

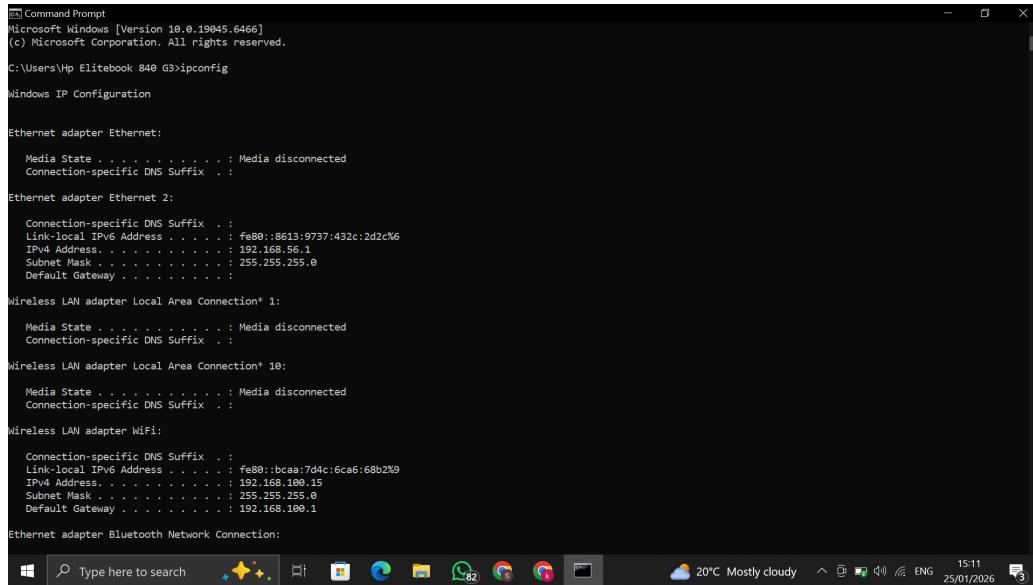
Lab Tasks

(Attach screenshot of command prompt/terminal wherever required.)

(AI-generated answers are not acceptable. Make sure all responses are written in your own words.)

- 1) Find the IP address of the computer you are currently using.

Command: _____ ipconfig _____
IP Address: _____ 192.168.100.15 _____



```
Windows Command Prompt
Microsoft Windows [Version 10.0.19045.6466]
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C:\Users\Hp Elitebook 840 G3>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . :

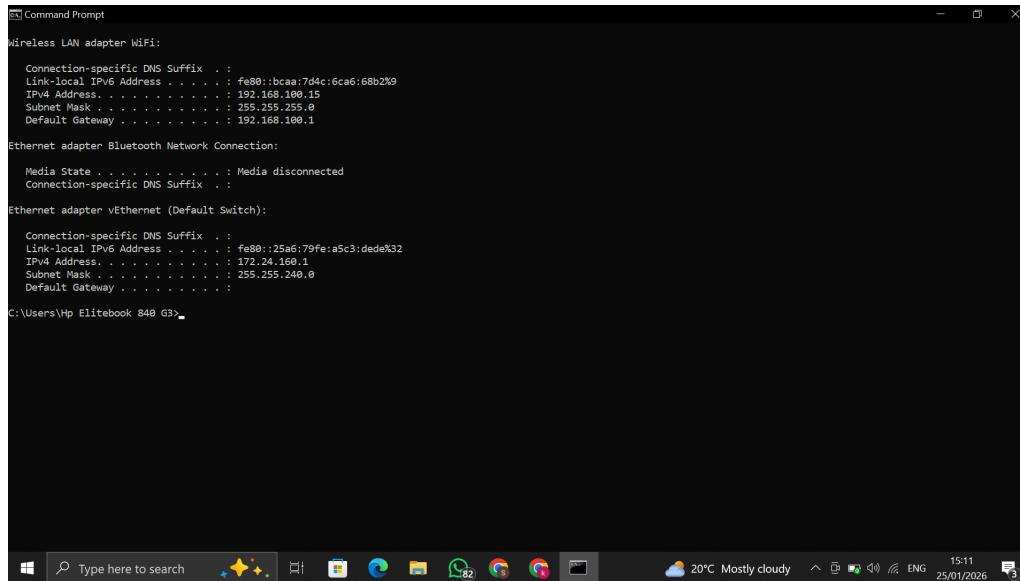
Ethernet adapter Ethernet 2:
  Connection-specific DNS Suffix . :
  Link-local IPv6 Address . . . . . : fe80::8613:9737%432c:2d2c%6
  IPv4 Address . . . . . : 192.168.56.1
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . :

Wireless LAN adapter Local Area Connection* 1:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . :

Wireless LAN adapter Local Area Connection* 10:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . :

Wireless LAN adapter WiFi:
  Connection-specific DNS Suffix . :
  Link-local IPv6 Address . . . . . : fe80::bc00:7d4c:6ca6:68b2%9
  IPv4 Address . . . . . : 192.168.100.15
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 192.168.100.1

Ethernet adapter Bluetooth Network Connection:
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Windows Command Prompt
Wireless LAN adapter WiFi:
  Connection-specific DNS Suffix . :
  Link-local IPv6 Address . . . . . : fe80::bc00:7d4c:6ca6:68b2%9
  IPv4 Address . . . . . : 192.168.100.15
  Subnet Mask . . . . . : 255.255.255.0
  Default Gateway . . . . . : 192.168.100.1

Ethernet adapter Bluetooth Network Connection:
  Media State . . . . . : Media disconnected
  Connection-specific DNS Suffix . :

Ethernet adapter vEthernet (Default Switch):
  Connection-specific DNS Suffix . :
  Link-local IPv6 Address . . . . . : fe80::25a6:79fe:a5c3:dede%32
  IPv4 Address . . . . . : 172.24.100.1
  Subnet Mask . . . . . : 255.255.240.0
  Default Gateway . . . . . :

C:\Users\Hp Elitebook 840 G3>
```

2) Find the IP address of the computer you are currently using, plus MAC address, the gateway, plus whether DHCP is turned on.

Command: _____ ipconfig/all
IP Address: _____ IP: 192.168.100.15, MAC: 7C-2A-31-47-09-7D,
Gateway: 192.168.100.1, DHCP: Enabled _____

```
C:\Select Command Prompt
C:\Users\Hp Elitebook 840 G3>ipconfig/all

Windows IP Configuration

Host Name . . . . . : DESKTOP-BNU761L
Primary DNS Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled . . . . . : No
WINS Proxy Enabled. . . . . : No

Ethernet adapter Ethernet:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Intel(R) Ethernet Connection IZ19-LM
Physical Address . . . . . : 10-62-E5-F4-AC-92
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Ethernet adapter Ethernet 2:

Connection-specific DNS Suffix . . . . . :
Description . . . . . : VirtualBox Host-Only Ethernet Adapter
Physical Address . . . . . : 0A-00-27-00-00-06
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::8613:9737:432c:2d2c%6(Preferred)
IPv4 Address . . . . . : 192.168.56.1(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 75563019
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . : fec0:0:0:ffff::131
                      fec0:0:0:ffff::231
                      fec0:0:0:ffff::331
NetBIOS over Tcpip. . . . . : Enabled

Wireless LAN adapter Local Area Connection* 1:

Media State . . . . . : Media disconnected
Windows IP Configuration

Ethernet adapter Bluetooth Network Connection:
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C:\Select Command Prompt
Wireless LAN adapter Local Area Connection* 1:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter
Physical Address . . . . . : 7C-2A-31-47-09-7E
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter Local Area Connection* 10:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Microsoft Wi-Fi Direct Virtual Adapter #2
Physical Address . . . . . : 7E-2A-31-47-09-7D
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Wireless LAN adapter WiFi:

Connection-specific DNS Suffix . . . . . :
Description . . . . . : Intel(R) Dual Band Wireless-AC 8260
Physical Address . . . . . : 10-2A-31-47-09-7D
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::bcba:7ddc:6ca6:68b2%9(Preferred)
IPv4 Address . . . . . : 192.168.100.15(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : 24 January 2026 18:02:05
Lease Expires . . . . . : 26 January 2026 14:16:01
Default Gateway . . . . . : 192.168.100.1
DHCPv6 Client DUID . . . . . : 12557777
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . : 192.168.100.1
NetBIOS over Tcpip. . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:
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```

Select Command Prompt
DHCP Enabled . . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::bcars:7d4c:6ca6:68b2%9(PREFERRED)
IPv4 Address . . . . . : 192.168.100.15(PREFERRED)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained . . . . . : 24 January 2026 18:02:05
Lease Expires . . . . . : 26 January 2026 14:16:01
Default Gateway . . . . . : 192.168.100.1
DHCP Server . . . . . : 192.168.100.1
DHCPv6 IAIID . . . . . : 12557777
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . : 192.168.100.1
NetBIOS over Tcpip . . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Bluetooth Device (Personal Area Network)
Physical Address . . . . . : 7C-2A-31-47-09-81
DHCP Enabled . . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Ethernet adapter vEthernet (Default Switch):

Connection-specific DNS Suffix . . . . . :
Description . . . . . : Hyper-V Virtual Ethernet Adapter
Physical Address . . . . . : 00-15-50-1F-76-A6
DHCP Enabled . . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::25a6:79fe:a5c3:dede%32(PREFERRED)
IPv4 Address . . . . . : 172.24.160.1(PREFERRED)
Subnet Mask . . . . . : 255.255.240.0
Default Gateway . . . . . :
DHCPv6 IAIID . . . . . : 536876381
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . :
  fec0:0:0:ffff:1%1
  fec0:0:0:ffff:2%1
  fec0:0:0:ffff:3%1
NetBIOS over Tcpip . . . . . : Enabled

Windows Type here to search 83 25/01/2026 15:51 ENG
```

3) Display the host name of the computer.

Command: hostname
 IP Address: DESKTOP-BNU761L

```

Command Prompt
Lease Obtained . . . . . : 24 January 2026 18:02:05
Lease Expires . . . . . : 26 January 2026 14:16:01
Default Gateway . . . . . : 192.168.100.1
DHCP Server . . . . . : 192.168.100.1
DHCPv6 IAIID . . . . . : 12557777
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . : 192.168.100.1
NetBIOS over Tcpip . . . . . : Enabled

Ethernet adapter Bluetooth Network Connection:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . :
Description . . . . . : Bluetooth Device (Personal Area Network)
Physical Address . . . . . : 7C-2A-31-47-09-81
DHCP Enabled . . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes

Ethernet adapter vEthernet (Default Switch):

Connection-specific DNS Suffix . . . . . :
Description . . . . . : Hyper-V Virtual Ethernet Adapter
Physical Address . . . . . : 00-15-50-1F-76-A6
DHCP Enabled . . . . . : No
Autoconfiguration Enabled . . . . . : Yes
Link-local IPv6 Address . . . . . : fe80::25a6:79fe:a5c3:dede%32(PREFERRED)
IPv4 Address . . . . . : 172.24.160.1(PREFERRED)
Subnet Mask . . . . . : 255.255.240.0
Default Gateway . . . . . :
DHCPv6 IAIID . . . . . : 536876381
DHCPv6 Client DUID . . . . . : 00-01-00-01-2C-7A-FD-C8-10-62-E5-F4-AC-92
DNS Servers . . . . . :
  fec0:0:0:ffff:1%1
  fec0:0:0:ffff:2%1
  fec0:0:0:ffff:3%1
NetBIOS over Tcpip . . . . . : Enabled

C:\Users\Hp Elitebook 840 G3>hostname
DESKTOP-BNU761L
C:\Users\Hp Elitebook 840 G3>ping google.com

Windows Type here to search 83 25/01/2026 15:53 ENG
```

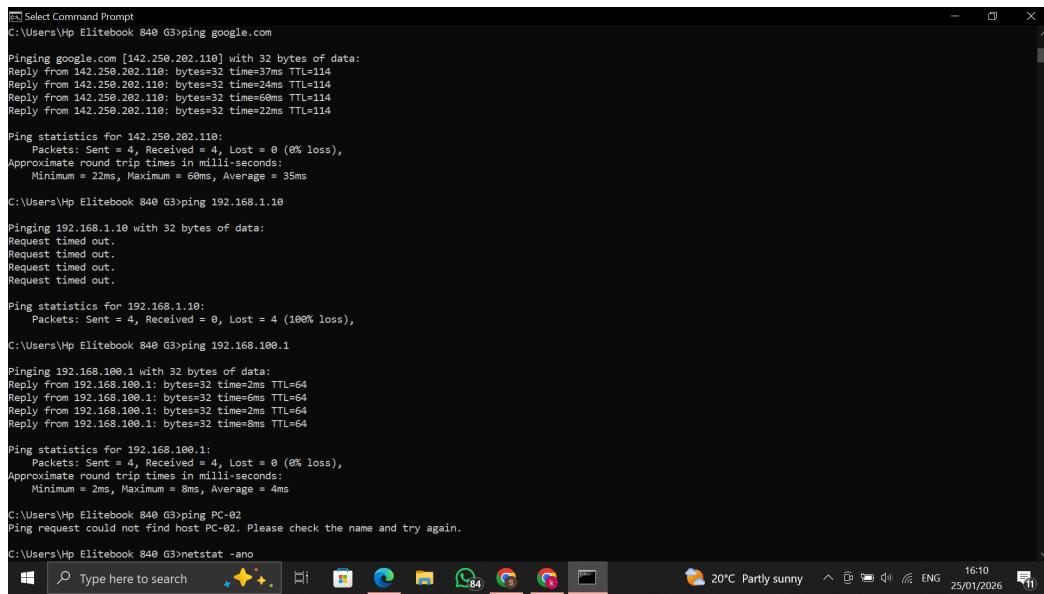
4) Check for basic IP connectivity between two computers by name and IP address. How can basic IP connectivity be checked? What are the reasons why there is no connectivity?

Command: ping <IP address> and ping <hostname>

Reason: The reasons for no connectivity may include:

1. Host is not available on the network or does not exist
2. IP address is not correct

3. ICMP (Internet Control Message Protocol) fails, or is blocked by a firewall.
4. DNS (Domain Name System) server is unreachable or cannot resolve hostname
5. The device is powered off _____



```

Select Command Prompt
C:\Users\hp Elitebook 840 G3>ping google.com

Pinging google.com [142.250.202.110] with 32 bytes of data:
Reply from 142.250.202.110: bytes=32 time=7ms TTL=114
Reply from 142.250.202.110: bytes=32 time=4ms TTL=114
Reply from 142.250.202.110: bytes=32 time=60ms TTL=114
Reply from 142.250.202.110: bytes=32 time=2ms TTL=114

Ping statistics for 142.250.202.110:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 60ms, Average = 35ms

C:\Users\hp Elitebook 840 G3>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Users\hp Elitebook 840 G3>ping 192.168.100.1

Pinging 192.168.100.1 with 32 bytes of data:
Reply from 192.168.100.1: bytes=32 time=2ms TTL=64
Reply from 192.168.100.1: bytes=32 time=6ms TTL=64
Reply from 192.168.100.1: bytes=32 time=2ms TTL=64
Reply from 192.168.100.1: bytes=32 time=8ms TTL=64

Ping statistics for 192.168.100.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 2ms, Maximum = 8ms, Average = 4ms

C:\Users\hp Elitebook 840 G3>ping PC-02
Ping request could not find host PC-02. Please check the name and try again.

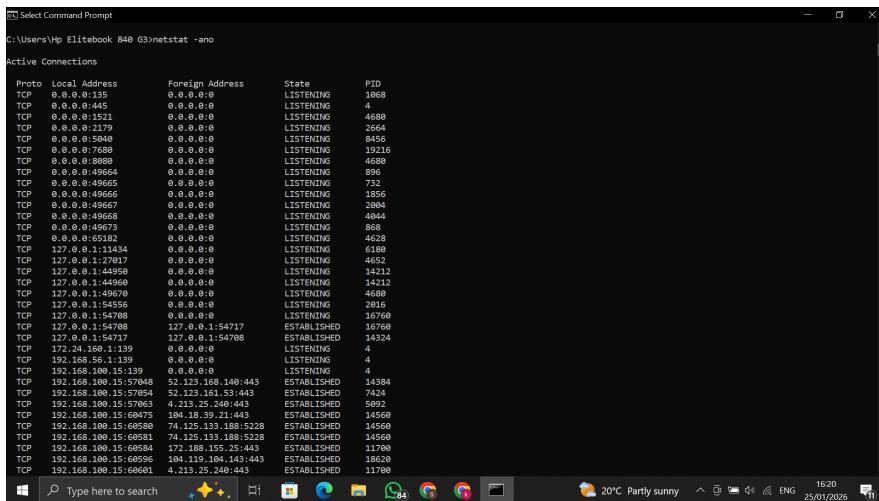
C:\Users\hp Elitebook 840 G3>netstat -ano

```

- 5) Find out which ports on your host are connected to applications. Connect the browser to some external web page before running the appropriate command.

Command: _____ netstat -ano _____

Reason: _____ netstat shows active network connections and -ano shows all connections, their address, and PID for each _____



```

Select Command Prompt
C:\Users\hp Elitebook 840 G3>netstat -ano

Active Connections

Proto Local Address        Foreign Address      State          PID
TCP  0.0.0.0:135           0.0.0.0:0          LISTENING      1068
TCP  0.0.0.0:445           0.0.0.0:0          LISTENING      4
TCP  0.0.0.0:2223           0.0.0.0:0          LISTENING      4066
TCP  0.0.0.0:2179           0.0.0.0:0          LISTENING      2664
TCP  0.0.0.0:5940           0.0.0.0:0          LISTENING      8456
TCP  0.0.0.0:7688           0.0.0.0:0          LISTENING      19216
TCP  0.0.0.0:8888           0.0.0.0:0          LISTENING      4680
TCP  0.0.0.0:49664          0.0.0.0:0          LISTENING      598
TCP  0.0.0.0:49665          0.0.0.0:0          LISTENING      732
TCP  0.0.0.0:49666          0.0.0.0:0          LISTENING      1856
TCP  0.0.0.0:49667          0.0.0.0:0          LISTENING      2084
TCP  0.0.0.0:49668          0.0.0.0:0          LISTENING      4844
TCP  0.0.0.0:49737          0.0.0.0:0          LISTENING      1586
TCP  0.0.0.0:65182          0.0.0.0:0          LISTENING      4628
TCP  127.0.0.1:11434         0.0.0.0:0          LISTENING      6188
TCP  127.0.0.1:27817         0.0.0.0:0          LISTENING      4652
TCP  127.0.0.1:30509         0.0.0.0:0          LISTENING      14212
TCP  127.0.0.1:44466         0.0.0.0:0          LISTENING      14212
TCP  127.0.0.1:49676         0.0.0.0:0          LISTENING      4680
TCP  127.0.0.1:54556         0.0.0.0:0          LISTENING      2016
TCP  127.0.0.1:54708         0.0.0.0:0          LISTENING      16768
TCP  127.0.0.1:54709         127.0.0.1:54717 ESTABLISHED  15769
TCP  127.0.0.1:54717         127.0.0.1:54708 ESTABLISHED  14324
TCP  172.24.160.1:139         0.0.0.0:0          LISTENING      4
TCP  192.168.56.1:139         0.0.0.0:0          LISTENING      4
TCP  192.168.100.1:139       0.0.0.0:0          LISTENING      4
TCP  192.168.100.15:57408     192.168.100.15:57408 ESTABLISHED  34384
TCP  192.168.100.15:57954     52.123.161.53:443 ESTABLISHED  7242
TCP  192.168.100.15:57963     4.213.25.240:443 ESTABLISHED  5992
TCP  192.168.100.15:68475     104.18.39.21:443 ESTABLISHED  34568
TCP  192.168.100.15:68509     74.125.133.188:5228 ESTABLISHED  14568
TCP  192.168.100.15:68581     74.125.133.188:5228 ESTABLISHED  14568
TCP  192.168.100.15:69584     172.188.155.25:443 ESTABLISHED  11700
TCP  192.168.100.15:69596     104.119.104.143:443 ESTABLISHED  18620
TCP  192.168.100.15:69601     4.213.25.240:443 ESTABLISHED  11700

```

```
TCP Select Command Prompt
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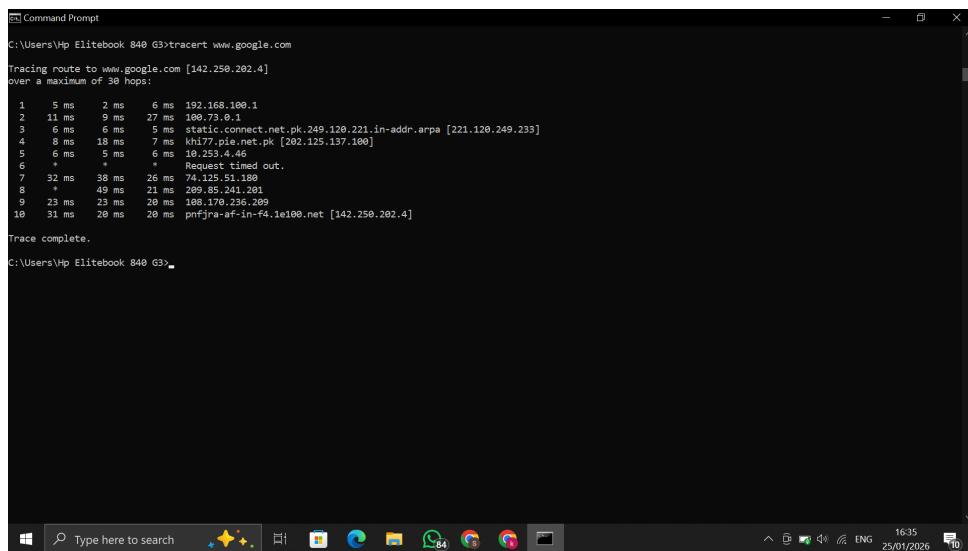
Protocol	Local Address	Foreign Address	State
UDP	0.0.0.0:5998	*.*	8456
UDP	0.0.0.0:5353	*.*	11356
UDP	0.0.0.0:5353	*.*	11356
UDP	0.0.0.0:5353	*.*	11356
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	11700
UDP	0.0.0.0:5353	*.*	11700
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	11700
UDP	0.0.0.0:5353	*.*	11700
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	14560
UDP	0.0.0.0:5353	*.*	3344
UDP	0.0.0.0:5353	*.*	11356
UDP	0.0.0.0:5353	*.*	11356
UDP	0.0.0.0:5353	*.*	13264
UDP	0.0.0.0:5355	*.*	3344
UDP	0.0.0.0:508074	*.*	7424
UDP	0.0.0.0:51451	*.*	14560
UDP	0.0.0.0:51278	*.*	3512
UDP	0.0.0.0:51279	*.*	3512
UDP	0.0.0.0:53837	*.*	7424
UDP	0.0.0.0:54986	*.*	14560
UDP	0.0.0.0:55685	*.*	14560
UDP	0.0.0.0:55939	*.*	14560
UDP	0.0.0.0:56181	*.*	14560
UDP	0.0.0.0:58778	*.*	14560
UDP	0.0.0.0:60214	*.*	15988
UDP	0.0.0.0:63837	*.*	14560
UDP	127.0.0.1:1900	*.*	13284
UDP	127.0.0.1:53880	*.*	13284

Select Command Prompt			
UDP 127.0.0.1:53980	++*	13284	
UDP 127.0.0.1:61515	++*	4528	
UDP 172.24.168.1:67	++*	3812	
UDP 172.24.168.1:68	++*	3812	
UDP 172.24.168.1:137	++*	4	
UDP 172.24.168.1:138	++*	4	
UDP 172.24.168.1:1980	++*	13284	
UDP 172.24.168.1:53981	++*	13284	
UDP 192.168.56.1:137	++*	4	
UDP 192.168.56.1:138	++*	4	
UDP 192.168.56.1:1980	++*	13284	
UDP 192.168.56.1:53978	++*	13284	
UDP 192.168.100.1:137	++*	4	
UDP 192.168.100.1:138	++*	4	
UDP 192.168.100.15:1980	++*	13284	
UDP 192.168.100.15:53979	++*	13284	
UDP [::]:5353	++*	14568	
UDP [::]:5353	++*	11356	
UDP [::]:5353	++*	11356	
UDP [::]:5353	++*	13264	
UDP [::]:5353	++*	11780	
UDP [::]:5353	++*	11780	
UDP [::]:5353	++*	11780	
UDP [::]:5353	++*	3344	
UDP [::]:5353	++*	14568	
UDP [::]:5353	++*	14568	
UDP [::]:5353	++*	13264	
UDP [::]:5353	++*	3344	
UDP [::]:58074	++*	7424	
UDP [::]:58074	++*	3512	
UDP [::]:58357	++*	7424	
UDP [::]:1980	++*	13284	
UDP [::]:53976	++*	13284	
[Fe80::256c:7ff%18c3c:dede%32]::1980	++*	13284	
[Fe80::256c:7ff%18c3c:dede%32]::53977	++*	13284	
[Fe80::8613:9737::43c2:2d2c%6]::1980	++*	13284	
UDP [Fe80::8613:9737::43c2:2d2c%6]::53974	++*	13284	
[Fe80::bcac:7d4c::6ca6:6b2c%9]::1980	++*	13284	
[Fe80::bcac:7d4c::6ca6:6b2c%9]::53975	++*	13284	

6) Find the path of routers to www.google.com.What is its IP address? How many hops involved in the path?

Command: _____ tracert www.google.com_____

Reason: _____IP: 142.250.202.4, 10 hops are involved in the path_____



```
C:\Users\Hp Elitebook 840 G3>tracert www.google.com
Tracing route to www.google.com [142.250.202.4]
over a maximum of 30 hops:
1  5 ms   2 ms   6 ms  192.168.100.1
2  11 ms   9 ms  27 ms  100.73.0.1
3   6 ms   6 ms   5 ms static.connect.net.pk[249.120.221.in-addr.arpa [221.120.249.233]
4   8 ms  18 ms   7 ms kh177.pie.net.pk [202.125.137.100]
5   6 ms   5 ms   6 ms 10.253.4.46
6   *
7  30 ms   8 ms  26 ms  100.73.0.1
8   *   49 ms  21 ms 100.85.241.201
9   23 ms  23 ms  28 ms 108.178.236.209
10  31 ms  20 ms  28 ms pnfjra-af-in-f4.1.e100.net [142.250.202.4]

Trace complete.

C:\Users\Hp Elitebook 840 G3>
```

7) A ping to 192.168.0.2 works but a ping to the machine's name “blue machine” fails. What could be wrong?

Reason:_____

1. DNS is not working, or service is unavailable
 2. The machine name (hostname) is not registered in DNS
 3. Incorrect name
 4. IP connectivity exists, but name resolution fails
-

The screenshot shows a Windows desktop environment. In the center is a Command Prompt window titled "Command Prompt". The window displays several ping commands and their results. At the bottom of the window, the command "C:\Users\Hp Elitebook 840 G3>" is visible. Below the window is the Windows taskbar, which includes the Start button, a search bar with placeholder text "Type here to search", and various pinned icons for apps like File Explorer, Edge, and File History. On the right side of the taskbar, there are system status indicators for battery level (20%), temperature (20°C), weather (Partly sunny), date (25/01/2026), and time (16:37).

```
C:\Users\Hp Elitebook 840 G3>ping 192.168.0.2

Pinging 192.168.0.2 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
C:\Users\Hp Elitebook 840 G3>
C:\Users\Hp Elitebook 840 G3>
C:\Users\Hp Elitebook 840 G3>
C:\Users\Hp Elitebook 840 G3>ping "blue machine"
Ping request could not find host blue machine. Please check the name and try again.

C:\Users\Hp Elitebook 840 G3>ping blue machine
Ping request could not find host blue. Please check the name and try again.

C:\Users\Hp Elitebook 840 G3>
```

8) Which type of cable will you use to connect in a normal home installation?

Answer: _____ For connectivity in a normal home installation, I think a straight-thru cable would be a better option as the installation of these cables is easier and simpler than crossover cable. Moreover, it also supports Auto-MDI/MDIX (automatically detects and adjusts transmit/receive pins) and can be used with modern devices without needing to identify the device type. _____

9) Can you connect a Switch to another Switch or a router to a PC using a straight-through cable? Explain your answer.

Answer: _____

Earlier crossover cables were needed in order to connect two similar devices like switch to switch, and straight through cables were not used for connecting similar devices. But now devices have auto-MDI/MDIX so devices automatically figure out how to send and receive signals.

So, straight through cables can be used for connecting a switch to another switch as well as a router to a PC.

For non auto-MDI/MDIX devices, straight through cables will connect a router to a PC but crossover cables will be required for connecting a Switch to another Switch.

10) Write a brief report on your home network or any organizational network including topology, 1 page max).

Answer: _____

My home network will include a star topology, where many devices are connected to a router/central device. The router connects to the internet (ISP) through fiber.

Devices like laptops, mobile phones, PCs and tablets are connected using Wifi. The router assigns IP address automatically to all devices using DHCP (Dynamic Host Configuration Protocol) when it connects, and uses NAT (Network Address Translation) so multiple devices can share one public IP address on the internet.

This setup is easy to manage, cost-effective, and scalable, making it good for everyday activities like browsing, streaming, online classes, and gaming._____