1. Find the IP address of the computer you are using and enter it below as your answer.

64.114.239.68

1. Find the IP address either of your phone (try to look through your phone settings and wifi), or the computer of someone next to you. Use the “ping” command to test to see if your computer can communicate with it. Copy and paste the output here.

Pinging 10.3.30.107 with 32 bytes of data:

Reply from 10.3.30.107: bytes=32 time=3ms TTL=63

Reply from 10.3.30.107: bytes=32 time=5ms TTL=63

Reply from 10.3.30.107: bytes=32 time=3ms TTL=63

Reply from 10.3.30.107: bytes=32 time=2ms TTL=63

Ping statistics for 10.3.30.107:

Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 2ms, Maximum = 5ms, Average = 3ms

1. Find the IP addresses of 2 of your favorite websites using the “nslookup” command in your terminal editor. Copy and paste the output here.
   1. Name: youtube-ui.l.google.com

Address: 172.217.3.174

Aliases: [www.youtube.com](http://www.youtube.com)

* 1. Name: forcesafesearch.google.com

Address: 216.239.38.120

Aliases: [www.google.ca](http://www.google.ca)

1. Now use the “traceroute” command to trace the route that it takes to go from your computer to those 2 websites you listed in question number 2. Copy and paste the output here. How many different servers does it take for it to get from your computer to each destination website?

Tracing route to youtube-ui.l.google.com [172.217.3.174]

over a maximum of 30 hops:

1 2 ms 1 ms 1 ms 10.3.224.1

2 3 ms 2 ms 1 ms 10.3.111.1

3 3 ms 2 ms 4 ms 10.200.3.2

4 3 ms 37 ms 4 ms 10.143.60.146

5 \* \* \* Request timed out.

6 4 ms 4 ms 4 ms 10.143.58.89

7 5 ms 5 ms 4 ms 64.114.202.165

8 18 ms 4 ms 4 ms 64.114.202.170

9 233 ms 5 ms 5 ms 206.108.207.181

10 10 ms 10 ms 26 ms 154.11.10.11

11 9 ms 9 ms 9 ms 72.14.220.60

12 9 ms 9 ms 10 ms 108.170.245.113

13 10 ms 17 ms 10 ms 108.170.233.159

14 10 ms 9 ms 9 ms sea15s11-in-f174.1e100.net [172.217.3.174]

Trace complete.

Tracing route to forcesafesearch.google.com [216.239.38.120]

over a maximum of 30 hops:

1 8 ms 7 ms 13 ms 10.3.224.1

2 3 ms 6 ms 9 ms 10.3.111.1

3 6 ms 8 ms 6 ms 10.200.3.2

4 18 ms 2 ms 5 ms 10.143.60.146

5 \* \* \* Request timed out.

6 4 ms 4 ms 5 ms 10.143.58.89

7 5 ms 6 ms 4 ms 64.114.202.165

8 4 ms 5 ms 4 ms 64.114.202.170

9 6 ms 6 ms 6 ms 206.108.207.181

10 13 ms 15 ms 13 ms 154.11.10.11

11 22 ms 18 ms 27 ms 72.14.220.60

12 93 ms 19 ms 14 ms 108.170.245.113

13 \* 2629 ms 17 ms 108.170.233.159

14 34 ms 29 ms 44 ms any-in-2678.1e100.net [216.239.38.120]

Trace complete.

1. Can you think of potential problems if two devices were to have the same IP address on a network?

The packets wouldn’t be able to communicate and would not be able to use the connection.

1. Explain how DNS is like using a phone book.

DNS maintain a directory of domain names and translate them to internet protocol.