COKEZERO ADVENTURE
Instructions in BLUE | Concerns in RED
Commands are prefixed with $
Additional Input is prefixed with €
Custom Names are *italicized* (Ex. *file.txt*)
Made with ❤️ by PixelSkale (DotSlash)

Terminal Output recorded using $ script session.txt

SUMMARY BY TOPIC

Process Management

Show Linux distro (distributor, description, release, codename)
$ lsb_release -a

Show kernel version
$ uname -r

Show kernel (file) and its size
$ ls -lh /boot/vmlinuz-$(uname -r)

Show CPU information
$ cat /proc/cpuinfo

Run a process with lowest priority (least favorable)
$ nice -n 19 sleep 10

Run a process (> 60 sec), pause, and resume.
$ sleep 70
€ CTRL+Z
$ fg
To resume a process in background instead of foreground, run: ($ bg)
Without any arguments, they operate on most recently suspended job.

Run a process (> 60 sec) in background, and terminate.
$ sleep 70 &
$ kill %1
%1 refers to the first background job started in the current shell session. To list all jobs and their number, run: ($ jobs)
NOTE: %1 is a reference to a job slot, NOT Process IDs (PIDs)!

Run three processes in background, and bring the second to the foreground.
$ sleep 70 &
$ sleep 70 &
$ sleep 70 &
$ fg %2

```
Run three processes in background, and terminate the first.
$ sleep 70 &
$ sleep 70 &
$ sleep 70 &
$ kill %1

Run two processes, and connect them using a pipe.
$ cat /etc/passwd | grep home

Show uptime (elapsed time since booting)
$ uptime -p
```

Memory Management

```
Show memory information
$ cat /proc/meminfo

Show amount of free and used memory in the system
$ free -h
```

Storage Management

```
Create a file, rename, and delete.
$ touch myfile.txt
$ mv myfile.txt samefile.txt
$ rm samefile.txt

Create a folder, rename, and delete.
$ mkdir myfolder
$ mv myfolder samefolder
$ rm -r samefolder

Create a file and change permission so that only the owner can read
$ touch secrets.txt
$ chmod 400 secrets.txt

Create a file and change both owner and group to "root"
$ touch myfile.txt
$ sudo chown root:root myfile.txt

Create a folder and a symbolic link to the folder
$ mkdir myfolder
$ ln -s myfolder mysymlink

Show disk space usage in human-readable format
$ df -h
```

Show file space (≠ size) usage of /usr/share/dict/american-english in human-readable format

```
$ du -h /usr/share/dict/american-english
```

If WAMERICAN is not yet installed, do so with apt (Ubuntu).

```
$ sudo apt install wamerican
```

Check and repair file system on hard disk

```
$ lsblk -f
$ sudo fsck -N /dev/sdX
```

FSCK opens up a whole can of worms requiring the know-how of partitions and the act of unmounting them. The -N flag only performs a DRY RUN on sdX which makes it safe to run on mounted partitions. For additional information on FSCK please consult the MAN PAGE. **RTFM**

```
$ man fsck
```

Search for a given filename

```
$ sudo find / -name "myfile.txt"
```

The / (slash) refers to the root directory of the system, which means it will search the ENTIRE FILESYSTEM for the file. To search only within the current directory use the . (dot) in place of slash, which represents a relative path pointing to the current directory.

```
$ find . -name "myfile.txt"
```

User Management

Change password

```
$ passwd
```

Show online users

```
$ who
```

Show current users on the system and what they are doing

```
$ w
```

Enable administrator (root or superuser) account

To enable root account on Ubuntu, run:

```
$ sudo passwd root
```

To promote a user to a superuser (give sudo access), run:

```
$ sudo usermod -aG sudo newuser
```

Add a new user and remove

```
$ sudo adduser newuser
$ sudo deluser newuser
```

adduser and deluser function as wrappers around the lower-level binaries provided by the passwd package (useradd and userdel).

Network Management

Remote login to Linux (SSH)
$ ssh *username@ip_address*

Transfer a file to Linux (FTP)
$ ftp *username@ip_address*
Follow instructions on cache111 to obtain Homosapiens! There's also an FTP snippet of session.txt provided at the end of this doc!

Show IP address of your computer
$ ip a

Show MAC address of your computer
$ ip link
The previous ($ ip a) also works but this is more readable.

Show IP address of google.com
$ dig google.com +short

Show connection speed to google.com
$ ping google.com
Assuming latency is what we are after.
DOWNLOAD/UPLOAD may require additional software to be installed.

Download a file at 1:00 AM tomorrow
$ sudo apt install at
$ sudo systemctl enable --now atd
$ echo "wget https://cache111.com/test.zip" | at 01:00
The above (using at) is easier, but below is the HACKER way.
It calculates the time and sleeps until then. RISKY but FUN!
$ nohup bash -c 'sleep $(($(date -d "tomorrow 01:00" +%s) - $(date +%s))) && wget https://cache111.com/test.zip' &
If you're connecting to a remote server, make sure to run ($ date).
The timezone on the server may not be the same as your current one.

Please note that the below topics are not covered in session.txt
You people are probably comfy with the command line by now! :)

Utilities (1)

Show the manual page of the "man" command
$ man man

Show only the first 10 lines of /etc/passwd
$ head -n 10 /etc/passwd

Show only the last 10 lines of /etc/passwd
$ tail -n 10 /etc/passwd

Show the first page of /usr/share/dict/american-english and scroll to the next
$ less /usr/share/dict/american-english
€ SPACE
€ q
Pressing SPACE will bring you to the next page, q to quit.

Show only the line containing "sys" in /etc/passwd
$ grep sys /etc/passwd

Show only the line ending with "land" in /usr/share/dict/american-english
$ grep 'land$' /usr/share/dict/american-english

Count the number of lines in /usr/share/dict/american-english
$ wc -l /usr/share/dict/american-english

Open /usr/share/dict/american-english in a text editor, and search for "microcomputer".
$ vim /usr/share/dict/american-english
€ /microcomputer
€ ENTER
€ :q
€ ENTER
Pressing / (slash) starts a search. Type microcomputer, press ENTER, and the cursor will jump to the first match. To quit type : (colon), followed by q, then ENTER. Alternatively, below is the shortcut. Note that you'll still need to do :q to quit.
$ vim +'/microcomputer' /usr/share/dict/american-english
€ :q
€ ENTER
NOTE: If VIM is not yet installed, do so with apt (Ubuntu).
$ sudo apt install vim
NOTE: There's also nano! (easier I guess) But I'm a sucker for VIM.

Make a text file, put your firstname, save and display each character sequentially in hex.
$ echo "*Firstname*" > *myname.txt*
$ xxd *myname.txt*

Make a text file, put your firstname, encrypt with password protection.
$ echo "*Firstname*" > *secret.txt*
$ gpg -c *secret.txt*

Write a hello-world program in C, compile, and execute.

```
$ vim hello.c
€ i
#include <stdio.h>
int main(void) {
printf("Hello, world\n");
return 0;
}
€ ESC
€ :wq
€ ENTER
$ gcc -o hello hello.c
$ ./hello
```

In VIM, you start in NORMAL MODE. To type something you must go into INSERT MODE by pressing i. After typing everything in, press ESC to escape back into NORMAL MODE. Then type :wq (write & quit) followed by ENTER. Use gcc to compile hello.c into hello (binary) to execute.

NOTE: If VIM is not yet installed, do so with apt (Ubuntu).

```
$ sudo apt install vim
```

NOTE: There's also nano! (easier I guess) But I'm a sucker for VIM.

Run a process that will continue after logout

```
$ nohup sleep 100 &
```

Shutdown in the next 10 minutes

```
$ sudo shutdown +10
```

Cancel the shutdown

```
$ sudo shutdown -c
```

Utilities (2)

Make a folder with a file inside and compress it to foldername.tar.gz

```
$ mkdir myfolder
$ echo "Hello" > myfolder/myfile.txt
$ tar -czf foldername.tar.gz myfolder
```

Calculate the checksum of foldername.tar.gz

```
$ sha256sum foldername.tar.gz
```

Make a folder with a file inside and compress it to foldername.zip

```
$ mkdir myfolder
$ echo "Hello" > myfolder/myfile.txt
$ zip -r foldername.zip myfolder
```

Calculate the checksum of foldername.zip

```
$ sha256sum foldername.zip
```

Create two files, concatenate them together using "cat" ">" ">>".
$ echo "*First File*" > *file1.txt*
$ echo "*Second File*" > *file2.txt*
To overwrite/create combined.txt:
$ cat *file1.txt file2.txt* > *combined.txt*
To further append file1.txt:
$ cat *file1.txt* >> *combined.txt*
The > redirection is for overwriting.
The >> redirection is for appending at the end of the file.
Both can be used to create if the file is not present.

Split /usr/share/dict/american-english into 10 files (x00, x01, x02, …, x09)
$ split -d -n 10 /usr/share/dict/american-english x

Show only the first column in /etc/passwd
$ cut -d: -f1 /etc/passwd

Show printer queue
$ lpq

Show current date & time
$ date

Show calendar
$ cal
The cal command in Ubuntu is supplied by the ncal package,
if not yet installed, do so with apt.
$ sudo apt install ncal

FTP Snippet

```
jaiyen@cokezero:~$ ftp -p ftp.broadinstitute.org
Connected to ftp02.broadinstitute.org.
220 FTP Server ready.
Name (ftp.broadinstitute.org:root): gsapubftp-anonymous
331 Anonymous login ok, send your complete email address as your
password
Password:
230 Anonymous access granted, restrictions apply
Remote system type is UNIX.
Using binary mode to transfer files.
No entry for terminal type "xterm-ghostty";
using dumb terminal settings.
ftp> cd bundle
250 CWD command successful
ftp> cd hg38
250 CWD command successful
ftp> bi
200 Type set to I
ftp> prompt
Interactive mode off.
ftp> get Homo_sapiens_assembly38.dict
local: Homo_sapiens_assembly38.dict remote:
Homo_sapiens_assembly38.dict
229 Entering Extended Passive Mode (|||63534|)
150 Opening BINARY mode data connection for
Homo_sapiens_assembly38.dict (581712 bytes)

  0% |                                     |     0        0.00 KiB/s
--:-- ETA
 66% |**********************               |   378 KiB  378.92 KiB/s
00:00 ETA
100% |*********************************|   568 KiB  406.45 KiB/s
00:00 ETA
226 Transfer complete
581712 bytes received in 00:01 (351.29 KiB/s)
ftp> bye
221 Goodbye.
```

Miscellaneous

PATHS

ABSOLUTE PATHS
- Example: /etc/passwd
- Begins with / (slash)
- Starts from the root directory, always constant.

RELATIVE PATHS
- Example: ./myfile.txt
- Begins with . (dot) , .. (double dot) , filename , etc.
- Depends on the current working directory ($PWD), not constant.

SHORTCUTS
- Example: ~ (Tilde)
- Common Misunderstanding (for me too, in the past)
- When employed, it is expanded by the shell (bash, zsh, etc.). It is not a valid path on its own.
- ~ (Tilde) is the most common one, it is user-sensitive and expands to be the home directory of the current user.
- Tilde Example: ~/file.txt may expand to /home/jaiyen/file.txt

Background Processes

Regarding running background processes, you might have come across both nohup and & (ampersand) at some point. THEY ARE DIFFERENT!

nohup

Ex. $ nohup *some_really_long_task.sh*
- Is prefixed at the start of the command
- Ignores hangup signal (SIGHUP)
- Runs in Foreground (Output -> nohup.out)
- TLDR; SCREEN BUSY BUT SURVIVES LOGOUT

& (ampersand)

Ex. $ *some_really_long_task.sh* &
- Is appended at the end of the command
- DOES NOT ignore hangup signal (SIGHUP)
- Runs in Background (Output -> stdout)
- TLDR; SCREEN FREE BUT WILL DIE WHEN LOGOUT

TOGETHER

Ex. $ nohup *some_really_long_task.sh* &
- Ignores hangup signal (SIGHUP)
- Runs in Background (Output -> nohup.out , if not redirected)
- TLDR; SCREEN FREE AND SURVIVES LOGOUT

IF YOU NOTICE ANY MISTAKES PLEASE NOTIFY ME OR OUR COLLEAGUES
I DOUBLE CHECKED BUT AM NOT IMMUNE TO MISTAKES AND SKILL ISSUES

Terminal Output

```
root@cokezero:~# apt update; apt upgrade; reboot;
root@cokezero:~# script session.txt
Script started on 2025-08-05 13:17:43+00:00 [TERM="xterm-ghostty"
TTY="/dev/pts/0" COLUMNS="78" LINES="29"]
root@cokezero:~# adduser jaiyen
info: Adding user `jaiyen' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `jaiyen' (1000) ...
info: Adding new user `jaiyen' (1000) with group `jaiyen (1000)' ...
info: Creating home directory `/home/jaiyen' ...
info: Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for jaiyen
Enter the new value, or press ENTER for the default
      Full Name []: Saichon Jaiyen
      Room Number []: 123
      Work Phone []: 0900000000
      Home Phone []: 0900000000
      Other []:
Is the information correct? [Y/n]
info: Adding new user `jaiyen' to supplemental / extra groups
`users' ...
info: Adding user `jaiyen' to group `users' ...
root@cokezero:~# usermod -aG sudo jaiyen
root@cokezero:~# su jaiyen
To run a command as administrator (user "root"), use "sudo
<command>".
See "man sudo_root" for details.

jaiyen@cokezero:/root$ cd ~
jaiyen@cokezero:~$ ls -lhA
total 12K
-rw-r--r-- 1 jaiyen jaiyen  220 Aug  5 13:18 .bash_logout
-rw-r--r-- 1 jaiyen jaiyen 3.7K Aug  5 13:18 .bashrc
-rw-r--r-- 1 jaiyen jaiyen    0 Aug  5 13:18 .cloud-locale-test.skip
-rw-r--r-- 1 jaiyen jaiyen  807 Aug  5 13:18 .profile
```

```
jaiyen@cokezero:~$ echo "1 Process Management"
1 Process Management
jaiyen@cokezero:~$ lsb_release -a
No LSB modules are available.
Distributor ID: Ubuntu
Description:    Ubuntu 24.04.1 LTS
Release:  24.04
Codename:  noble
jaiyen@cokezero:~$ uname -r
6.8.0-71-generic
jaiyen@cokezero:~$ ls /boot
System.map-6.8.0-51-generic  initrd.img-6.8.0-71-generic
System.map-6.8.0-71-generic  initrd.img.old
config-6.8.0-51-generic      lost+found
config-6.8.0-71-generic      vmlinuz
efi                          vmlinuz-6.8.0-51-generic
grub                         vmlinuz-6.8.0-71-generic
initrd.img                   vmlinuz.old
initrd.img-6.8.0-51-generic
jaiyen@cokezero:~$ ls -lh /boot/vmlinuz-$(uname -r)
-rw------- 1 root root 15M Jul 22 15:23
/boot/vmlinuz-6.8.0-71-generic
jaiyen@cokezero:~$ cat /proc/cpuinfo
processor  : 0
vendor_id  : GenuineIntel
cpu family : 6
model      : 79
model name : DO-Regular
stepping   : 1
microcode  : 0x1
cpu MHz          : 2294.608
cache size : 4096 KB
physical id      : 0
siblings   : 1
core id          : 0
cpu cores  : 1
apicid           : 0
initial apicid   : 0
fpu        : yes
fpu_exception    : yes
cpuid level      : 13
```

```
wp         : yes
flags      : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge
mca cmov pat pse36 clflush mmx fxsr sse sse2 ss syscall nx rdtscp lm
constant_tsc rep_good nopl xtopology cpuid tsc_known_freq pni
pclmulqdq vmx ssse3 fma cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt
tsc_deadline_timer aes xsave avx f16c rdrand hypervisor lahf_lm abm
3dnowprefetch cpuid_fault pti ssbd ibrs ibpb tpr_shadow flexpriority
ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid
rdseed adx smap xsaveopt arat vnmi md_clear
vmx flags  : vnmi preemption_timer invvpid ept_x_only ept_ad ept_1gb
flexpriority tsc_offset vtpr mtf vapic ept vpid unrestricted_guest
vapic_reg vid shadow_vmcs pml
bugs       : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass
l1tf mds swapgs itlb_multihit mmio_stale_data bhi
bogomips   : 4589.21
clflush size     : 64
cache_alignment  : 64
address sizes    : 40 bits physical, 48 bits virtual
power management:

jaiyen@cokezero:~$ nice -n 19 sleep 10
jaiyen@cokezero:~$ sleep 70
^Z
[1]+  Stopped                 sleep 70
jaiyen@cokezero:~$ fg
sleep 70
jaiyen@cokezero:~$ sleep 70 &
[1] 1266
jaiyen@cokezero:~$ jobs
[1]+  Running                 sleep 70 &
jaiyen@cokezero:~$ kill %1
jaiyen@cokezero:~$ jobs
[1]+  Terminated              sleep 70
jaiyen@cokezero:~$ sleep 70 &
[1] 1268
jaiyen@cokezero:~$ sleep 70 &
[2] 1269
jaiyen@cokezero:~$ sleep 70 &
[3] 1270
jaiyen@cokezero:~$ jobs
[1]   Running                 sleep 70 &
```

```
[2]-  Running                 sleep 70 &
[3]+  Running                 sleep 70 &
jaiyen@cokezero:~$ fg %2
sleep 70
[1]-  Done                    sleep 70
[3]   Done                    sleep 70
jaiyen@cokezero:~$ sleep 70 &
[4] 1274
jaiyen@cokezero:~$ sleep 70 &
[5] 1275
jaiyen@cokezero:~$ sleep 70 &
[6] 1276
jaiyen@cokezero:~$ jobs
[4]   Running                 sleep 70 &
[5]-  Running                 sleep 70 &
[6]+  Running                 sleep 70 &
jaiyen@cokezero:~$ kill %4
jaiyen@cokezero:~$ echo "slot 4 is the first this time"
slot 4 is the first this time
[4]   Terminated              sleep 70
jaiyen@cokezero:~$ kill %5
bash: kill: (1275) - No such process
[5]-  Done                    sleep 70
[6]+  Done                    sleep 70
jaiyen@cokezero:~$ kill %6
bash: kill: %6: no such job
jaiyen@cokezero:~$ echo "already done"
already done
jaiyen@cokezero:~$ jobs
jaiyen@cokezero:~$ cat /etc/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
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/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/run/ircd:/usr/sbin/nologin
_apt:x:42:65534::/nonexistent:/usr/sbin/nologin
nobody: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
Synchronization:/:/usr/sbin/nologin
dhcpcd:x:100:65534:DHCP Client Daemon,,,:/usr/lib/dhcpcd:/bin/false
messagebus:x:101:101::/nonexistent:/usr/sbin/nologin
syslog:x:102:102::/nonexistent:/usr/sbin/nologin
systemd-resolve:x:991:991:systemd Resolver:/:/usr/sbin/nologin
uuidd:x:103:103::/run/uuidd:/usr/sbin/nologin
tss:x:104:104:TPM software stack,,,:/var/lib/tpm:/bin/false
sshd:x:105:65534::/run/sshd:/usr/sbin/nologin
pollinate:x:106:1::/var/cache/pollinate:/bin/false
tcpdump:x:107:108::/nonexistent:/usr/sbin/nologin
landscape:x:108:109::/var/lib/landscape:/usr/sbin/nologin
fwupd-refresh:x:990:990:Firmware update
daemon:/var/lib/fwupd:/usr/sbin/nologin
polkitd:x:989:989:User for polkitd:/:/usr/sbin/nologin
jaiyen:x:1000:1000:Saichon
Jaiyen,123,0900000000,0900000000:/home/jaiyen:/bin/bash
jaiyen@cokezero:~$ cat /etc/passwd | grep home
jaiyen:x:1000:1000:Saichon
Jaiyen,123,0900000000,0900000000:/home/jaiyen:/bin/bash
jaiyen@cokezero:~$ uptime -p
up 1 hour, 1 minute
```

```
jaiyen@cokezero:~$ echo "2 Memory Management"
2 Memory Management
jaiyen@cokezero:~$ cat /proc/meminfo
MemTotal:         469352 kB
MemFree:           94372 kB
MemAvailable:     312148 kB
Buffers:           13840 kB
Cached:           209588 kB
SwapCached:            0 kB
Active:           122608 kB
Inactive:         134028 kB
Active(anon):      45080 kB
Inactive(anon):      980 kB
Active(file):      77528 kB
Inactive(file):   133048 kB
Unevictable:       30356 kB
Mlocked:           27284 kB
SwapTotal:             0 kB
SwapFree:              0 kB
Zswap:                 0 kB
Zswapped:              0 kB
Dirty:                16 kB
Writeback:             0 kB
AnonPages:         63600 kB
Mapped:            64984 kB
Shmem:              4092 kB
KReclaimable:      19564 kB
Slab:              59788 kB
SReclaimable:      19564 kB
SUnreclaim:        40224 kB
KernelStack:        2096 kB
PageTables:         2636 kB
SecPageTables:         0 kB
NFS_Unstable:          0 kB
Bounce:                0 kB
WritebackTmp:          0 kB
CommitLimit:      234676 kB
Committed_AS:     314928 kB
VmallocTotal:   34359738367 kB
VmallocUsed:       18436 kB
VmallocChunk:          0 kB
```

```
Percpu:              512 kB
HardwareCorrupted:     0 kB
AnonHugePages:         0 kB
ShmemHugePages:        0 kB
ShmemPmdMapped:        0 kB
FileHugePages:         0 kB
FilePmdMapped:         0 kB
Unaccepted:            0 kB
HugePages_Total:       0
HugePages_Free:        0
HugePages_Rsvd:        0
HugePages_Surp:        0
Hugepagesize:       2048 kB
Hugetlb:               0 kB
DirectMap4k:       85868 kB
DirectMap2M:      438272 kB
jaiyen@cokezero:~$ free -h
               total        used        free      shared  buff/cache
available
Mem:           458Mi       153Mi        92Mi       4.0Mi       237Mi
304Mi
Swap:             0B          0B          0B
```

```
jaiyen@cokezero:~$ echo "3 Storage Management"
3 Storage Management
jaiyen@cokezero:~$ touch myfile.txt
jaiyen@cokezero:~$ ls
myfile.txt
jaiyen@cokezero:~$ mv myfile.txt samefile.txt
jaiyen@cokezero:~$ ls
samefile.txt
jaiyen@cokezero:~$ rm samefile.txt
jaiyen@cokezero:~$ ls
jaiyen@cokezero:~$ mkdir myfolder
jaiyen@cokezero:~$ mv myfolder samefolder
jaiyen@cokezero:~$ rm -r samefolder
jaiyen@cokezero:~$ ls
jaiyen@cokezero:~$ touch secrets.txt
jaiyen@cokezero:~$ ls -l secrets.txt
-rw-rw-r-- 1 jaiyen jaiyen 0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ chmod 400 secrets.txt
jaiyen@cokezero:~$ ls -l secrets.txt
-r-------- 1 jaiyen jaiyen 0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ touch myfile.txt
jaiyen@cokezero:~$ ls -l myfile.txt
-rw-rw-r-- 1 jaiyen jaiyen 0 Aug  5 13:36 myfile.txt
jaiyen@cokezero:~$ sudo chown root:root myfile.txt
[sudo] password for jaiyen:

jaiyen@cokezero:~$ ls -l myfile.txt
-rw-rw-r-- 1 root root 0 Aug  5 13:36 myfile.txt
jaiyen@cokezero:~$ mkdir myfolder
jaiyen@cokezero:~$ ln -s myfolder mysymlink
jaiyen@cokezero:~$ ls -l
total 4
-rw-rw-r-- 1 root   root      0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen 4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen    8 Aug  5 13:37 mysymlink -> myfolder
-r-------- 1 jaiyen jaiyen    0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs            46M 1008K   45M   3% /run
/dev/vda1       8.7G  2.1G  6.6G  24% /
tmpfs           230M     0  230M   0% /dev/shm
```

```
tmpfs           5.0M     0  5.0M   0% /run/lock
/dev/vda16      881M  112M  707M  14% /boot
/dev/vda15      105M  6.2M   99M   6% /boot/efi
tmpfs            46M   12K   46M   1% /run/user/0
jaiyen@cokezero:~$ du -h /usr/share/dict/american-english
du: cannot access '/usr/share/dict/american-english': No such file
or directory
jaiyen@cokezero:~$ sudo apt install wamerican

The following NEW packages will be installed:
  wamerican
0 upgraded, 1 newly installed, 0 to remove and 3 not upgraded.

jaiyen@cokezero:~$ du -h /usr/share/dict/american-english
964K  /usr/share/dict/american-english
jaiyen@cokezero:~$ lsblk -f
NAME FSTYPE FSVER LABEL           UUID
FSAVAIL FSUSE% MOUNTPOINTS
vda
├─vda1
|    ext4   1.0   cloudimg-rootfs
ef43644d-1314-401f-a83c-5323ff539f61    6.6G    24% /
├─vda14
|
├─vda15
|    vfat   FAT32 UEFI            5FF1-2838
98.2M     6% /boot/efi
└─vda16
     ext4   1.0   BOOT
4e31b68c-9b6b-42a3-87d3-351edda72121  706.8M    13% /boot
vdb  iso966       config-2        2025-08-05-12-21-42-00
jaiyen@cokezero:~$ sudo fsck -N /vda/vda1
fsck from util-linux 2.39.3
[/usr/sbin/fsck.ext2 (1) -- /vda/vda1] fsck.ext2 /vda/vda1
jaiyen@cokezero:~$ sudo find / -name "myfile.txt"
/home/jaiyen/myfile.txt
jaiyen@cokezero:~$ find . -name "myfile.txt"
./myfile.txt
```

```
jaiyen@cokezero:~$ echo "4 User Management"
4 User Management
jaiyen@cokezero:~$ passwd
Changing password for jaiyen.
Current password:
New password:
Retype new password:
passwd: password updated successfully
jaiyen@cokezero:~$ who
root     pts/0        2025-08-05 13:17 (49.229.187.161)
jaiyen@cokezero:~$ w
 13:44:14 up  1:12,  1 user,  load average: 0.01, 0.03, 0.00
USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
root             49.229.187.161   13:17    5:45   0.00s  3.42s
sshd: root@pt
jaiyen@cokezero:~$ sudo passwd root
New password:
Retype new password:
passwd: password updated successfully
jaiyen@cokezero:~$ sudo adduser newuser
info: Adding user `newuser' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `newuser' (1001) ...
info: Adding new user `newuser' (1001) with group `newuser (1001)'
...
info: Creating home directory `/home/newuser' ...
info: Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for newuser
Enter the new value, or press ENTER for the default
      Full Name []: Newton Userman
      Room Number []:
      Work Phone []:
      Home Phone []:
      Other []:
Is the information correct? [Y/n]
info: Adding new user `newuser' to supplemental / extra groups
`users' ...
info: Adding user `newuser' to group `users' …
```

```
jaiyen@cokezero:~$ sudo usermod -aG sudo newuser
jaiyen@cokezero:~$ sudo deluser newuser
info: Removing crontab ...
info: Removing user `newuser' …
```

```
jaiyen@cokezero:~$ echo "5 Network Management"
5 Network Management
jaiyen@cokezero:~$ ftp -p ftp.broadinstitute.org
Connected to ftp02.broadinstitute.org.
220 FTP Server ready.
Name (ftp.broadinstitute.org:root): gsapubftp-anonymous
331 Anonymous login ok, send your complete email address as your
password
Password:
230 Anonymous access granted, restrictions apply
Remote system type is UNIX.
Using binary mode to transfer files.
No entry for terminal type "xterm-ghostty";
using dumb terminal settings.
ftp> cd bundle
250 CWD command successful
ftp> cd hg38
250 CWD command successful
ftp> bi
200 Type set to I
ftp> prompt
Interactive mode off.
ftp> get Homo_sapiens_assembly38.dict
local: Homo_sapiens_assembly38.dict remote:
Homo_sapiens_assembly38.dict
229 Entering Extended Passive Mode (|||63534|)
150 Opening BINARY mode data connection for
Homo_sapiens_assembly38.dict (581712 bytes)

  0% |                                     |     0        0.00 KiB/s
--:-- ETA
 66% |**********************              |   378 KiB  378.92 KiB/s
00:00 ETA
100% |*********************************|   568 KiB  406.45 KiB/s
00:00 ETA
226 Transfer complete
581712 bytes received in 00:01 (351.29 KiB/s)
ftp> bye
221 Goodbye.
jaiyen@cokezero:~$ ls -l
total 576
```

```
-rw-rw-r-- 1 jaiyen jaiyen 581712 Jan  6  2016
Homo_sapiens_assembly38.dict
-rw-rw-r-- 1 root   root        0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen   4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen      8 Aug  5 13:37 mysymlink -> myfolder
-r-------- 1 jaiyen jaiyen      0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel
state UP group default qlen 1000
    link/ether e6:c1:26:d9:a6:b3 brd ff:ff:ff:ff:ff:ff
    altname enp0s3
    altname ens3
    inet 159.223.76.157/20 brd 159.223.79.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet 10.15.0.5/16 brd 10.15.255.255 scope global eth0
       valid_lft forever preferred_lft forever
    inet6 fe80::e4c1:26ff:fed9:a6b3/64 scope link
       valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel
state UP group default qlen 1000
    link/ether b6:63:ea:4e:d7:90 brd ff:ff:ff:ff:ff:ff
    altname enp0s4
    altname ens4
    inet 10.104.0.2/20 brd 10.104.15.255 scope global eth1
       valid_lft forever preferred_lft forever
    inet6 fe80::b463:eaff:fe4e:d790/64 scope link
       valid_lft forever preferred_lft forever
jaiyen@cokezero:~$ dig google.com +short
142.251.10.101
142.251.10.100
142.251.10.138
142.251.10.139
142.251.10.113
142.251.10.102
```

```
jaiyen@cokezero:~$ dig google.com

; <<>> DiG 9.18.30-0ubuntu0.24.04.2-Ubuntu <<>> google.com
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 28999
;; flags: qr rd ra; QUERY: 1, ANSWER: 6, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 65494
;; QUESTION SECTION:
;google.com.                    IN    A

;; ANSWER SECTION:
google.com.             208    IN    A     142.251.10.138
google.com.             208    IN    A     142.251.10.113
google.com.             208    IN    A     142.251.10.139
google.com.             208    IN    A     142.251.10.101
google.com.             208    IN    A     142.251.10.102
google.com.             208    IN    A     142.251.10.100

;; Query time: 0 msec
;; SERVER: 127.0.0.53#53(127.0.0.53) (UDP)
;; WHEN: Tue Aug 05 13:52:46 UTC 2025
;; MSG SIZE  rcvd: 135

jaiyen@cokezero:~$ ip link
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN
mode DEFAULT group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel
state UP mode DEFAULT group default qlen 1000
    link/ether e6:c1:26:d9:a6:b3 brd ff:ff:ff:ff:ff:ff
    altname enp0s3
    altname ens3
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel
state UP mode DEFAULT group default qlen 1000
    link/ether b6:63:ea:4e:d7:90 brd ff:ff:ff:ff:ff:ff
    altname enp0s4
    altname ens4
```

```
jaiyen@cokezero:~$ ping google.com
PING google.com (142.251.10.102) 56(84) bytes of data.
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=1
ttl=107 time=1.68 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=2
ttl=107 time=1.10 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=3
ttl=107 time=1.04 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=4
ttl=107 time=1.04 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=5
ttl=107 time=1.01 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=6
ttl=107 time=0.985 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=7
ttl=107 time=0.993 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=8
ttl=107 time=1.03 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=9
ttl=107 time=1.02 ms
64 bytes from sd-in-f102.1e100.net (142.251.10.102): icmp_seq=10
ttl=107 time=1.01 ms
^C
--- google.com ping statistics ---
10 packets transmitted, 10 received, 0% packet loss, time 9012ms
rtt min/avg/max/mdev = 0.985/1.090/1.684/0.199 ms
jaiyen@cokezero:~$ sudo apt install at

The following NEW packages will be installed:
  at
0 upgraded, 1 newly installed, 0 to remove and 3 not upgraded.

jaiyen@cokezero:~$ sudo systemctl enable --now atd
Synchronizing state of atd.service with SysV service script with
/usr/lib/systemd/systemd-sysv-install.

Executing: /usr/lib/systemd/systemd-sysv-install enable atd

jaiyen@cokezero:~$ date
Tue Aug  5 13:55:23 UTC 2025
```

```
jaiyen@cokezero:~$ echo "wget https://cache111.com/test.zip" | at
13:56
warning: commands will be executed using /bin/sh
job 1 at Tue Aug  5 13:56:00 2025
jaiyen@cokezero:~$ date
Tue Aug  5 13:55:56 UTC 2025
jaiyen@cokezero:~$ ls -l
total 576
-rw-rw-r-- 1 jaiyen jaiyen 581712 Jan  6  2016
Homo_sapiens_assembly38.dict
-rw-rw-r-- 1 root   root        0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen   4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen      8 Aug  5 13:37 mysymlink -> myfolder
-r-------- 1 jaiyen jaiyen      0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ ls -l
total 580
-rw-rw-r-- 1 jaiyen jaiyen 581712 Jan  6  2016
Homo_sapiens_assembly38.dict
-rw-rw-r-- 1 root   root        0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen   4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen      8 Aug  5 13:37 mysymlink -> myfolder
-r-------- 1 jaiyen jaiyen      0 Aug  5 13:35 secrets.txt
-rw-rw-r-- 1 jaiyen jaiyen    181 Aug  4 16:12 test.zip
jaiyen@cokezero:~$ nohup bash -c 'sleep $(( $(date -d "today 13:59"
+%s) - $(date +%s) )) && wget https://cache111.com/test.zip' &
[1] 2228
jaiyen@cokezero:~$ rm test.zip
jaiyen@cokezero:~$ ls -l
total 576
-rw-rw-r-- 1 jaiyen jaiyen 581712 Jan  6  2016
Homo_sapiens_assembly38.dict
-rw-rw-r-- 1 root   root        0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen   4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen      8 Aug  5 13:37 mysymlink -> myfolder
-rw------- 1 jaiyen jaiyen      0 Aug  5 13:57 nohup.out
-r-------- 1 jaiyen jaiyen      0 Aug  5 13:35 secrets.txt
jaiyen@cokezero:~$ date
Tue Aug  5 13:58:55 UTC 2025
jaiyen@cokezero:~$ ls -l
total 584
```

```
-rw-rw-r-- 1 jaiyen jaiyen 581712 Jan  6  2016
Homo_sapiens_assembly38.dict
-rw-rw-r-- 1 root   root        0 Aug  5 13:36 myfile.txt
drwxrwxr-x 2 jaiyen jaiyen   4096 Aug  5 13:37 myfolder
lrwxrwxrwx 1 jaiyen jaiyen      8 Aug  5 13:37 mysymlink -> myfolder
-rw------- 1 jaiyen jaiyen    431 Aug  5 13:59 nohup.out
-r-------- 1 jaiyen jaiyen      0 Aug  5 13:35 secrets.txt
-rw-rw-r-- 1 jaiyen jaiyen    181 Aug  4 16:12 test.zip
[1]+  Done                    nohup bash -c 'sleep $(( $(date -d
"today 13:59" +%s) - $(date +%s) )) && wget
https://cache111.com/test.zip'
jaiyen@cokezero:~$ exit
exit

Script done on 2025-08-05 14:00:57+00:00 [COMMAND_EXIT_CODE="0"]
```