

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

10.3.10.89

2. 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.

10.3.226.215

Ping: 64 bytes from 10.3.226.215: icmp\_seq=0 ttl=63 time=29.301 ms

64 bytes from 10.3.226.215: icmp\_seq=1 ttl=63 time=396.008 ms

64 bytes from 10.3.226.215: icmp\_seq=2 ttl=63 time=269.937 ms

64 bytes from 10.3.226.215: icmp\_seq=3 ttl=63 time=65.057 ms

3. Find the IP addresses of 2 of your favorite websites using the “nslookup” command in your terminal editor. Copy and paste the output here.

9gag.com

Server: 10.3.30.12

Address: 10.3.30.12#53

Non-authoritative answer:

Name: 9gag.com

Address: 54.153.47.233

Name: 9gag.com

Address: 52.52.209.201

youtube.com

Server: 10.3.30.12

Address: 10.3.30.12#53

Non-authoritative answer:

Name: youtube.com

Address: 172.217.3.174

4. 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?

9gag.com : 64 hops max

traceroute to 9gag.com (52.52.209.201), 64 hops max, 52 byte packets

```
1 10.3.10.1 (10.3.10.1) 0.768 ms 0.606 ms 0.549 ms
2 10.3.111.1 (10.3.111.1) 1.151 ms 0.540 ms 0.893 ms
3 10.200.3.2 (10.200.3.2) 1.821 ms 1.096 ms 1.373 ms
4 10.143.60.146 (10.143.60.146) 1.917 ms 1.796 ms 1.146 ms
5 * * *
6 10.143.58.89 (10.143.58.89) 3.218 ms 3.456 ms 2.558 ms
```

youtube.com : 64 hops max

traceroute to youtube.com (172.217.3.174), 64 hops max, 52 byte packets

```
1 10.3.10.1 (10.3.10.1) 0.699 ms 1.000 ms 0.467 ms
2 10.3.111.1 (10.3.111.1) 0.643 ms 1.008 ms 0.708 ms
3 10.200.3.2 (10.200.3.2) 1.211 ms 1.583 ms 1.321 ms
4 10.143.60.146 (10.143.60.146) 1.922 ms 2.327 ms 1.296 ms
```

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

The network could have trouble differentiating the two devices and might send a message to both devices instead of just the intended receiver which might disrupt someone's privacy. If the IP is banned on a certain website or game, both devices would be punished.

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

It is like a phone book because you can identify devices by searching a devices IP just like using a phone book to find a chinese restaurant or for finding a dentist place.