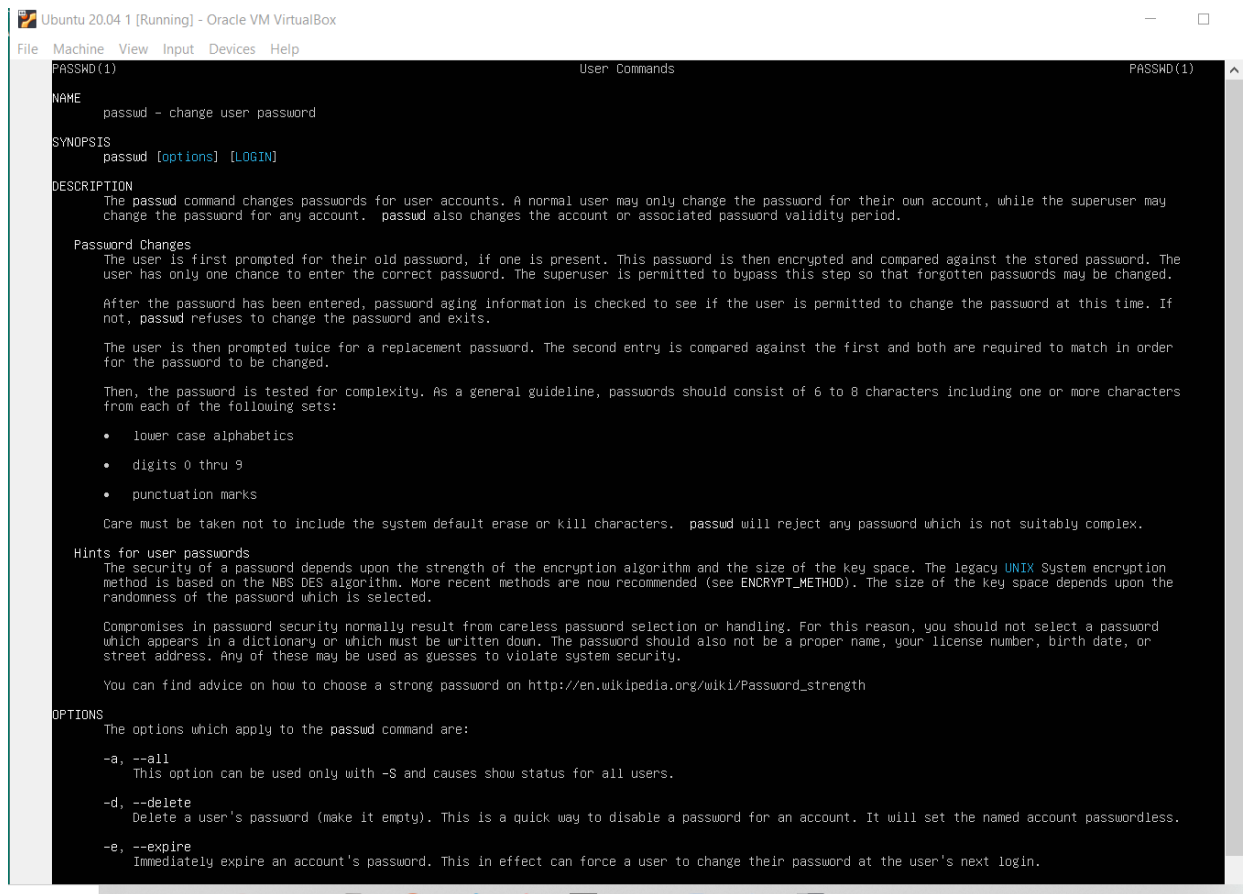
# Linux exercise 2-CLI

## 1. List all available shells on your Linux distribution



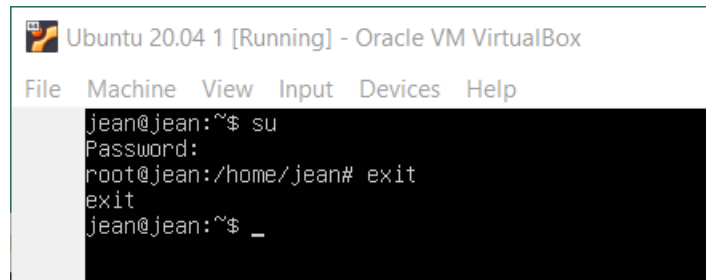
```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ cat /etc/shells
# /etc/shells: valid login shells
/bin/sh
/bin/bash
/usr/bin/bash
/bin/rbash
/usr/bin/rbash
/bin/dash
/usr/bin/dash
/usr/bin/tmux
/usr/bin/screen
jean@jean:~$ _
```

## 2. Find general guidelines using man command for user password.



```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
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.
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:
• lower case alphabets
• digits 0 thru 9
• punctuation marks
Care must be taken not to include the system default erase or kill characters. passwd will reject any password which is not suitably complex.
Hints for user passwords
The security of a password depends upon the strength of the encryption algorithm and the size of the key space. The legacy UNIX System encryption method is based on the NBS DES algorithm. More recent methods are now recommended (see ENCRYPT_METHOD). The size of the key space depends upon the randomness of the password which is selected.
Compromises in password security normally result from careless password selection or handling. For this reason, you should not select a password which appears in a dictionary or which must be written down. The password should also not be a proper name, your license number, birth date, or street address. Any of these may be used as guesses to violate system security.
You can find advice on how to choose a strong password on http://en.wikipedia.org/wiki/Password\_strength
OPTIONS
The options which apply to the passwd command are:
-a, --all
This option can be used only with -S and causes show status for all users.
-d, --delete
Delete a user's password (make it empty). This is a quick way to disable a password for an account. It will set the named account passwordless.
-e, --expire
Immediately expire an account's password. This in effect can force a user to change their password at the user's next login.
```

### 3. How can you change your user from regular to root user and back to regular

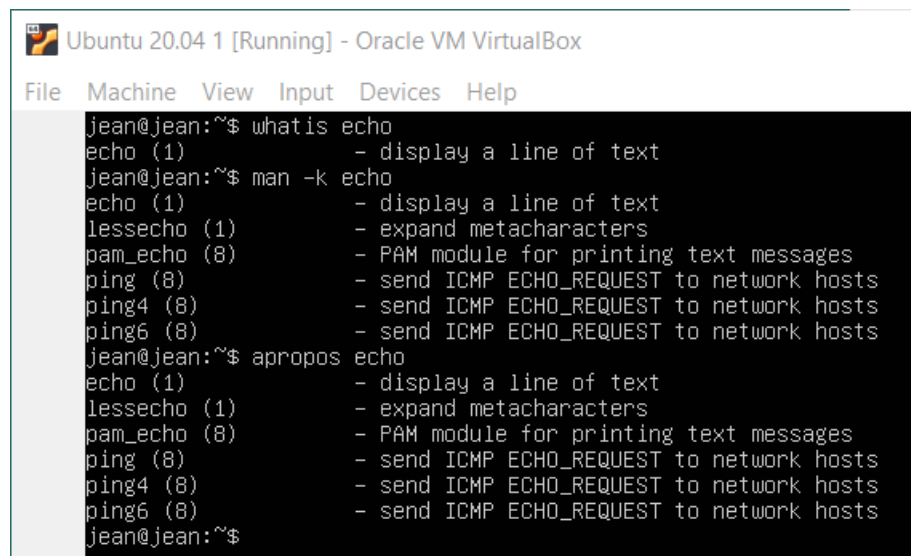


```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ su
Password:
root@jean:/home/jean# exit
exit
jean@jean:~$ _
```

### 4. Find out what is the description of the following Linux commands.

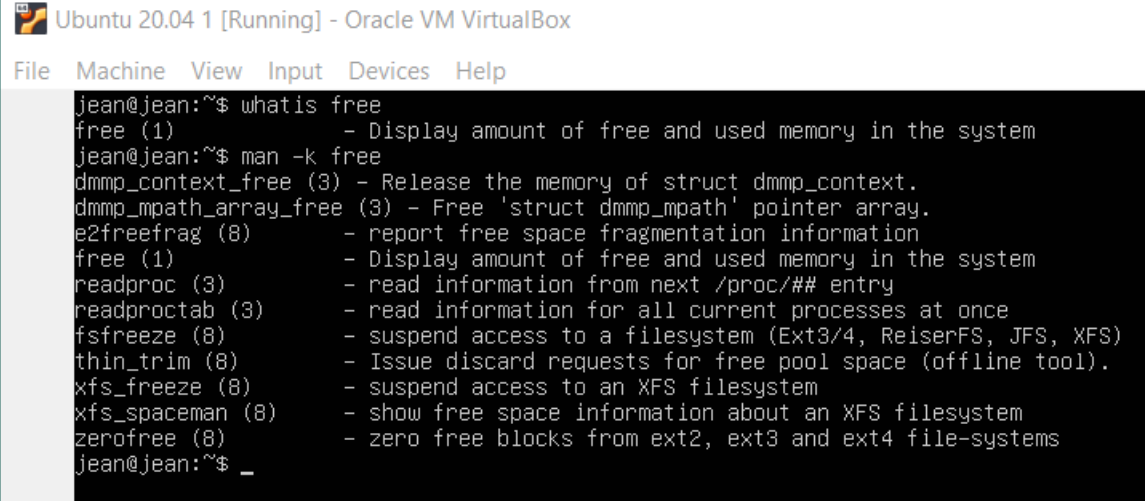
( *man*, *whatis*, *man-k*, *apropos* can all be used)

#### 4.1 .echo



```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ whatis echo
echo (1) - display a line of text
jean@jean:~$ man -k echo
echo (1) - display a line of text
lessecho (1) - expand metacharacters
pam_echo (8) - PAM module for printing text messages
ping (8) - send ICMP ECHO_REQUEST to network hosts
ping4 (8) - send ICMP ECHO_REQUEST to network hosts
ping6 (8) - send ICMP ECHO_REQUEST to network hosts
jean@jean:~$ apropos echo
echo (1) - display a line of text
lessecho (1) - expand metacharacters
pam_echo (8) - PAM module for printing text messages
ping (8) - send ICMP ECHO_REQUEST to network hosts
ping4 (8) - send ICMP ECHO_REQUEST to network hosts
ping6 (8) - send ICMP ECHO_REQUEST to network hosts
jean@jean:~$
```

## 4.2 free

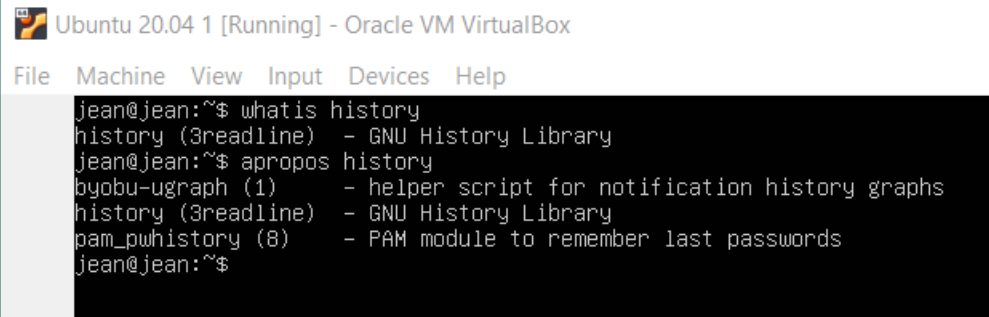


Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
jean@jean:~$ whatis free
free (1) - Display amount of free and used memory in the system
jean@jean:~$ man -k free
dmmp_context_free (3) - Release the memory of struct dmmp_context.
dmmp_mpath_array_free (3) - Free 'struct dmmp_mpath' pointer array.
e2freefrag (8) - report free space fragmentation information
free (1) - Display amount of free and used memory in the system
readproc (3) - read information from next /proc/## entry
readproctab (3) - read information for all current processes at once
fsfreeze (8) - suspend access to a filesystem (Ext3/4, ReiserFS, JFS, XFS)
thin_trim (8) - Issue discard requests for free pool space (offline tool).
xfs_freeze (8) - suspend access to an XFS filesystem
xfs_spaceman (8) - show free space information about an XFS filesystem
zerofree (8) - zero free blocks from ext2, ext3 and ext4 file-systems
jean@jean:~$ _
```

## 4.3. history

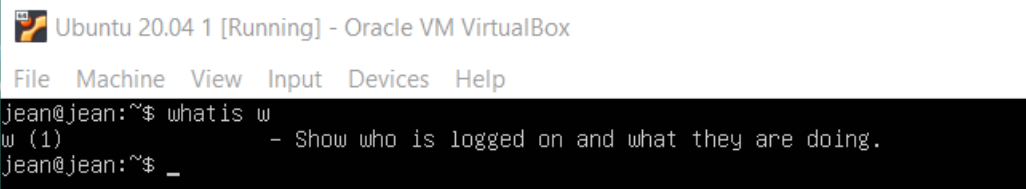


Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
jean@jean:~$ whatis history
history (3readline) - GNU History Library
jean@jean:~$ apropos history
byobu-ugraph (1) - helper script for notification history graphs
history (3readline) - GNU History Library
pam_pwhistory (8) - PAM module to remember last passwords
jean@jean:~$
```

## 4.4.w



Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

```
jean@jean:~$ whatis w
w (1) - Show who is logged on and what they are doing.
jean@jean:~$ _
```

## 5. Give an example of all of the above commands and command outputs

### 5.1. echo

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ echo Jean de Dieu Niyigaba
Jean de Dieu Niyigaba
jean@jean:~$
```

### 5.2. free

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ free --giga
              total        used        free      shared    buff/cache   available
Mem:           2          0          1           0           0           1
Swap:          2          0           2           0           0           0
jean@jean:~$ _
```

### 5.3. history

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ history | head -3
  1  sudo nano/etc/default/grub
  2  sudo nano /etc/default/grub
  3  sudo update-grub
jean@jean:~$ _
```

### 5.4. w

```
Ubuntu 20.04 1 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
jean@jean:~$ w -s
12:39:05 up 2:39, 1 user, load average: 0.07, 0.02, 0.00
USER      TTY      FROM          IDLE WHAT
jean      tty1      -              1.00s w -s
jean@jean:~$ _
```