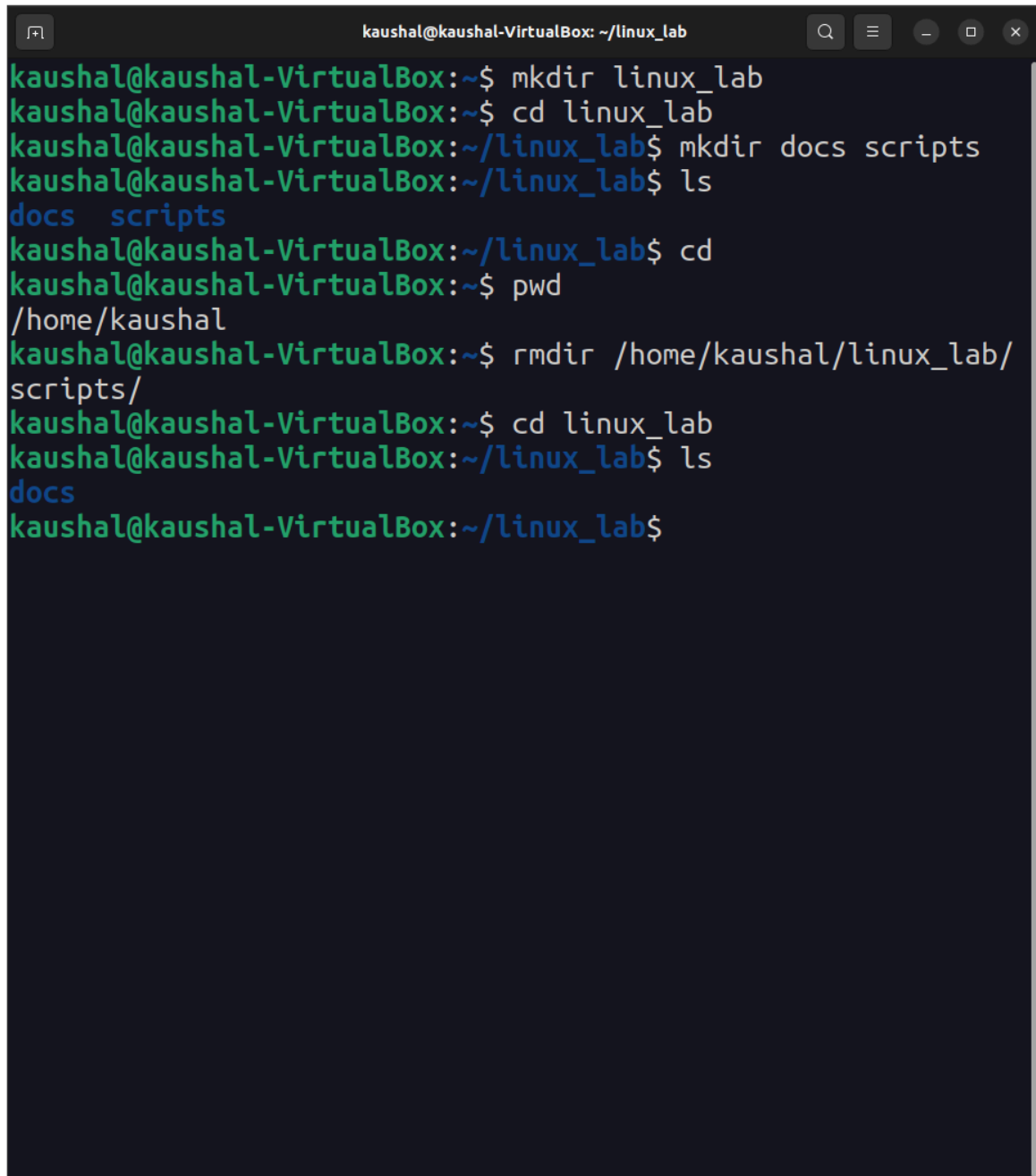


Assignment 1 (13 Dec 2025)

Q1: Basic Terminal Commands



```
kaushal@kaushal-VirtualBox: ~/linux_lab
kaushal@kaushal-VirtualBox:~$ mkdir linux_lab
kaushal@kaushal-VirtualBox:~$ cd linux_lab
kaushal@kaushal-VirtualBox:~/linux_lab$ mkdir docs scripts
kaushal@kaushal-VirtualBox:~/linux_lab$ ls
docs  scripts
kaushal@kaushal-VirtualBox:~/linux_lab$ cd
kaushal@kaushal-VirtualBox:~$ pwd
/home/kaushal
kaushal@kaushal-VirtualBox:~$ rmdir /home/kaushal/linux_lab/
scripts/
kaushal@kaushal-VirtualBox:~$ cd linux_lab
kaushal@kaushal-VirtualBox:~/linux_lab$ ls
docs
kaushal@kaushal-VirtualBox:~/linux_lab$
```

```
kaushal@kaushal-VirtualBox: ~/Desktop
kaushal@kaushal-VirtualBox:~/Desktop$ date
Saturday 13 December 2025 09:30:25 AM IST
kaushal@kaushal-VirtualBox:~/Desktop$
```

Q2: Directory Management

```
kaushal@kaushal-VirtualBox: ~/linux_lab
kaushal@kaushal-VirtualBox:~$ mkdir linux_lab
kaushal@kaushal-VirtualBox:~$ cd linux_lab
kaushal@kaushal-VirtualBox:~/linux_lab$ mkdir docs scripts
kaushal@kaushal-VirtualBox:~/linux_lab$ ls
docs  scripts
kaushal@kaushal-VirtualBox:~/linux_lab$ cd
kaushal@kaushal-VirtualBox:~$ pwd
/home/kaushal
kaushal@kaushal-VirtualBox:~$ rmdir /home/kaushal/linux_lab/
scripts/
kaushal@kaushal-VirtualBox:~$ cd linux_lab
kaushal@kaushal-VirtualBox:~/linux_lab$ ls
docs
kaushal@kaushal-VirtualBox:~/linux_lab$
```

Q3: File Management

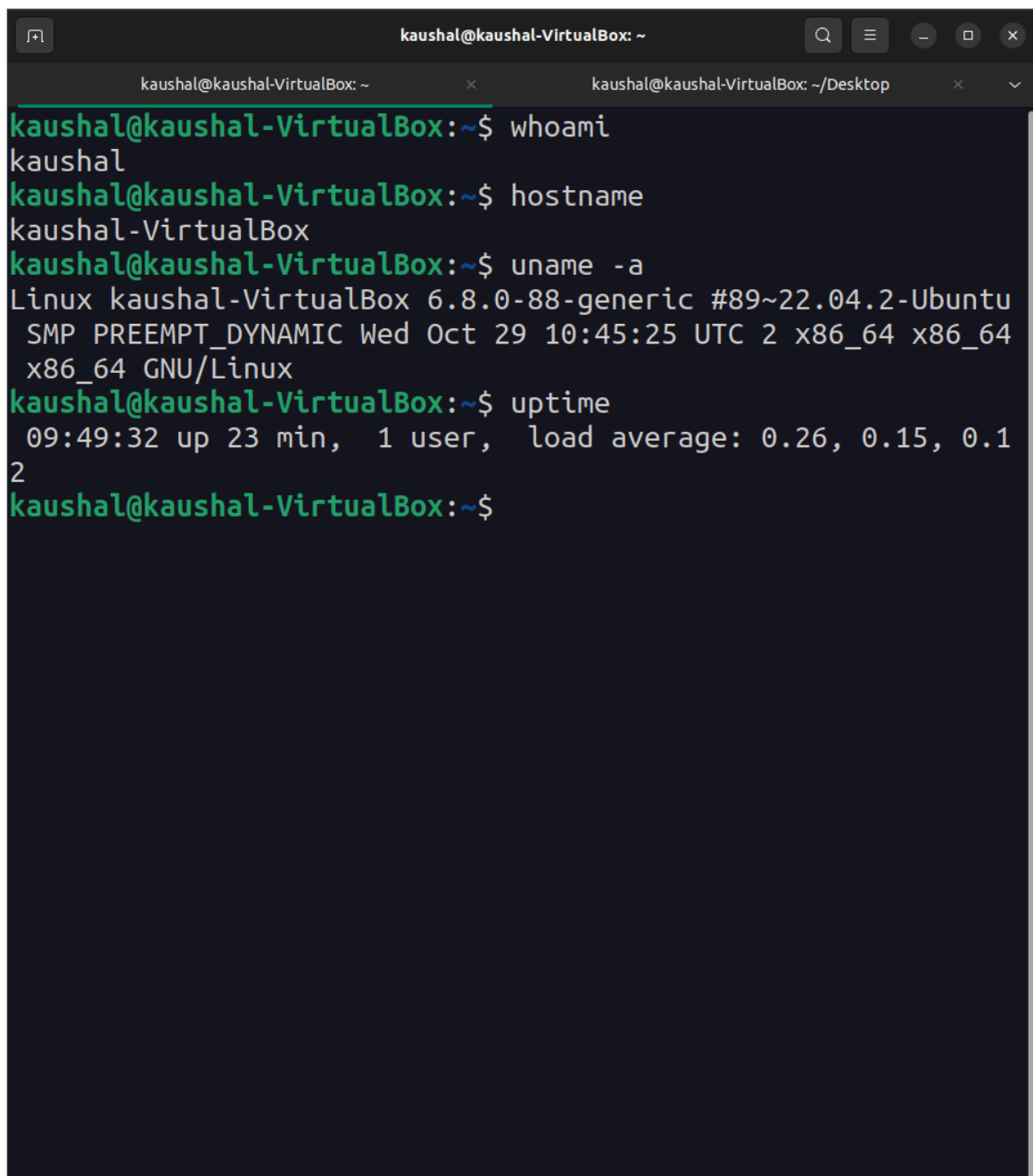
```
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ touch test.txt
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ nano test.txt
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cat
Assignment - 1.pdf
Assignment - 2.pdf
GD_Topics.pdf
Linux_Commands_assignment.pdf
test.txt
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cat test.txt
Kaushal Kalas
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ mv test.txt linux_test.txt
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ ls
'Assignment - 1.pdf'    Linux_Commands_assignment.pdf
'Assignment - 2.pdf'    linux_test.txt
GD_Topics.pdf
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ rm linux_test.txt
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ ls
'Assignment - 1.pdf'    GD_Topics.pdf
'Assignment - 2.pdf'    Linux_Commands_assignment.pdf
kaushal@kaushal-VirtualBox:~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$
```

Q4: Copy & Move

```
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04/backup
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cat /home/kaushal/Desktop/hello.txt
Hello, I'm Kaushal
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ ls
'Assignment - 1.pdf'    GD_Topics.pdf
'Assignment - 2.pdf'    Linux_Commands_assignment.pdf
backup
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cp /home/kaushal/Desktop/hello.txt /backup/
cp: cannot create regular file '/backup/': Not a directory
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cp /home/kaushal/Desktop/hello.txt backup/
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cd backup
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04/backup$ ls
hello.txt
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04/backup$
```

```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ mv backup/ /home/kaushal/  
kaushal@kaushal-VirtualBox: ~/Desktop/Sunbeam/IIT-08-A-CySecurity/Day04$ cd  
kaushal@kaushal-VirtualBox: ~$ ls  
backup  Documents  linux_lab  Pictures  snap      Videos  
Desktop Downloads Music      Public    Templates  
kaushal@kaushal-VirtualBox: ~$
```

Q5: User & System Information



```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~$ whoami  
kaushal  
kaushal@kaushal-VirtualBox: ~$ hostname  
kaushal-VirtualBox  
kaushal@kaushal-VirtualBox: ~$ uname -a  
Linux kaushal-VirtualBox 6.8.0-88-generic #89~22.04.2-Ubuntu  
SMP PREEMPT_DYNAMIC Wed Oct 29 10:45:25 UTC 2 x86_64 x86_64  
x86_64 GNU/Linux  
kaushal@kaushal-VirtualBox: ~$ uptime  
09:49:32 up 23 min,  1 user,  load average: 0.26, 0.15, 0.1  
2  
kaushal@kaushal-VirtualBox: ~$
```

Q6: Package Management

```
kaushal@kaushal-VirtualBox: ~$ sudo apt update
[sudo] password for kaushal:
Hit:1 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:2 http://in.archive.ubuntu.com/ubuntu jammy InRelease
Get:3 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Get:4 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease [127 kB]
Get:5 http://in.archive.ubuntu.com/ubuntu jammy-updates/main amd64 DEP-11 Metadata [112 kB]
Get:6 http://in.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 DEP-11 Metadata [212 B]
Get:7 http://in.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 DEP-11 Metadata [359 kB]
Get:8 http://in.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 DEP-11 Metadata [940 B]
Get:9 http://in.archive.ubuntu.com/ubuntu jammy-backports/main amd64 DEP-11 Metadata [7,144 B]
Get:10 http://in.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 DEP-11 Metadata [212 B]
Get:11 http://in.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 DEP-11 Metadata [9,716 B]
Get:12 http://in.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 DEP-11 Metadata [212 B]
Fetched 745 kB in 5s (144 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
3 packages can be upgraded. Run 'apt list --upgradable' to see them.
```



```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~$ sudo apt install tree  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following NEW packages will be installed:  
  tree  
0 upgraded, 1 newly installed, 0 to remove and 3 not upgrade  
d.  
Need to get 47.9 kB of archives.  
After this operation, 116 kB of additional disk space will b  
e used.  
Get:1 http://in.archive.ubuntu.com/ubuntu jammy/universe amd  
64 tree amd64 2.0.2-1 [47.9 kB]  
Fetched 47.9 kB in 2s (31.5 kB/s)  
Selecting previously unselected package tree.  
(Reading database ... 211300 files and directories currently  
installed.)  
Preparing to unpack .../tree_2.0.2-1_amd64.deb ...  
Unpacking tree (2.0.2-1) ...  
Setting up tree (2.0.2-1) ...  
Processing triggers for man-db (2.10.2-1) ...  
kaushal@kaushal-VirtualBox:~$ tree  
.  
├── backup  
│   └── hello.txt  
├── Desktop  
│   ├── hello.txt  
│   └── Sunbeam  
│       ├── IIT-08-A-CySecurity  
│       └── Day01
```

```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~/Desktop  
Setting up tree (2.0.2-1) ...  
Processing triggers for man-db (2.10.2-1) ...  
kaushal@kaushal-VirtualBox:~$ tree  
.  
├── backup  
│   └── hello.txt  
├── Desktop  
│   ├── hello.txt  
│   └── Sunbeam  
│       └── IIT-08-A-CySecurity  
│           ├── Day01  
│           │   ├── GIT Lecture Batch-A.zip  
│           │   └── GIT Lecture Batch-B.zip  
│           ├── Day02  
│           │   └── GIT Assignment.pdf  
│           ├── Day03  
│           │   ├── VM Assignment.pdf  
│           │   └── VM_Assignment_Solutions.docx  
│           ├── Day04  
│           │   ├── Assignment - 1.pdf  
│           │   ├── Assignment - 2.pdf  
│           │   ├── GD_Topics.pdf  
│           │   └── Linux_Commands_assignment.pdf  
│           └── README.md  
├── Documents  
├── Downloads  
├── linux_lab  
│   └── docs  
├── Music  
├── Pictures  
└── Screenshots
```

```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~/Desktop  
├── Pictures  
│   ├── Public  
│   ├── Templates  
│   └── Videos  
├── common  
├── current -> 315  
└── snap-store  
    ├── 1113  
    ├── common  
    └── current -> 1113  
├── Templates  
└── Videos  
  
52 directories, 21 files  
kaushal@kaushal-VirtualBox:~$ sudo apt remove tree  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following packages will be REMOVED:  
  tree  
0 upgraded, 0 newly installed, 1 to remove and 3 not upgrade  
d.  
After this operation, 116 kB disk space will be freed.  
Do you want to continue? [Y/n] y  
(Reading database ... 211308 files and directories currently  
installed.)  
Removing tree (2.0.2-1) ...  
Processing triggers for man-db (2.10.2-1) ...  
kaushal@kaushal-VirtualBox:~$
```

Q7: Networking Commands

```
kaushal@kaushal-VirtualBox: ~$ 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: enp0s3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc
fq_codel state UP group default qlen 1000
    link/ether 08:00:27:f6:df:ed brd ff:ff:ff:ff:ff:ff
    inet 10.198.125.241/24 brd 10.198.125.255 scope global d
ynamic noprefixroute enp0s3
        valid_lft 1705sec preferred_lft 1705sec
    inet6 2409:40c2:1003:2e91:89c9:2010:774e:e93a/64 scope g
lobal temporary dynamic
        valid_lft 6830sec preferred_lft 6830sec
    inet6 2409:40c2:1003:2e91:7ed7:a0ea:d4df:bb4b/64 scope g
lobal dynamic mngtmpaddr noprefixroute
        valid_lft 6830sec preferred_lft 6830sec
    inet6 fe80::8272:b6a7:7e48:f639/64 scope link noprefixro
ute
        valid_lft forever preferred_lft forever
kaushal@kaushal-VirtualBox: ~$ ping google.com
PING google.com(tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:8
2a::200e)) 56 data bytes
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a
::200e): icmp_seq=1 ttl=116 time=69.7 ms
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a
::200e): icmp_seq=2 ttl=116 time=84.1 ms
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a
```

```
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~  
kaushal@kaushal-VirtualBox: ~/Desktop  
fq_codel state UP group default qlen 1000  
  link/ether 08:00:27:f6:df:ed brd ff:ff:ff:ff:ff:ff  
  inet 10.198.125.241/24 brd 10.198.125.255 scope global d  
ynamic noprefixroute enp0s3  
  valid_lft 1705sec preferred_lft 1705sec  
  inet6 2409:40c2:1003:2e91:89c9:2010:774e:e93a/64 scope g  
lobal temporary dynamic  
  valid_lft 6830sec preferred_lft 6830sec  
  inet6 2409:40c2:1003:2e91:7ed7:a0ea:d4df:bb4b/64 scope g  
lobal dynamic mngtmpaddr noprefixroute  
  valid_lft 6830sec preferred_lft 6830sec  
  inet6 fe80::8272:b6a7:7e48:f639/64 scope link noprefixro  
ute  
  valid_lft forever preferred_lft forever  
kaushal@kaushal-VirtualBox:~$ ping google.com  
PING google.com(tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:8  
2a::200e)) 56 data bytes  
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a  
::200e): icmp_seq=1 ttl=116 time=69.7 ms  
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a  
::200e): icmp_seq=2 ttl=116 time=84.1 ms  
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a  
::200e): icmp_seq=3 ttl=116 time=108 ms  
64 bytes from tzdelb-ay-in-x0e.1e100.net (2404:6800:4002:82a  
::200e): icmp_seq=4 ttl=116 time=77.0 ms  
^C  
--- google.com ping statistics ---  
4 packets transmitted, 4 received, 0% packet loss, time 3022  
ms  
rtt min/avg/max/mdev = 69.730/84.753/108.249/14.482 ms  
kaushal@kaushal-VirtualBox:~$
```