Title: Linux Command List Assessment

Chaitanya Nagre – 20BCN7032

VIT - AP

File and Directory Operations:

ls: List files and directories

```
chaitanya@kali: ~/Documents

File Actions Edit View Help

(chaitanya® kali)-[~]

$\frac{1}{5} \text{ls}

Desktop Documents Downloads Music Pictures Public Templates Videos
```

cd: Change directory

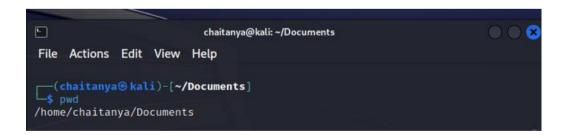
```
chaitanya@kali:~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~]

$ cd /home/chaitanya/Documents
```

pwd: Print working directory



mkdir: Make directory

```
chaitanya@kali: ~/Documents

File Actions Edit View Help
/home/chaitanya/Documents

__(chaitanya@kali)-[~/Documents]

$ mkdir Assignment1

__(chaitanya@kali)-[~/Documents]

$ ls
Assignment1
```

touch: Create an empty file

```
chaitanya@kali:~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~/Documents]

$ touch a.txt

(chaitanya@kali)-[~/Documents]

$ ls

Assignment1 a.txt
```

cp: Copy files and directories

```
chaitanya@kali:~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~/Documents]

$ cp a.txt Assignment1

(chaitanya@kali)-[~/Documents]

$ ls

Assignment1 a.txt
```

my: Move or rename files and directories

```
chaitanya@kali: ~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~/Documents]

$ ls

Assignment1 a.txt

(chaitanya@kali)-[~/Documents]

$ mv a.txt b.txt

(chaitanya@kali)-[~/Documents]

$ ls

Assignment1 b.txt
```

rm: Remove files and directories

```
chaitanya@kali: ~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~]

cd /home/chaitanya/Documents

(chaitanya@kali)-[~/Documents]

Assignment1 b.txt

(chaitanya@kali)-[~/Documents]

$ rm b.txt

(chaitanya@kali)-[~/Documents]

$ ls

Assignment1

(chaitanya@kali)-[~/Documents]
```

find: Search for files and directories

```
chaitanya@kali:~/Documents

File Actions Edit View Help

(chaitanya@kali)-[~]

cd /home/chaitanya/Documents

(chaitanya@kali)-[~/Documents]

Assignment1

(chaitanya@kali)-[~/Documents]

find

./Assignment1
./Assignment1/a.txt

(chaitanya@kali)-[~/Documents]
```

File Viewing and Editing:

cat: Concatenate and display file content

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~]

$ cd /home/chaitanya/Documents/Assignment1

(chaitanya@kali)-[~/Documents/Assignment1]

$ cat a.txt

Hi. This is Chaitanya Nagre.
```

less: View file content with pagination

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~]

cd /home/chaitanya/Documents/Assignment1

(chaitanya@kali)-[~/Documents/Assignment1]

sless a.txt
```

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

Hi. This is Chaitanya Nagre.

a.txt (END)
```

head: Display the beginning of a file

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~]

$ cd /home/chaitanya/Documents/Assignment1

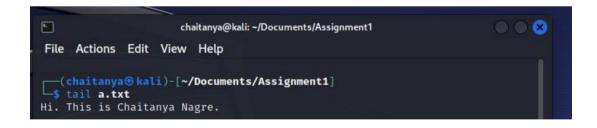
(chaitanya@kali)-[~/Documents/Assignment1]

$ head a.txt

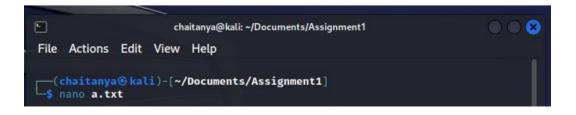
Hi. This is Chaitanya Nagre.

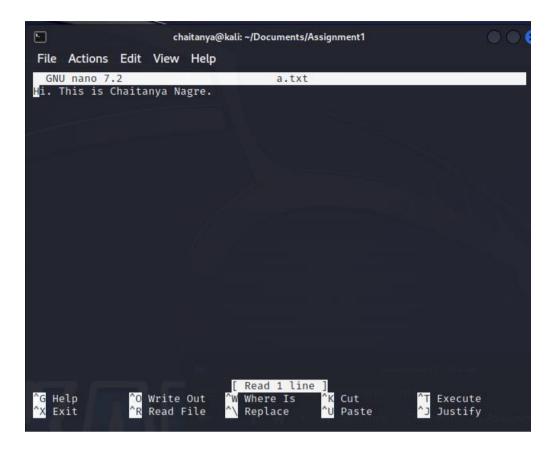
(chaitanya@kali)-[~/Documents/Assignment1]
```

tail: Display the end of a file



nano: Text editor for creating and editing files





vi/vim: Powerful text editor for experienced users

```
VIM - Vi IMproved

version 9.0.1165

by Bram Moolenaar et al.

Modified by team+vim@tracker.debian.org

Vim is open source and freely distributable

Sponsor Vim development!

type :help sponsor<Enter> for information

type :q<Enter> to exit

type :help<Enter> or <F1> for on-line help

type :help version9<Enter> for version info
```

File Permissions:

chmod: Change file permissions

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$\frac{\chaitanya@kali}{\chaitanya@kali}-[~/Documents/Assignment1]}

(chaitanya@kali)-[~/Documents/Assignment1]
```

chown: Change file owner

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ chown chaitanya a.txt

(chaitanya@kali)-[~/Documents/Assignment1]

$ ls -l a.txt

-rwxr--r-- 1 chaitanya chaitanya 29 May 28 09:45 a.txt
```

chgrp: Change file group

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

sudo chgrp chaitanya a.txt
[sudo] password for chaitanya:

(chaitanya@kali)-[~/Documents/Assignment1]

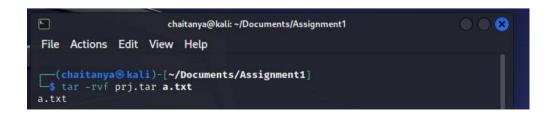
sls -l

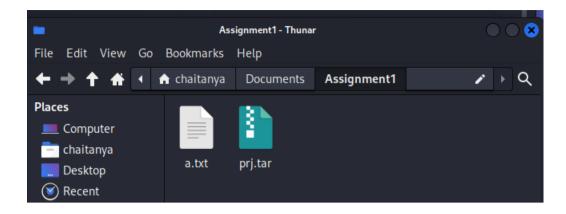
total 4

-rwxr--r-- 1 chaitanya chaitanya 29 May 28 09:45 a.txt
```

File Compression and Archiving:

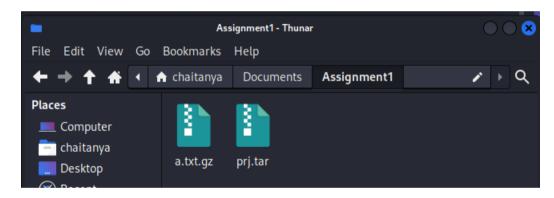
tar: Archive files





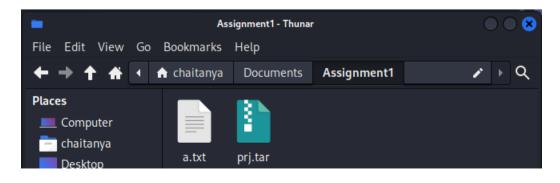
gzip: Compress files





unzip: Extract files from a ZIP archive





Process Management:

ps: List running processes

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

ps
PID TTY TIME CMD
86600 pts/0 00:00:00 zsh
89861 pts/0 00:00:00 ps
```

top: Display real-time system information and processes

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~]

$ cd /home/chaitanya/Documents/Assignment1

(chaitanya@kali)-[~/Documents/Assignment1]

$ top
```

Chaitanya@kali: ~/Documents/Assignment1											8
File Ac	tions Edit	Vi	ew	Help							
top - 10:00:07 up 1:21, 1 user, load average: 0.13, 0.07, 0.08											
Tasks: 166 total, 1 running, 165 sleeping, 0 stopped, 0 zombie											
%Cpu(s):	0.0 us,	0.	.2 sy	/ , 0.0 n	i, 99.7	id, 0	0.0	wa,	0.0 hi,	0.2 si, 0.0	9
MiB Mem	: 3920.	2 to	otal,	945.	5 free,	1005	5.8	used,	2272	6 buff/cache	
MiB Swap	9 75.	0 to	otal,	953.	4 free,	21	L.6	used.	2914	4 avail Mem	
PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	
1080	chaitan+	20	0	658408	41332	29920	S	0.3	1.0	0:03.70	
1	root	20	0	169028	13560	9020	S	0.0	0.3	0:15.48	
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	
3	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
4	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
5	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
6	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
8	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
10	root	0	-20	0	0	0	Ι	0.0	0.0	0:00.00	
11	root	20	0	0	0	0	Ι	0.0	0.0	0:00.00	
12	root	20	0	0	0	0	Ι	0.0	0.0	0:00.00	
13	root	20	0	0	0	0	Ι	0.0	0.0	0:00.00	
14	root	20	0	0	0	0	S	0.0	0.0	0:00.24	
15	root	20	0	tanya 0 i	0	0	Ι	0.0	0.0	0:02.78	
16	root	rt	0	0	0	0	S	0.0	0.0	0:00.07	
18	root	20	0	0	0	0	S	0.0	0.0	0:00.00	

Kill: Terminate processes

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ kill -l

HUP INT QUIT ILL TRAP IOT BUS FPE KILL USR1 SEGV USR2 PIPE ALRM TERM STKFLT C

HLD CONT STOP TSTP TTIN TTOU URG XCPU XFSZ VTALRM PROF WINCH POLL PWR SYS
```

bg: Run processes in the background

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ bg
bg: no current job
```

fg: Bring background processes to the foreground

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ fg
fg: no current job
```

System Information:

uname: Print system information

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya® kali)-[~/Documents/Assignment1]

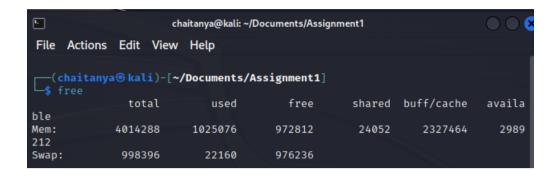
suname
Linux
```

df: Display disk space usage

```
chaitanya@kali: ~/Documents/Assignment1
File Actions Edit View Help
Chaitanya⊕ kali)-[~/Documents/Assignment1]

df
Filesystem
               1K-blocks
                                 Used Available Use% Mounted on
                 1966588 0 1966588 0% /dev
401432 988 400444 1% /run
udev
tmpfs
                 29801344 13868436 14393736 50% /
/dev/sda1
                  2007144 0 2007144 0% /dev/shm
5120 0 5120 0% /run/lock
401428 92 401336 1% /run/user/1000
tmpfs
tmpfs
tmpfs
```

free: Display memory usage



uptime: Show system uptime

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

suptime
10:06:07 up 1:27, 1 user, load average: 0.01, 0.04, 0.07
```

who: Display logged-in users

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

who
chaitanya tty7 2023-05-28 08:38 (:0)
```

w: Display logged-in users and their activities

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

w
10:06:56 up 1:28, 1 user, load average: 0.00, 0.04, 0.06

USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
chaitany tty7 :0 08:38 1:28m 58.53s 0.34s xfce4-sessio
```

Networking:

ifconfig: Configure network interfaces

```
chaitanya@kali: ~
File Actions Edit View Help
eth0: flags=4163<UP, BROADCAST, RUNNING, MULTICAST> mtu 1500
        inet 10.0.2.15 netmask 255.255.255.0 broadcast 10.0.2.255
        inet6 fe80::a00:27ff:fe09:6039 prefixlen 64 scopeid 0×20<link>
        ether 08:00:27:09:60:39 txqueuelen 1000 (Ethernet)
RX packets 1046712 bytes 1519021943 (1.4 GiB)
        RX errors 0 dropped 0 overruns 0 frame 0
TX packets 112514 bytes 6919396 (6.5 MiB)
        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 0×10<host>
        loop txqueuelen 1000 (Local Loopback)
        RX packets 4 bytes 240 (240.0 B)
        RX errors 0 dropped 0 overruns 0
        TX packets 4 bytes 240 (240.0 B)
        TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

ping: Send ICMP echo requests to a network host

```
chaitanya@kali: ~
File Actions Edit View Help
└$ ping 127.0.0.1
PING 127.0.0.1 (127.0.0.1) 56(84) bytes of data.
64 bytes from 127.0.0.1: icmp_seq=1 ttl=64 time=0.012 ms
64 bytes from 127.0.0.1: icmp_seq=2 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=3 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=4 ttl=64 time=0.019 ms
64 bytes from 127.0.0.1: icmp_seq=5 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=6 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=7 ttl=64 time=0.084 ms
64 bytes from 127.0.0.1: icmp_seq=8 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=9 ttl=64 time=0.023 ms
64 bytes from 127.0.0.1: icmp_seq=10 ttl=64 time=0.021 ms
64 bytes from 127.0.0.1: icmp_seq=11 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=12 ttl=64 time=0.072 ms
64 bytes from 127.0.0.1: icmp_seq=13 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=14 ttl=64 time=0.020 ms
64 bytes from 127.0.0.1: icmp_seq=15 ttl=64 time=0.021 ms
64 bytes from 127.0.0.1: icmp_seq=16 ttl=64 time=0.039 ms
   bytes from 127.0.0.1: icmp_seq=17 ttl=64 time=0.018 ms
                               icmn seq=18 ttl=64
```

ssh: Securely connect to a remote system



scp: Securely copy files between systems

```
chaitanya@kali:~

File Actions Edit View Help

(chaitanya® kali)-[~]

scp a.txt chaitanya@10.0.2.15:/home/chaitanya
ssh: connect to host 10.0.2.15 port 22: Connection refused
scp: Connection closed
```

wget: Download files from the web

```
chaitanya@kali:~

File Actions Edit View Help

(chaitanya@kali)-[~]

wget http://ftp.gnu.org/gnu/wget/wget2-2.0.0.tar.gz
--2023-05-28 10:16:21-- http://ftp.gnu.org/gnu/wget/wget2-2.0.0.tar.gz
Resolving ftp.gnu.org (ftp.gnu.org) ... 209.51.188.20, 2001:470:142:3::b
Connecting to ftp.gnu.org (ftp.gnu.org)|209.51.188.20|:80 ... connected.

HTTP request sent, awaiting response ... 200 OK
Length: 3565643 (3.4M) [application/x-gzip]
Saving to: 'wget2-2.0.0.tar.gz'

wget2-2.0.0.tar.gz 100%[ ] 3.40M 767KB/s in 6.1s

2023-05-28 10:16:29 (568 KB/s) - 'wget2-2.0.0.tar.gz' saved [3565643/3565643]
```

System Administration:

sudo: Execute commands with superuser privileges

```
chaitanya@kali: -/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~]

cd /home/chaitanya/Documents/Assignment1

(chaitanya@kali)-[~/Documents/Assignment1]

sudo

usage: sudo -h | -K | -k | -V

usage: sudo -v [-ABkNnS] [-g group] [-h host] [-p prompt] [-u user]

usage: sudo -l [-ABkNnS] [-g group] [-h host] [-p prompt] [-U user] [-u

user] [command [arg ...]]

usage: sudo [-ABbEHkNnPS] [-r role] [-t type] [-C num] [-D directory] [-g

group] [-h host] [-p prompt] [-R directory] [-T timeout] [-u

user] [VAR=value] [-i | -s] [command [arg ...]]

usage: sudo -e [-ABkNnS] [-r role] [-t type] [-C num] [-D directory] [-g

group] [-h host] [-p prompt] [-R directory] [-T timeout] [-u

user] file ...
```

apt-get: Package management for Debian-based distributions

```
File Actions Edit View Help
  remove - Remove packages
  purge - Remove packages and config files
  autoremove - Remove automatically all unused packages
  dist-upgrade - Distribution upgrade, see apt-get(8)
  dselect-upgrade - Follow dselect selections
build-dep - Configure build-dependencies for source packages
  satisfy - Satisfy dependency strings
clean - Erase downloaded archive files
  autoclean - Erase old downloaded archive files
  check - Verify that there are no broken dependencies
  source - Download source archives
  download - Download the binary package into the current directory changelog - Download and display the changelog for the given package
See apt-get(8) for more information about the available commands.
Configuration options and syntax is detailed in apt.conf(5).
Information about how to configure sources can be found in sources.list(5).
Package and version choices can be expressed via apt_preferences(5).
Security details are available in apt-secure(8).
                                               This APT has Super Cow Powers.
```

yum: Package management for Red Hat-based distributions

```
chaitanya@kali:~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ yum search firefox

Command 'yum' not found, did you mean:
command 'sum' from deb coreutils
command 'uum' from deb freewnn-jserver
command 'num' from deb quickcal
command 'zum' from deb perforate

Try: sudo apt install <deb name>
```

systemctl: Manage system services

```
File Actions Edit View Help
 UNIT
 proc-sys-fs-binfmt misc.automount
  -sys-devices-pci0000:00-0000:00:01.1-ata3-host2-target2:0:0-2:0:0:0-block
 sys-devices-pci0000:00-0000:00:03.0-net-eth0.device
 sys-devices-pci0000:00-0000:00:05.0-sound-card0-controlC0.device
  sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-
  sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0-block-
  sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0:0-block-
 sys-devices-pci0000:00-0000:00:0d.0-ata1-host0-target0:0:0-0:0:0-block-
  sys-devices-platform-serial8250-tty-ttyS0.device
  sys-devices-platform-serial8250-tty-ttyS1.device
  sys-devices-platform-serial8250-tty-ttyS2.device
  sys-devices-platform-serial8250-tty-ttyS3.device
  sys-devices-virtual-misc-rfkill.device
  sys-module-configfs.device
 sys-module-fuse.device
 sys-subsystem-net-devices-eth0.device
 dev-hugepages.mount
 dev-mqueue.mount
 proc-sys-fs-binfmt_misc.mount
 run-credentials-systemd\x2dsysctl.service.mount
log file:
```

crontab: Schedule recurring tasks

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ crontab -l

no crontab for chaitanya
```

useradd: Add a new user

```
chaitanya@kali: ~/Documents/Assignment1

File Actions Edit View Help

(chaitanya@kali)-[~/Documents/Assignment1]

$ sudo useradd nagre
[sudo] password for chaitanya:

nm-openconnect:x:131:138:NetworkManager OpenConnect plugin,,,:/var/lib/NetworkManager:/usr/sbin/nologin
dharma:x:1000:1000:Dharma Teja,,,:/home/dharma:/usr/bin/zsh
dharma1:x:1001:1001::/home/dharma1:/bin/sh
```

passwd: Change user password

```
chaitanya@kali:~

File Actions Edit View Help

(chaitanya@kali)-[~]

$ passwd
Changing password for chaitanya.
Current password:
New password:
Retype new password:
passwd: password updated successfully
```