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Lab 6

Task1: tracedroute

1. How many hops did it take to get from my computer to google's endpoint?

   From the computer to google's endpoint, it took 12 hops.

2. Which hop did not respond?

   The hop that did not respond was hop 8.

3. The IPv4 TTL header plays an important role with traceroute, write a wireshark filter to find the frame numbers that contain the queries that was not responded to.
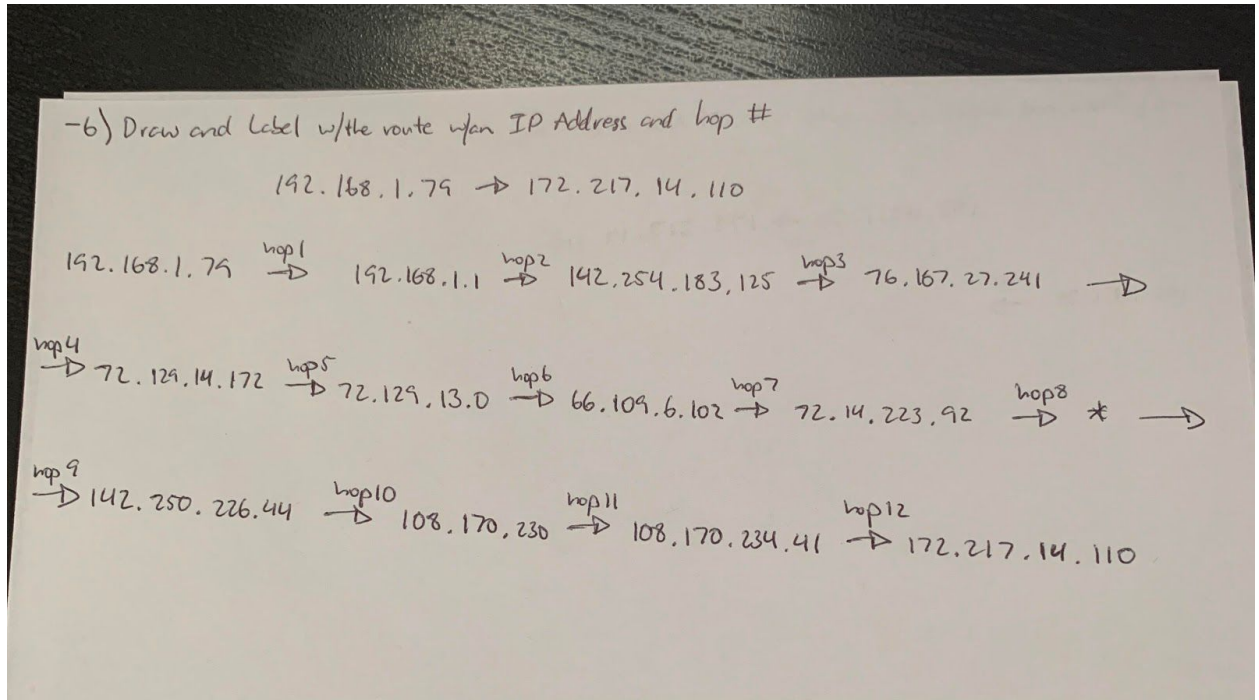
   The wireshark filter where all the TTL headers were exceeded was ICMP.

4. What protocol does traceroute use for the queries?

   The protocol that traceroute uses for queries is Internet Control Message Protocol, ICMP

5. What protocol do the routers use for the responses?

   The protocol that routers use for responses is Routing INformation Protocol, RIP.

−6) Draw and Label w/the route w/an IP Address and hop #

192.168.1.79 → 172.217.14.110

192.168.1.79 ―hop 1→ 192.168.1.1 ―hop 2→ 142.254.183.125 ―hop 3→ 76.167.27.241 →

―hop 4→ 72.129.14.172 ―hop 5→ 72.129.13.0 ―hop 6→ 66.109.6.102 ―hop 7→ 72.14.223.92 ―hop 8→ * →

―hop 9→ 142.250.226.44 ―hop 10→ 108.170.230 ―hop 11→ 108.170.234.41 ―hop 12→ 172.217.14.110

6.

Task 2: traceroute

```
C:\Users\perdo>tracert www.youtube.com

Tracing route to youtube-ui.l.google.com [2607:f8b0:4007:813::200e]
over a maximum of 30 hops:

  1    23 ms     1 ms    <1 ms  2603-8001-0c40-b300-12da-43ff-fe6b-ae33.res6.spectrum.com [2603:8001:c40:b300:12da:43ff:fe6b:ae33]
  2    10 ms    10 ms    11 ms  2605:e000:404:67::1
  3    11 ms    10 ms    11 ms  2605:e000:0:4::5:169
  4    14 ms    14 ms    14 ms  2605:e000:0:4::5:1e4
  5     *       16 ms     *     2605:e000:0:4::40
  6     *        *        *     Request timed out.
  7    13 ms    13 ms    13 ms  2001:4860:1:1::c28
  8    13 ms    12 ms    15 ms  2607:f8b0:8228::1
  9     *        *        *     Request timed out.
 10     *       14 ms    16 ms  2001:4860:0:110f::13
 11    15 ms    15 ms    15 ms  2001:4860::c:4002:3720
 12    14 ms    14 ms    17 ms  2001:4860::1:0:c432
 13    16 ms     *       16 ms  2001:4860:0:110d::1
 14    16 ms     *        *     2001:4860:0:1::4315
 15    13 ms    11 ms    15 ms  lax31s12-in-x0e.1e100.net [2607:f8b0:4007:813::200e]

Trace complete.
```

a.

b. Used the filter "icmpv6" in capture