

Title: Linux Command List Assessment

Instructions:-

The following assessment aims to test your understanding and practical knowledge of various Linux commands. Perform the tasks given below using the appropriate commands. Write down the command(s) used to complete each task. You can use any Linux distribution or command-line interface of your choice. Ensure that you provide the correct output or results for each task.

Note: It is recommended to perform this assessment on a Linux machine or virtual environment.

File and Directory Operations:

ls: List files and directories

```
(adit20bit0188@kali20bit0188)-[~]  
$ ls  
20BIT0188.txt    Music    Templates  
Desktop         'OWASP ZAP fbd.csv'  Untitled.csv  
Documents       Pictures  Videos  
Downloads       Public
```

cd: Change directory

```
(adit20bit0188@kali20bit0188)-[~]  
$ cd Desktop  
  
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$
```

pwd: Print working directory

```
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$ pwd  
/home/adit20bit0188/Desktop
```

mkdir: Make directory

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ mkdir adit

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls
20BIT0188.html      da5.pcapng
adit                Nessus-10.4.2-ubuntu1404_amd64.deb
'da 1.pcapng'      ZAP_2_12_0_unix.sh
```

touch: Create an empty file

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ touch abc

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls
20BIT0188.html      da5.pcapng
abc                 Nessus-10.4.2-ubuntu1404_amd64.deb
adit                ZAP_2_12_0_unix.sh
'da 1.pcapng'
```

cp: Copy files and directories

```
(adit20bit0188@kali20bit0188)-[~]
$ cp Downloads/ip-ethereal-trace-1 Desktop/adit

(adit20bit0188@kali20bit0188)-[~]
$ cd Desktop

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ cd adit

(adit20bit0188@kali20bit0188)-[~/Desktop/adit]
$ ls
ip-ethereal-trace-1
```

mv: Move or rename files and directories

```
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$ mv 20BIT0188.html adit20bit0188.html
```

rm: Remove files and directories

```
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$ rm abc  
  
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$ ls  
adit                da5.pcapng  
adit20bit0188.html  Nessus-10.4.2-ubuntu1404_amd64.deb  
'da 1.pcapng'       ZAP_2_12_0_unix.sh
```

find: Search for files and directories

```
(adit20bit0188@kali20bit0188)-[~/Desktop]  
$ find adit20bit0188.html  
adit20bit0188.html
```

File Viewing and Editing:

cat: Concatenate and display file content

```
(adit20bit0188@kali20bit0188)-[~]  
$ cat 20BIT0188.txt  
- Nikto v2.1.6/2.1.5  
+ Target Host: 192.168.230.130  
+ Target Port: 80  
+ GET Retrieved x-powered-by header: PHP/5.2.4-2ubuntu5.10  
+ GET The anti-clickjacking X-Frame-Options header is not present.
```

less: View file content with pagination

```

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Morbi sit amet elit eget metus rhoncus accumsan. Vestibul
um dapibus semper semper. Nunc euismod blandit dui, in au
ctor est. Sed ut ex vel lorem tempus elementum a vel lect
us. Morbi at libero volutpat, rutrum mi nec, lacinia magn
a. Etiam id vestibulum neque, a interdum elit. Sed cursus
consectetur nisl, vel eleifend tellus consectetur accums
an. Nam lobortis est quis massa interdum venenatis eget s
it amet justo. Donec placerat eleifend feugiat. Donec lig
ula nisi, tincidunt vel rhoncus at, semper eu magna. Null
a facilisi. Nulla in euismod tellus. Donec pellentesque,
libero id sodales pulvinar, libero libero dignissim nibh,
in laoreet quam velit nec massa. Maecenas malesuada male
suada porttitor.
h.txt (END)
```

head: Display the beginning of a file

```

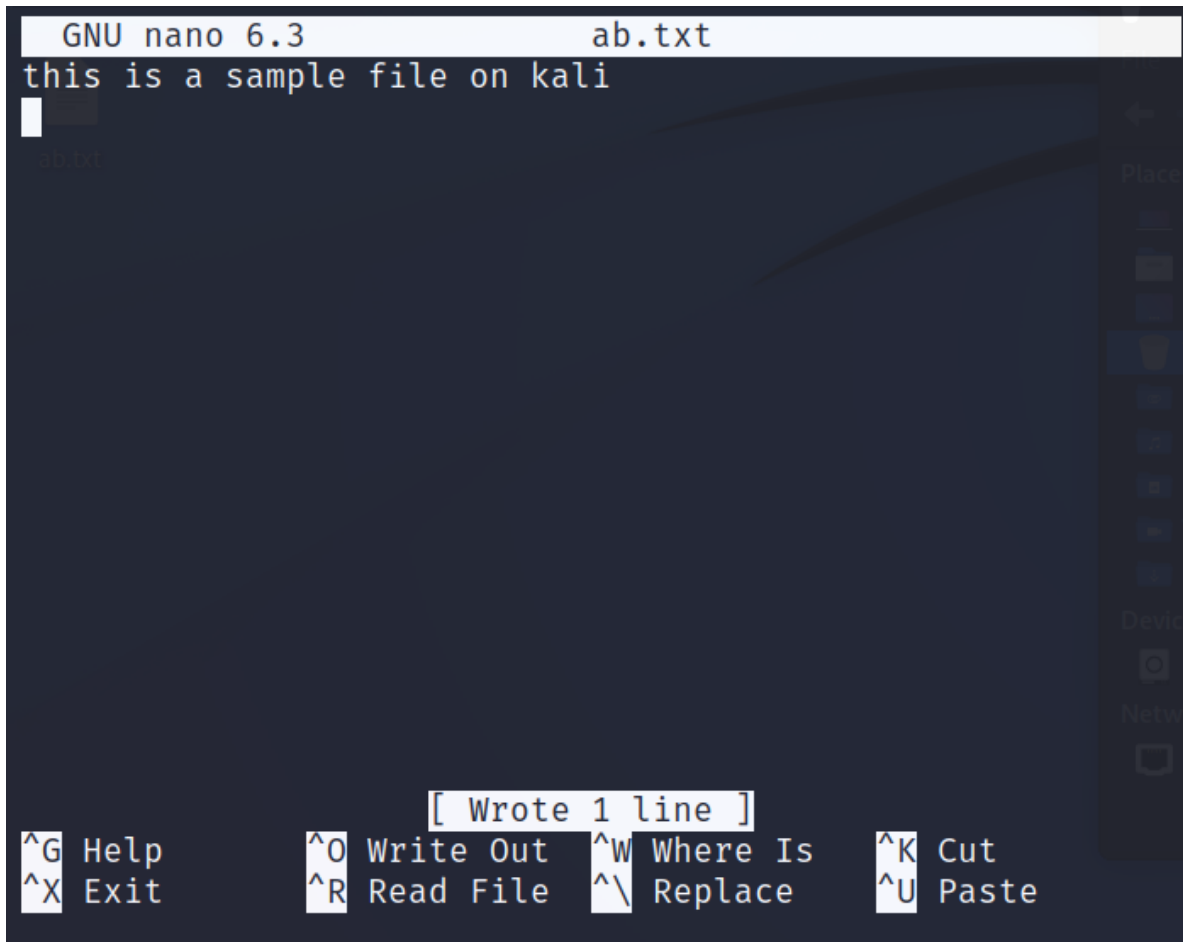
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ head h.txt
Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Morbi sit amet elit eget metus rhoncus accumsan. Vestibul
um dapibus semper semper. Nunc euismod blandit dui, in au
ctor est. Sed ut ex vel lorem tempus elementum a vel lect
us. Morbi at libero volutpat, rutrum mi nec, lacinia magn
a. Etiam id vestibulum neque, a interdum elit. Sed cursus
consectetur nisl, vel eleifend tellus consectetur accums
an. Nam lobortis est quis massa interdum venenatis eget s
it amet justo. Donec placerat eleifend feugiat. Donec lig
ula nisi, tincidunt vel rhoncus at, semper eu magna. Null
a facilisi. Nulla in euismod tellus. Donec pellentesque,
libero id sodales pulvinar, libero libero dignissim nibh,
in laoreet quam velit nec massa. Maecenas malesuada male
suada porttitor.
```

tail: Display the end of a file

```

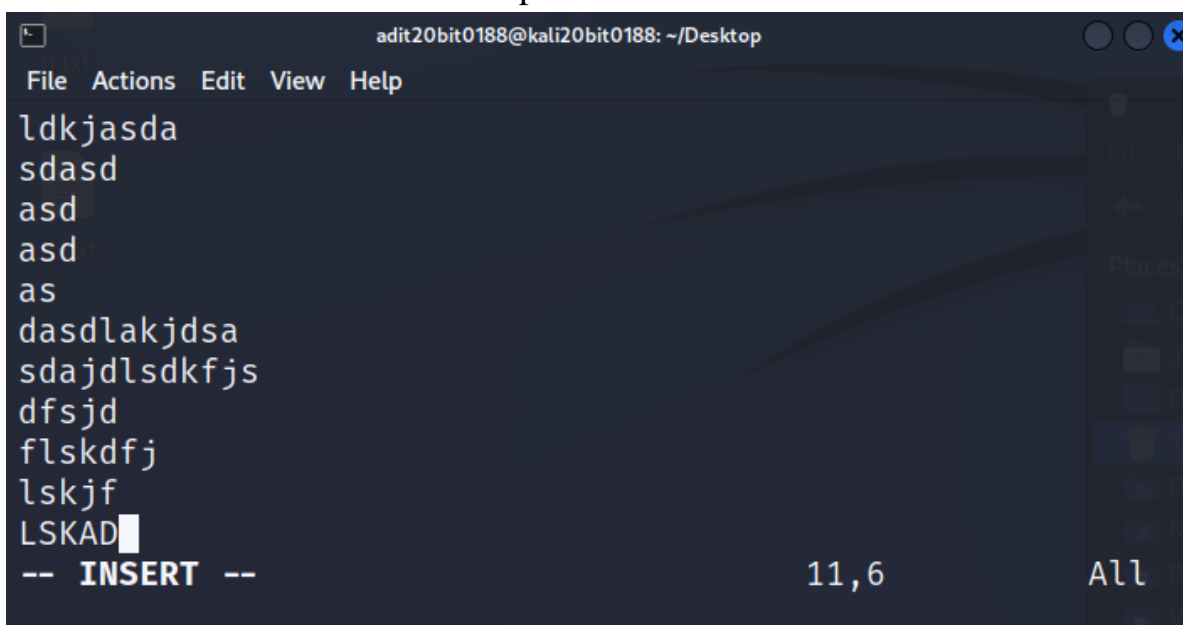
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ tail h.txt
Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Morbi sit amet elit eget metus rhoncus accumsan. Vestibul
um dapibus semper semper. Nunc euismod blandit dui, in au
ctor est. Sed ut ex vel lorem tempus elementum a vel lect
us. Morbi at libero volutpat, rutrum mi nec, lacinia magn
a. Etiam id vestibulum neque, a interdum elit. Sed cursus
consectetur nisl, vel eleifend tellus consectetur accums
an. Nam lobortis est quis massa interdum venenatis eget s
it amet justo. Donec placerat eleifend feugiat. Donec lig
ula nisi, tincidunt vel rhoncus at, semper eu magna. Null
a facilisi. Nulla in euismod tellus. Donec pellentesque,
libero id sodales pulvinar, libero libero dignissim nibh,
in laoreet quam velit nec massa. Maecenas malesuada male
suada porttitor.
```

nano: Text editor for creating and editing files



```
GNU nano 6.3          ab.txt
this is a sample file on kali
[ Wrote 1 line ]
^G Help      ^O Write Out  ^W Where Is   ^K Cut
^X Exit      ^R Read File  ^\ Replace    ^U Paste
```

vi/vim: Powerful text editor for experienced users



```
adit20bit0188@kali20bit0188: ~/Desktop
File Actions Edit View Help
ldkjasda
sdasd
asd
asd
as
dasdlakjdsa
sdajdlSDKfjs
dfsjd
flskdfj
lskjf
LSKAD
-- INSERT --          11,6          All
```

File Permissions:

chmod: Change file permissions

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls -la
total 303140
drwxr-xr-x  3 adit20bit0188 adit20bit0188    4096 May 22 18:34
drwxr-xr-x 20 adit20bit0188 adit20bit0188    4096 May 22 18:34
-rwxr-xr-x  1 adit20bit0188 adit20bit0188     30 May 22 18:28
drwxr-xr-x  2 adit20bit0188 adit20bit0188    4096 May 22 18:11
-rw-r--r--  1 adit20bit0188 adit20bit0188    213 Jan 19 23:07
-rw-----  1 adit20bit0188 adit20bit0188   6348 Dec 23 11:24
-rw-----  1 adit20bit0188 adit20bit0188  87064 Mar 30 17:04
-rw-r--r--  1 adit20bit0188 adit20bit0188    758 May 22 18:24
-rw-r--r--  1 adit20bit0188 adit20bit0188 58913086 Feb 16 15:36
-rw-r--r--  1 adit20bit0188 adit20bit0188     81 May 22 18:34
-rwxr-xr-x  1 adit20bit0188 adit20bit0188 251370072 Jan 17 18:55
```

chown: Change file owner

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ chown adit20bit0188 ab.txt

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls -a
. .. ab.txt adit adit20bit0188.html 'da 1.pcapng' da5.pcapng h.txt Nessus-10.4.2-ubuntu1404_amd64.deb vim.txt ZAP_2_12_0_unix.sh
```

chgrp: Change file group

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ chgrp adit20bit0188 ab.txt

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls -a
. .. ab.txt adit adit20bit0188.html 'da 1.pcapng' da5.pcapng h.txt Nessus-10.4.2-ubuntu1404_amd64.deb vim.txt ZAP_2_12_0_unix.sh
```

File Compression and Archiving:

tar: Archive files

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ tar -cvf arch1.tar ab.txt vim.txt
ab.txt
vim.txt

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls -a
. .. ab.txt adit adit20bit0188.html 'da 1.pcapng' h.txt vim.txt
.. .. arch1.tar da5.pcapng Nessus-10.4.2-ubuntu1404_amd64.deb ZAP_2_12_0_unix.sh
```

gzip: Compress files

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ gzip ab.txt

(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ls
ab.txt.gz adit adit20bit0188.html arch1.tar 'da 1.pcapng' da5.pcapng h.txt Nessus-10.4.2-ubuntu1404_amd64.deb vim.txt ZAP_2_12_0_unix.sh
```

unzip: Extract files from a ZIP archive

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ unzip sample-large-zip-file
Archive:  sample-large-zip-file.zip
inflating: sample-mpg-file.mpg
```


Process Management:

ps: List running processes

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ps
  PID TTY          TIME CMD
 11319 pts/0        00:00:08 zsh
 17225 pts/0        00:00:00 ps
```

top: Display real-time system information and processes

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ top
top - 18:43:55 up 59 min,  1 user,  load average: 0.17, 0.36, 0.20
Tasks: 230 total,  1 running, 229 sleeping,  0 stopped,  0 zombie
%Cpu(s):  1.7 us,  1.0 sy,  0.0 ni, 97.3 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :  3894.9 total,  1898.4 free,  1293.6 used,  702.9 buff/cache
MiB Swap:   975.0 total,   975.0 free,    0.0 used.  2335.4 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR S  %CPU  %MEM    TIME+  COMMAND
  633 root        20   0  496228 169100 86212 S   10.6   4.2   1:11.52 Xorg
 11310 adit20b+   20   0  438280 111832 90632 S    6.0   2.8   0:07.75 qterminal
   952 adit20b+   20   0  222284  44260 18616 S    1.5   1.1   0:36.91 panel-13-cpugra
   527 root        20   0  167608  10788  7336 S    1.0   0.3   0:07.42 vmtoolsd
```

kill: Terminate processes

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ kill 15751
```

bg: Run processes in the background

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ bg
bg: no current job
```

fg: Bring background processes to the foreground

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ fg
fg: no current job
```

System Information:

uname: Print system information

```
(adit20bit0188@kali20bit0188)-[~]
$ uname
Linux
```

df: Display disk space usage

```
(adit20bit0188@kali20bit0188)-[~]
$ df
```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	1958144	0	1958144	0%	/dev
tmpfs	398836	1156	397680	1%	/run
/dev/sda1	29801344	22616224	5645948	81%	/
tmpfs	1994172	0	1994172	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	398832	80	398752	1%	/run/user/1000

free: Display memory usage

```
(adit20bit0188@kali20bit0188)-[~]
$ free
```

	total	used	free	shared	buff/cache	available
Mem:	3988348	801184	2736004	19436	451160	2941696
Swap:	998396	0	998396			

uptime: Show system uptime

```
(adit20bit0188@kali20bit0188)-[~]
$ uptime
18:16:52 up 32 min, 1 user, load average: 0.00, 0.07, 0.06
```

who: Display logged-in users

```
(adit20bit0188@kali20bit0188)-[~]
$ who
adit20bit0188 tty7 2023-05-22 17:44 (:0)
```

w: Display logged-in users and their activities

```
(adit20bit0188@kali20bit0188)-[~]
$ w
18:17:08 up 32 min, 1 user, load average: 0.00, 0.07, 0.06
```

USER	TTY	FROM	LOGIN@	IDLE	JCPU	PCPU	WHAT
adit20bi	tty7	:0	17:44	32:41	27.39s	0.73s	xfce4-session

Networking:

ifconfig: Configure network interfaces

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
    inet 192.168.230.129 netmask 255.255.255.0 broadcast 192.168.230.255
    inet6 fe80::20c:29ff:fee1:32a prefixlen 64 scopeid 0x20<link>
    ether 00:0c:29:e1:03:2a txqueuelen 1000 (Ethernet)
    RX packets 19733 bytes 23655689 (22.5 MiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 4660 bytes 806322 (787.4 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

ping: Send ICMP echo requests to a network host

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=128 time=10.9 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=128 time=7.87 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=128 time=9.78 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=128 time=11.9 ms
^C
— 8.8.8.8 ping statistics —
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 7.866/10.103/11.907/1.494 ms
```

ssh: Securely connect to a remote system

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ ssh 49.36.57.106
```

scp: Securely copy files between systems

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ scp -r /var/www/html/ 49.36.57.106
```

wget: Download files from the web

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ wget https://www.learningcontainer.com/sample-zip-files/#
--2023-05-22 18:59:39-- https://www.learningcontainer.com/sample-zip-files/
Resolving www.learningcontainer.com (www.learningcontainer.com)... 104.21.84.74, 172.67.188.164, 2606:4700:8ded:e8d2:6eca:0:9102:e9ec
Connecting to www.learningcontainer.com (www.learningcontainer.com)[104.21.84.74]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: unspecified [text/html]
Saving to: 'index.html'

index.html [====>] 78.12K --.-KB/s in 0.1s

2023-05-22 18:59:40 (608 KB/s) - 'index.html' saved [79996]
```

System Administration:

sudo: Execute commands with superuser privileges

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ sudo ping 99.83.136.104
[sudo] password for adit20bit0188:
PING 99.83.136.104 (99.83.136.104) 56(84) bytes of data:
64 bytes from 99.83.136.104: icmp_seq=1 ttl=128 time=13.1 ms
64 bytes from 99.83.136.104: icmp_seq=2 ttl=128 time=8.04 ms
64 bytes from 99.83.136.104: icmp_seq=3 ttl=128 time=7.86 ms
64 bytes from 99.83.136.104: icmp_seq=4 ttl=128 time=7.37 ms
64 bytes from 99.83.136.104: icmp_seq=5 ttl=128 time=7.47 ms
^C
--- 99.83.136.104 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 7.370/8.772/13.133/2.194 ms
```

apt-get: Package management for Debian-based distributions

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ sudo apt-get update
Get:1 http://kali.download/kali kali-rolling InRelease [41.2 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 Packages [19.3 MB]
Get:3 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [44.7 MB]
Get:4 http://kali.download/kali kali-rolling/contrib amd64 Packages [115 kB]
Get:5 http://kali.download/kali kali-rolling/contrib amd64 Contents (deb) [172 kB]
Get:6 http://kali.download/kali kali-rolling/non-free amd64 Packages [217 kB]
Get:7 http://kali.download/kali kali-rolling/non-free amd64 Contents (deb) [928 kB]
95% [3 Contents-amd64 store 0 B]^C
```

yum: Package management for Red Hat-based distributions

(APT used in Kali, not yum; skipped)

systemctl: Manage system services

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ systemctl status nessusd
o nessusd.service - The Nessus Vulnerability Scanner
   Loaded: loaded (/lib/systemd/system/nessusd.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
```

crontab: Schedule recurring tasks

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ crontab -e
no crontab for adit20bit0188 - using an empty one

Select an editor. To change later, run 'select-editor'.
 1. /bin/nano          ← easiest
 2. /usr/bin/vim.basic
 3. /usr/bin/vim.tiny

Choose 1-3 [1]: 1
No modification made
```

useradd: Add a new user

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ sudo useradd aditwan
```

passwd: Change user password

```
(adit20bit0188@kali20bit0188)-[~/Desktop]
$ sudo passwd aditwan
New password:
Retype new password:
passwd: password updated successfully
```

Ensure that you provide the correct command(s) used to accomplish each task. Write your answers below each task.

Once you have completed the assessment, review your answers and verify that the output or results are correct.

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