LINUX ADVANCED COMMANDS

1. SUDO APT UPDATE

```
rohan@rohan-virtual-machine:~$ sudo apt update
Hit:1 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:5 http://security.ubuntu.com/ubuntu jammy-security/main amd64 DEP-11 Metadata [41.4 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 DEP-11 Metadata [18.5 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [995 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu jammy-updates/main i386 Packages [471 kB]
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metadata [101 kB]
Get:10 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 Metadata [269 kB]
Get:11 http://in.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11 Metadata [940 B]
Get:12 http://in.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Metadata [8,004 B]
Get:13 http://in.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11 Metadata [12.5 kB]
Fetched 2,254 kB in 9s (251 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
90 packages can be upgraded. Run 'apt list --upgradable' to see them.
rohan@rohan-virtual-machine:~$
```

2. HTOP (MAIN STATUS)

```
  0[|||                                                    3.7%] Tasks: 113, 253 thr, 177 kthr; 1 running
  1[|||||||||                                              9.9%] Load average: 0.50 0.33 0.14
  Mem[|||||||||||||||||||||||||||||||||||||||||||||1.37G/1.90G] Uptime: 02:33:52
  Swp[||||||||||||||||||                                 360M/2.09G]
  Main  I/O
   PID USER       IO   DISK R/W  DISK READ  DISK WRITE SWPD% IOD% Command
     1 root       B4      N/A       N/A       N/A   N/A  N/A /sbin/init auto noprompt splash
   361 root       B3      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-journald
   393 root       B4      N/A       N/A       N/A   N/A  N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
   395 root       B4      N/A       N/A       N/A   N/A  N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
   396 root       B4      N/A       N/A       N/A   N/A  N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
   424 root       B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-udevd
   593 systemd-oo B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-oomd
   594 systemd-re B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-resolved
   598 systemd-ti B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-timesyncd
   619 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/VGAuthService
   627 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/vmtoolsd
   633 systemd-ti B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-timesyncd
   700 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/vmtoolsd
   701 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/vmtoolsd
   705 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/vmtoolsd
   747 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/accounts-daemon
   748 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/acpid
   756 avahi      B4      N/A       N/A       N/A   N/A  N/A avahi-daemon: running [rohan-virtual-machine.local]
   758 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/cron -f -P
   765 messagebus B4      N/A       N/A       N/A   N/A  N/A @dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
   767 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/NetworkManager --no-daemon
   784 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/irqbalance --foreground
   791 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/accounts-daemon
   795 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/accounts-daemon
   797 root       B4      N/A       N/A       N/A   N/A  N/A /usr/bin/python3 /usr/bin/networkd-dispatcher --run-startup-triggers
   804 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/NetworkManager --no-daemon
   806 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/polkitd --no-debug
   809 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/NetworkManager --no-daemon
   812 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/polkitd --no-debug
   814 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/power-profiles-daemon
   817 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/polkitd --no-debug
   818 syslog     B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/rsyslogd -n -iNONE
   823 root       B4      N/A       N/A       N/A   N/A  N/A /usr/lib/snapd/snapd
   828 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/switcheroo-control
   829 root       B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/irqbalance --foreground
   835 root       B4      N/A       N/A       N/A   N/A  N/A /lib/systemd/systemd-logind
   838 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/udisks2/udisksd
   841 root       B4      N/A       N/A       N/A   N/A  N/A /sbin/wpa_supplicant -u -s -O /run/wpa_supplicant
   854 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/power-profiles-daemon
   855 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/power-profiles-daemon
   859 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/udisks2/udisksd
   863 root       B4      N/A       N/A       N/A   N/A  N/A /usr/libexec/udisks2/udisksd
   870 avahi      B4      N/A       N/A       N/A   N/A  N/A avahi-daemon: chroot helper
   873 syslog     B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/rsyslogd -n -iNONE
   874 syslog     B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/rsyslogd -n -iNONE
   875 syslog     B4      N/A       N/A       N/A   N/A  N/A /usr/sbin/rsyslogd -n -iNONE
  1Help  F2Setup F3Search F4Filter F5Tree  F6SortBy F7Nice - F8Nice + F9Kill  F10Quit
```

3. HTOP (I/O STATUS)

```
  0[|||                                           2.5%] Tasks: 113, 253 thr, 177 kthr; 1 running
  1[|||||||||||                                  11.0%] Load average: 0.32 0.31 0.14
Mem[||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||1.38G/1.90G] Uptime: 02:34:45
Swp[|||||||||||||||||                                                        359M/2.09G]

Main  I/O
    PID USER       IO  DISK R/W  DISK READ  DISK WRITE SWPD%  IOD% Command
      1 root       B4     N/A       N/A        N/A  N/A   N/A /sbin/init auto noprompt splash
    361 root       B3     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-journald
    393 root       B4     N/A       N/A        N/A  N/A   N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
    395 root       B4     N/A       N/A        N/A  N/A   N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
    396 root       B4     N/A       N/A        N/A  N/A   N/A vmware-vmblock-fuse /run/vmblock-fuse -o rw,subtype=vmware-vmblock,default_permissions,allow_other,dev,suid
    424 root       B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-udevd
    593 systemd-oo B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-oomd
    594 systemd-re B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-resolved
    598 systemd-ti B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-timesyncd
    619 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/VGAuthService
    627 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/vmtoolsd
    633 systemd-ti B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-timesyncd
    700 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/vmtoolsd
    701 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/vmtoolsd
    705 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/vmtoolsd
    747 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/accounts-daemon
    748 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/acpid
    756 avahi      B4     N/A       N/A        N/A  N/A   N/A avahi-daemon: running [rohan-virtual-machine.local]
    758 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/cron -f -P
    765 messagebus B4     N/A       N/A        N/A  N/A   N/A @dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
    767 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/NetworkManager --no-daemon
    784 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/irqbalance --foreground
    791 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/accounts-daemon
    795 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/accounts-daemon
    797 root       B4     N/A       N/A        N/A  N/A   N/A /usr/bin/python3 /usr/bin/networkd-dispatcher --run-startup-triggers
    804 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/NetworkManager --no-daemon
    806 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/polkitd --no-debug
    809 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/NetworkManager --no-daemon
    812 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/polkitd --no-debug
    814 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/power-profiles-daemon
    817 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/polkitd --no-debug
    818 syslog     B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/rsyslogd -n -iNONE
    823 root       B4     N/A       N/A        N/A  N/A   N/A /usr/lib/snapd/snapd
    828 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/switcheroo-control
    829 root       B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/irqbalance --foreground
    835 root       B4     N/A       N/A        N/A  N/A   N/A /lib/systemd/systemd-logind
    838 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/udisks2/udisksd
    841 root       B4     N/A       N/A        N/A  N/A   N/A /sbin/wpa_supplicant -u -s -O /run/wpa_supplicant
    854 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/power-profiles-daemon
    855 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/power-profiles-daemon
    859 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/udisks2/udisksd
    863 root       B4     N/A       N/A        N/A  N/A   N/A /usr/libexec/udisks2/udisksd
    870 avahi      B4     N/A       N/A        N/A  N/A   N/A avahi-daemon: chroot helper
    873 syslog     B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/rsyslogd -n -iNONE
    874 syslog     B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/rsyslogd -n -iNONE
    875 syslog     B4     N/A       N/A        N/A  N/A   N/A /usr/sbin/rsyslogd -n -iNONE
Help  F2Setup F3Search F4Filter F5Tree  F6SortBy F7Nice -F8Nice +F9Kill  F10Quit
```

4. LSBLK


```
rohan@rohan-virtual-machine:~$ lsblk
NAME    MAJ:MIN RM    SIZE RO TYPE MOUNTPOINTS
fd0       2:0   1      4K  0 disk
loop0     7:0   0      4K  1 loop /snap/bare/5
loop1     7:1   0   63.3M  1 loop /snap/core20/1822
loop2     7:2   0   63.3M  1 loop /snap/core20/1852
loop3     7:3   0     73M  1 loop /snap/core22/607
loop4     7:4   0  240.6M  1 loop /snap/firefox/2356
loop5     7:5   0  349.7M  1 loop /snap/gnome-3-38-2004/137
loop6     7:6   0  346.3M  1 loop /snap/gnome-3-38-2004/119
loop7     7:7   0  460.4M  1 loop /snap/gnome-42-2204/68
loop8     7:8   0  460.6M  1 loop /snap/gnome-42-2204/87
loop9     7:9   0   91.7M  1 loop /snap/gtk-common-themes/1535
loop10    7:10  0   45.9M  1 loop /snap/snap-store/638
loop11    7:11  0   49.8M  1 loop /snap/snapd/18357
loop12    7:12  0   49.8M  1 loop /snap/snapd/18596
loop13    7:13  0    304K  1 loop /snap/snapd-desktop-integration/49
loop14    7:14  0    428K  1 loop /snap/snapd-desktop-integration/57
loop15    7:15  0  241.9M  1 loop /snap/firefox/2559
loop16    7:16  0    9.6M  1 loop /snap/htop/3654
sda       8:0   0     20G  0 disk
├─sda1    8:1   0      1M  0 part
├─sda2    8:2   0    513M  0 part /boot/efi
└─sda3    8:3   0   19.5G  0 part /var/snap/firefox/common/host-hunspell
                                  /
sr0      11:0   1  144.5M  0 rom  /media/rohan/CDROM
sr1      11:1   1    4.6G  0 rom  /media/rohan/Ubuntu 22.04.2 LTS amd64
rohan@rohan-virtual-machine:~$
```

5. PYTHON IN LINUX

```
rohan@rohan-virtual-machine:~$ python3
Python 3.10.6 (main, Mar 10 2023, 10:55:28) [GCC 11.3.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> print("Running python")
Running python
>>> l=[1,2,3,4,5,6]
>>> print(max(l))
6
>>>
```

6. TAR

```
rohan@rohan-virtual-machine:~$ mkdir zip
rohan@rohan-virtual-machine:~$ cd zip
rohan@rohan-virtual-machine:~/zip$ vi file1.txt
rohan@rohan-virtual-machine:~/zip$ vi file2.txt
rohan@rohan-virtual-machine:~/zip$ tar cfv zip.tar file1.txt file2.txt
file1.txt
file2.txt
rohan@rohan-virtual-machine:~/zip$ tar cfzv zip.tar file1.txt file2.txt
file1.txt
file2.txt
rohan@rohan-virtual-machine:~/zip$ ls
file1.txt  file2.txt  zip.tar
rohan@rohan-virtual-machine:~/zip$ tar tvf zip.tar
-rw-rw-r-- rohan/rohan      15 2023-04-17 15:44 file1.txt
-rw-rw-r-- rohan/rohan      15 2023-04-17 15:45 file2.txt
rohan@rohan-virtual-machine:~/zip$ tar cfv zip.tar *.pdf
tar: *.pdf: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
rohan@rohan-virtual-machine:~/zip$ tar cfv zip.tar *.txt
file1.txt
file2.txt
rohan@rohan-virtual-machine:~/zip$ ls
file1.txt  file2.txt  zip.tar
rohan@rohan-virtual-machine:~/zip$ tar tf zip.tar
file1.txt
file2.txt
rohan@rohan-virtual-machine:~/zip$
```

7. FDISK -L

```
rohan@rohan-virtual-machine:~$ sudo fdisk -l
[sudo] password for rohan:
Disk /dev/loop0: 4 KiB, 4096 bytes, 8 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop1: 63.28 MiB, 66355200 bytes, 129600 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop2: 63.32 MiB, 66392064 bytes, 129672 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop3: 72.99 MiB, 76537856 bytes, 149488 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop4: 240.61 MiB, 252301312 bytes, 492776 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop5: 349.69 MiB, 366673920 bytes, 716160 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop6: 346.33 MiB, 363151360 bytes, 709280 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/loop7: 460.39 MiB, 482750464 bytes, 942872 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
```

8. **IFCONFIG**

```
rohan@rohan-virtual-machine:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 90 not upgraded.
Need to get 204 kB of archives.
After this operation, 819 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 net-tools amd64 1.60+git20181103.0eebece-1ubuntu5 [204 kB]
Fetched 204 kB in 2s (135 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 197876 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20181103.0eebece-1ubuntu5_amd64.deb ...
Unpacking net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Setting up net-tools (1.60+git20181103.0eebece-1ubuntu5) ...
Processing triggers for man-db (2.10.2-1) ...
rohan@rohan-virtual-machine:~$ ifconfig
ens33: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.79.128  netmask 255.255.255.0  broadcast 192.168.79.255
        inet6 fe80::e0f8:31c2:e17e:e4f  prefixlen 64  scopeid 0x20<link>
        ether 00:0c:29:d9:d6:47  txqueuelen 1000  (Ethernet)
        RX packets 68291  bytes 102136458 (102.1 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 5560  bytes 393771 (393.7 KB)
        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 207  bytes 20087 (20.0 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 207  bytes 20087 (20.0 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

rohan@rohan-virtual-machine:~$
```

9. FREE AND FREE –H

```
rohan@rohan-virtual-machine:~$ free
               total        used        free      shared  buff/cache   available
Mem:         1987188     1426672      173708       19504      386808      384752
Swap:        2191356      423044     1768312
rohan@rohan-virtual-machine:~$ free -h
               total        used        free      shared  buff/cache   available
Mem:           1.9Gi       1.4Gi       169Mi        19Mi       377Mi       375Mi
Swap:          2.1Gi       413Mi       1.7Gi
rohan@rohan-virtual-machine:~$
```

10. LSOF /RUN

```
rohan@rohan-virtual-machine:~$ lsof /run
COMMAND     PID  USER   FD   TYPE DEVICE SIZE/OFF NODE NAME
gnome-she  1270 rohan  116w   FIFO   0,25      0t0 1706 /run/systemd/inhibit/21.ref
gsd-media  1562 rohan   15w   FIFO   0,25      0t0 1530 /run/systemd/inhibit/9.ref
gsd-media  1562 rohan   17w   FIFO   0,25      0t0 1528 /run/systemd/inhibit/8.ref
gsd-power  1570 rohan   14w   FIFO   0,25      0t0 1542 /run/systemd/inhibit/10.ref
rohan@rohan-virtual-machine:~$
```

11. GREP

```
rohan@rohan-virtual-machine:~/shell$ grep -c /bin if_else.shh
grep: if_else.shh: No such file or directory
rohan@rohan-virtual-machine:~/shell$ grep -c /bin if_else.sh
0
rohan@rohan-virtual-machine:~/shell$ grep -c /bin/ if_else.sh
0
rohan@rohan-virtual-machine:~/shell$ grep -c if if_else.sh
1
rohan@rohan-virtual-machine:~/shell$ grep -h if if_else.sh
if [ $total -eq 100 ]; then
rohan@rohan-virtual-machine:~/shell$ grep -l if if_else.sh
if_else.sh
rohan@rohan-virtual-machine:~/shell$ grep -v if if_else.sh

total=100
 echo "total is equal to 100"
else
 echo "total is not equal to 100"
fi
rohan@rohan-virtual-machine:~/shell$ grep -o if if_else.sh
if
rohan@rohan-virtual-machine:~/shell$
```

12. IP ADDR

```
rohan@rohan-virtual-machine:~/shell$ ip addrb
Object "addrb" is unknown, try "ip help".
rohan@rohan-virtual-machine:~/shell$ ip addr
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
       valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 00:0c:29:d9:d6:47 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.79.128/24 brd 192.168.79.255 scope global dynamic noprefixroute ens33
       valid_lft 1264sec preferred_lft 1264sec
    inet6 fe80::e0f8:31c2:e17e:e4f/64 scope link noprefixroute
       valid_lft forever preferred_lft forever
rohan@rohan-virtual-machine:~/shell$
```

13. PING

```
rohan@rohan-virtual-machine:~$ ping google.com
PING google.com (216.58.203.46) 56(84) bytes of data.
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=1 ttl=128 time=24.3 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=2 ttl=128 time=24.9 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=3 ttl=128 time=24.1 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=4 ttl=128 time=26.0 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=5 ttl=128 time=24.8 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=6 ttl=128 time=23.5 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=7 ttl=128 time=22.5 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=8 ttl=128 time=24.4 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=9 ttl=128 time=23.1 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=10 ttl=128 time=22.2 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=11 ttl=128 time=25.1 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=12 ttl=128 time=24.6 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=13 ttl=128 time=23.6 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=14 ttl=128 time=25.6 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=15 ttl=128 time=23.6 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=16 ttl=128 time=22.3 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=17 ttl=128 time=22.5 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=18 ttl=128 time=23.4 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=19 ttl=128 time=22.8 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=20 ttl=128 time=25.2 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=21 ttl=128 time=22.3 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=22 ttl=128 time=22.6 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=23 ttl=128 time=24.6 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=24 ttl=128 time=23.2 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=25 ttl=128 time=22.8 ms
64 bytes from hkg12s10-in-f14.1e100.net (216.58.203.46): icmp_seq=26 ttl=128 time=25.4 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=27 ttl=128 time=23.1 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=28 ttl=128 time=23.0 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=29 ttl=128 time=31.8 ms
64 bytes from hkg12s10-in-f46.1e100.net (216.58.203.46): icmp_seq=30 ttl=128 time=23.0 ms
64 bytes from bom12s05-in-f14.1e100.net (216.58.203.46): icmp_seq=31 ttl=128 time=22.3 ms
```

14. WC

```
rohan@rohan-virtual-machine:~/shell$ wc if.sh
 7 17 85 if.sh
rohan@rohan-virtual-machine:~/shell$
```

15. NEOFETCH

```
rohan@rohan-virtual-machine:~/shell$ sudo apt install neofetch
[sudo] password for rohan:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  caca-utils chafa gsfonts imagemagick imagemagick-6-common imagemagick-6.q16 jp2a libaom3 libchafa0 libdav1d5 libde265-0 libfftw3-double3 libheif1 libid3tag0 libilmbase25 libimlib2 libjxr-tools
  libjxr0 liblqr-1-0 libmagickcore-6.q16-6 libmagickcore-6.q16-6-extra libmagickwand-6.q16-6 libnetpbm10 libopenexr25 libsixel-bin libsixel1 libx265-199 netpbm toilet toilet-fonts w3m w3m-img
Suggested packages:
  imagemagick-doc autotrace curl enscript ffmpeg gimp gnuplot grads graphviz hp2xx html2ps libwmf-bin mplayer povray radiance texlive-base-bin transfig ufraw-batch libfftw3-bin libfftw3-dev inkscape
  figlet cmigeno dict dict-wn dictd w3m-el xsel
The following NEW packages will be installed:
  caca-utils chafa gsfonts imagemagick imagemagick-6-common imagemagick-6.q16 jp2a libaom3 libchafa0 libdav1d5 libde265-0 libfftw3-double3 libheif1 libid3tag0 libilmbase25 libimlib2 libjxr-tools
  libjxr0 liblqr-1-0 libmagickcore-6.q16-6 libmagickcore-6.q16-6-extra libmagickwand-6.q16-6 libnetpbm10 libopenexr25 libsixel-bin libsixel1 libx265-199 neofetch netpbm toilet toilet-fonts w3m w3m-img
0 upgraded, 33 newly installed, 0 to remove and 90 not upgraded.
Need to get 14.9 MB of archives.
After this operation, 57.3 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/main amd64 libfftw3-double3 amd64 3.3.8-2ubuntu8 [770 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libaom3 amd64 3.3.0-1 [1,748 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libdav1d5 amd64 0.9.2-1 [463 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libde265-0 amd64 1.0.8-1 [243 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libx265-199 amd64 3.5-2 [1,170 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 libheif1 amd64 1.12.0-2build1 [196 kB]
Get:7 http://in.archive.ubuntu.com/ubuntu jammy/universe amd64 liblqr-1-0 amd64 0.4.2-2.1 [27.7 kB]
```

```
rohan@rohan-virtual-machine:~$ neofetch
          .-/+oosssso+/-.
        `:+ssssssssssssssssss+:`
      -+ssssssssssssssssssyyssss+-
    .ossssssssssssssssssdMMMNysssso.
   /sssssssssshdmmNNmmyNMMMMhssssss/
  +sssssssshmydMMMMMMMNddddysssssss+
 /ssssssshNMMMyhhyyyyhmNMMMNhssssssss/
.ssssssssdMMMNhsssssssssshNMMMdssssssss.
+sssshhhyNMMNyssssssssssssyNMMMysssssss+
ossyNMMMNyMMhsssssssssssssshmmmhssssssso
ossyNMMMNyMMhsssssssssssssshmmmhssssssso
+sssshhhyNMMNyssssssssssssyNMMMysssssss+
.ssssssssdMMMNhsssssssssshNMMMdssssssss.
 /ssssssshNMMMyhhyyyyhdNMMMNhssssssss/
  +sssssssssdmydMMMMMMMMddddysssssss+
   /sssssssssshdmNNNNmyNMMMMhssssss/
    .ossssssssssssssssssdMMMNysssso.
      -+sssssssssssssssssyyyssss+-
        `:+ssssssssssssssssss+:`
          .-/+oosssso+/-.
```

rohan@rohan-virtual-machine

OS: Ubuntu 22.04.2 LTS x86_64
Host: VMware Virtual Platform None
Kernel: 5.19.0-38-generic
Uptime: 3 hours, 23 mins
Packages: 1677 (dpkg), 12 (snap)
Shell: bash 5.1.16
Resolution: 1920x1080
DE: GNOME 42.5
WM: Mutter
WM Theme: Adwaita
Theme: Yaru [GTK2/3]
Icons: Yaru [GTK2/3]
Terminal: gnome-terminal
CPU: Intel i5-5250U (2) @ 1.596GHz
GPU: 00:0f.0 VMware SVGA II Adapter
Memory: 1480MiB / 1940MiB