```
student@ccf020:~$ ping google.com
PING google.com (142.250.67.206) 56(84) bytes of data.
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=1 ttl=118 time=31.9 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=2 ttl=118 time=31.7 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=3 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=4 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=5 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=6 ttl=118 time=32.0 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=7 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=8 ttl=118 time=31.9 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=9 ttl=118 time=31.7 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=10 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=11 ttl=118 time=31.7 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=12 ttl=118 time=31.8 ms
64 bytes from bom12s08-in-f14.1e100.net (142.250.67.206): icmp_seq=13 ttl=118 time=31.9 ms
^Z
[1]+  Stopped                 ping google.com
```

```
student@ccf020:~$ arp -a
? (192.168.7.254) at 7c:5a:1c:cd:7e:68 [ether] on enp3s0
? (192.168.7.105) at 10:62:e5:0b:01:8a [ether] on enp3s0
? (192.168.10.192) at 6c:3c:7c:c7:50:6e [ether] on enp3s0
? (192.168.3.215) at 40:f8:df:a2:60:a0 [ether] on enp3s0
_gateway (192.168.0.66) at 7c:5a:1c:cd:7e:68 [ether] on enp3s0
? (192.168.1.127) at 10:62:e5:0a:9e:c0 [ether] on enp3s0
```

```
student@ccf020:~$ route -n
Kernel IP routing table
Destination     Gateway         Genmask         Flags Metric Ref    Use Iface
0.0.0.0         192.168.0.66    0.0.0.0         UG    100    0        0 enp3s0
169.254.0.0     0.0.0.0         255.255.0.0     U     1000   0        0 enp3s0
192.168.0.0     0.0.0.0         255.255.0.0     U     100    0        0 enp3s0
```

```
student@ccf020:~$ netstat -a
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address          Foreign Address         State
tcp        0      0 localhost:domain       0.0.0.0:*               LISTEN
tcp        0      0 0.0.0.0:ssh            0.0.0.0:*               LISTEN
tcp        0      0 localhost:ipp          0.0.0.0:*               LISTEN
tcp        0      0 ccf020:37860           bom12s19-in-f10.1:https ESTABLISHED
tcp        0      0 ccf020:47534           bom07s20-in-f3.1e:https TIME_WAIT
tcp        0      0 ccf020:36594           bom07s35-in-f5.1e:https TIME_WAIT
tcp        0      0 ccf020:37876           102.115.120.34.bc:https TIME_WAIT
tcp        0      0 ccf020:42390           bom12s16-in-f14.1:https ESTABLISHED
tcp        0      0 ccf020:40772           34.0.72.251:https       ESTABLISHED
tcp        0      0 ccf020:38872           bom12s19-in-f14.1:https ESTABLISHED
tcp        0      0 ccf020:42108           239.237.117.34.bc:https TIME_WAIT
tcp        0      0 ccf020:43626           bom12s20-in-f14.1:https ESTABLISHED
tcp        0      0 ccf020:49556           bom05s12-in-f3.1e:https ESTABLISHED
tcp        0      0 ccf020:45502           93.243.107.34.bc.:https ESTABLISHED
tcp        0      0 ccf020:37862           bom12s19-in-f10.1:https ESTABLISHED
tcp        0      0 ccf020:44802           bom07s29-in-f3.1e:https ESTABLISHED
tcp        0      0 ccf020:45296           bom07s29-in-f3.1e:https ESTABLISHED
tcp        0      0 ccf020:33086           bom12s08-in-f14.1:https ESTABLISHED
tcp        0      0 ccf020:52306           bom12s16-in-f14.1:https ESTABLISHED
tcp        0      0 ccf020:52306           bom12s16-in-f14.1:https ESTABLISHED
tcp6       0      0 [::]:ssh               [::]:*                  LISTEN
tcp6       0      0 ip6-localhost:ipp      [::]:*                  LISTEN
udp        0      0 localhost:domain       0.0.0.0:*
udp        0      0 0.0.0.0:45559          0.0.0.0:*
udp        0      0 0.0.0.0:ipp            0.0.0.0:*
udp        0      0 0.0.0.0:mdns           0.0.0.0:*
udp        0      0 0.0.0.0:mdns           0.0.0.0:*
udp        0      0 0.0.0.0:mdns           0.0.0.0:*
udp6       0      0 [::]:48054             [::]:*
udp6       0      0 [::]:mdns              [::]:*
udp6       0      0 [::]:mdns              [::]:*
raw      768      0 0.0.0.0:icmp           0.0.0.0:*               7
raw    12288      0 0.0.0.0:icmp           0.0.0.0:*               7
raw6   35328      0 [::]:ipv6-icmp         [::]:*                  7
```

```
student@ccf020:~$ ls /etc
acpi                            hosts.allow            popularity-contest.conf
adduser.conf                    hosts.deny             ppp
alternatives                    hp                     printcap
anacrontab                      ifplugd                profile
apg.conf                        ImageMagick-6          profile.d
apm                             init                   protocols
apparmor       Screenshot       init.d                 pulse
apparmor.d                      initramfs-tools        python2.7
apport                          inputrc                python3
appstream.conf                  insserv.conf.d         python3.6
apt                             iproute2               rc0.d
avahi                           issue                  rc1.d
bash.bashrc                     issue.net              rc2.d
bash_completion                 java-11-openjdk        rc3.d
bash_completion.d               kernel                 rc4.d
bindresvport.blacklist          kernel-img.conf        rc5.d
binfmt.d                        kerneloops.conf        rc6.d
bluetooth                       ldap                   rcS.d
brlapi.key                      ld.so.cache            resolvconf
brltty                          ld.so.conf             resolv.conf
brltty.conf                     ld.so.conf.d           rmt
ca-certificates                 legal                  rpc
ca-certificates.conf            libao.conf             rsyslog.conf
ca-certificates.conf.dpkg-old   libaudit.conf          rsyslog.d
calendar                        libblockdev            sane.d
chatscripts                     libnl-3                securetty
console-setup                   libpaper.d             security
cracklib                        libreoffice            selinux
cron.d                          lintianrc              sensors3.conf
cron.daily                      locale.alias           sensors.d
cron.hourly                     locale.gen             services
cron.monthly                    localtime              shadow
crontab                         logcheck               shadow-
cron.weekly                     login.defs             shells
cups                            logrotate.conf         skel
cupshelpers                     logrotate.d            speech-dispatcher
```

```
student@ccf020:~$ gcc server.c -o server.out    student@ccf020:~$ gcc client.c -o client.out
student@ccf020:~$ ./server.out                  student@ccf020:~$ ./client.out
Listening                                        Connected
Reply from Client>hi from client

                                                 Enter the message:hi from client
Enter the message: hello from server             Message sent to Server
Message sent to Client                           Reply form server>hello from server
Reply from Client>what day is today?
                                                 Enter the message:what day is today?
Enter the message: today is 1st March, 2024      Message sent to Server
Message sent to Client                           Reply form server>today is 1st March, 2024
^Z
[1]+  Stopped                    ./server.out    Enter the message:^Z
student@ccf020:~$ []                             [1]+  Stopped                    ./client.out
                                                 student@ccf020:~$ █
```