

Homework 6: Networking

Due October 24, 2022

Problem 1:

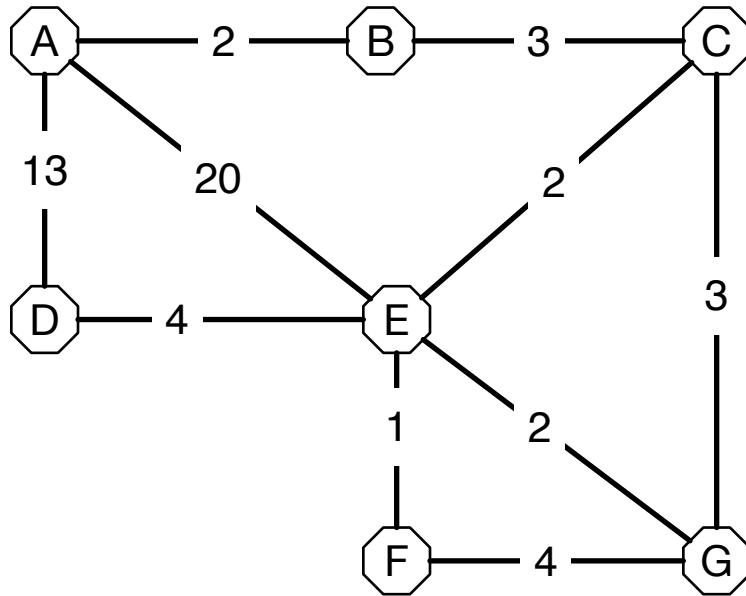
The following is a traceroute output to my Indian university, XIE. Use Whois to ascertain the AS through which the route travels. Notice that there are some private addresses for which Whois will not give an answer. Use a web-search to determine public information about the entities

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1  192.168.1.1 (192.168.1.1)  5.368 ms  4.335 ms  3.838 ms
2  rtp000211rts.jesres.mu.edu (134.48.119.1)  35.718 ms  9.153 ms  7.703 ms
3  172.31.255.21 (172.31.255.21)  4.631 ms  4.025 ms  5.131 ms
4  134.48.10.250 (134.48.10.250)  4.929 ms  3.872 ms  4.523 ms
5  134.48.10.4 (134.48.10.4)  4.907 ms  4.838 ms  3.666 ms
6  134.48.10.12 (134.48.10.12)  4.254 ms  5.080 ms  4.403 ms
7  134.48.10.30 (134.48.10.30)  5.483 ms  97.667 ms  5.278 ms
8  6-2-11.ear3.chicago2.level3.net (4.16.38.69)  7.660 ms  7.562 ms  7.654 ms
9  ae2.2.edge2.chicago10.level3.net (4.69.132.225)  10.129 ms  8.616 ms  15.074 ms
10 * * be3018.ccr41.ord03.atlas.cogentco.com (154.54.12.81)  9.842 ms
11 be2766.ccr42.ord01.atlas.cogentco.com (154.54.46.177)  9.500 ms  9.302 ms  9.072
ms
12 be2832.ccr22.mci01.atlas.cogentco.com (154.54.44.169)  29.335 ms  115.513 ms
   be2831.ccr21.mci01.atlas.cogentco.com (154.54.42.165)  30.892 ms
13 be2432.ccr31.dfw01.atlas.cogentco.com (154.54.3.133)  53.666 ms  30.076 ms
   be2433.ccr32.dfw01.atlas.cogentco.com (154.54.3.213)  30.174 ms
14 be2443.ccr42.iah01.atlas.cogentco.com (154.54.44.229)  35.590 ms
   be2441.ccr41.iah01.atlas.cogentco.com (154.54.41.65)  33.976 ms  249.618 ms
15 be2418.rcr51.b023723-0.iah01.atlas.cogentco.com (154.54.6.78)  36.269 ms
   be2417.rcr51.b023723-0.iah01.atlas.cogentco.com (154.54.3.246)  36.925 ms
   be2418.rcr51.b023723-0.iah01.atlas.cogentco.com (154.54.6.78)  35.787 ms
16 38.142.30.58 (38.142.30.58)  35.125 ms  124.587 ms  35.572 ms
17 72-250-192-2.cyrusone.com (72.250.192.2)  42.360 ms  35.047 ms  56.534 ms
18 po100.router2b.hou1.net.unifiedlayer.com (162.241.0.5)  34.136 ms  34.804 ms
34.520 ms
19 162-241-150-61.unifiedlayer.com (162.241.150.61)  35.610 ms  162.732 ms
   162-241-150-59.unifiedlayer.com (162.241.150.59)  34.569 ms
20 162-241-27-33.unifiedlayer.com (162.241.27.33)  34.799 ms  34.835 ms  34.672 ms
```

that you encounter. You do **not** need to do this for Marquette. If you want, run your own traceroute to compare results.

Problem 2:

Apply Dijkstra's algorithm on the following graph for Node A. Show your calculations step by step, i.e. each time a new node gets assigned its final value.



Problem 3:

Distance Vector Routing solves the same problem as Dijkstra's algorithm, but in a distributed manner. Assume that B has a routing table:

B's table:

A:	2	A
B:	0	-
C:	3	C
D:	15	A
E:	22	A

C's table:

B:	3	B
C:	0	0
D:	6	E
E:	2	E
F:	3	E

Assume C sends its routing table to B. What is the new routing table in B?