

Pinger

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 104.102.112.162
Pinging 104.102.112.162 [104.102.112.162] 3 times using Python:
Ping 1 RTT 8.505821228027344 sec
Ping 2 RTT 9.155988693237305 sec
Ping 3 RTT 9.344339370727539 sec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 104.102.112.162
Pinging 104.102.112.162 [104.102.112.162] 3 times using Python:
Ping 1 RTT 8.649587631225586 millsec
Ping 2 RTT 9.897470474243164 millsec
Ping 3 RTT 7.7724456787109375 millsec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 104.102.112.162
Pinging 104.102.112.162 [104.102.112.162] 3 times using Python:
Ping 1 RTT 9.203433990478516 millsec
Ping 2 RTT 12.453317642211914 millsec
Ping 3 RTT 9.961366653442383 millsec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 104.102.112.162
Pinging 104.102.112.162 [104.102.112.162] 3 times using Python:
Ping 1 RTT 15.94686508178711 millsec
Ping 2 RTT 8.562326431274414 millsec
Ping 3 RTT 9.076833724975586 millsec
Average RTT: 11.19534174601237 millsec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 171.67.215.200
Pinging 171.67.215.200 [171.67.215.200] 3 times using Python:
Ping 1 RTT 71.40779495239258 millsec
Ping 2 RTT 71.27928733825684 millsec
Ping 3 RTT 68.75181198120117 millsec
Average RTT: 70.4796314239502 millsec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 20.225.32.183
Pinging 20.225.32.183 [20.225.32.183] 3 times using Python:
Ping 1 RTT 54.43882942199707 millsec
Ping 2 RTT 53.582191467285156 millsec
Ping 3 RTT 52.84929275512695 millsec
Average RTT: 53.62343788146973 millsec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 128.2.42.52
Pinging 128.2.42.52 [128.2.42.52] 3 times using Python:
```

Ping 1 RTT 23.908615112304688 millisec
Ping 2 RTT 25.97951889038086 millisec
Ping 3 RTT 23.445844650268555 millisec
Average RTT: 24.4446595509847 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 65.8.19.129
Pinging 65.8.19.129 [65.8.19.129] 3 times using Python:
Ping 1 RTT 8.962154388427734 millisec
Ping 2 RTT 7.734775543212891 millisec
Ping 3 RTT 46.16808891296387 millisec
Average RTT: 20.955006281534832 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 197.255.125.220
Pinging 197.255.125.220 [197.255.125.220] 3 times using Python:
Ping 1 RTT 189.61095809936523 millisec
Ping 2 RTT 191.36548042297363 millisec
Ping 3 RTT 188.92431259155273 millisec
Average RTT: 189.96691703796387 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 178.154.243.30
Pinging 178.154.243.30 [178.154.243.30] 3 times using Python:
Ping 1 RTT 146.0130214691162 millisec
Ping 2 RTT 143.55087280273438 millisec
Ping 3 RTT 141.33000373840332 millisec
Average RTT: 143.6312993367513 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 43.245.41.9
Pinging 43.245.41.9 [43.245.41.9] 3 times using Python:
Ping 1 RTT 6.387472152709961 millisec
Ping 2 RTT 11.035919189453125 millisec
Ping 3 RTT 9.476423263549805 millisec
Average RTT: 8.966604868570963 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 43.245.41.9
Pinging 43.245.41.9 [43.245.41.9] 3 times using Python:
Ping 1 RTT 7.203578948974609 millisec
Ping 2 RTT 9.10496711730957 millisec
Ping 3 RTT 7.020235061645508 millisec
Average RTT: 7.7762603759765625 millisec

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPpinger.py 146.141.13.50
Pinging 146.141.13.50 [146.141.13.50] 3 times using Python:
Ping 1 RTT Request timed out. millisec
Traceback (most recent call last):

```
File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 155, in
<module>
    ping(target)
File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 141, in ping
    total_rtt += delay
TypeError: unsupported operand type(s) for +=: 'int' and 'str'
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 146.141.13.50
Pinging 146.141.13.50 [146.141.13.50] 3 times using Python:
Ping 1 RTT Request timed out. millisec
Traceback (most recent call last):
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 155, in
<module>
    ping(target)
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 141, in ping
    total_rtt += delay
TypeError: unsupported operand type(s) for +=: 'int' and 'str'
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 210.152.243.234
Pinging 210.152.243.234 [210.152.243.234] 3 times using Python:
Ping 1 RTT Request timed out. millisec
Traceback (most recent call last):
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 155, in
<module>
    ping(target)
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPpinger.py", line 141, in ping
    total_rtt += delay
TypeError: unsupported operand type(s) for +=: 'int' and 'str'
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>ping 210.152.243.234
```

```
Pinging 210.152.243.234 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
```

```
Ping statistics for 210.152.243.234:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

Since requests timed out to the last two IPs (for Witswatersand in South Africa and University of Tokyo in Japan. I also updated the code so that it doesn't run into an error when calculating the average RTT for a request that timed out.

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 129.187.255.109
Pinging 129.187.255.109 [129.187.255.109] 3 times using Python:
Ping 1 RTT 114.66026306152344 millisec
Ping 2 RTT 114.44282531738281 millisec
Ping 3 RTT 115.21553993225098 millisec
Average RTT: 114.77287610371907 millisec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 4.224.55.79
Pinging 4.224.55.79 [4.224.55.79] 3 times using Python:
Ping 1 RTT 207.9169750213623 millisec
Ping 2 RTT 206.8314552307129 millisec
Ping 3 RTT 210.50095558166504 millisec
Average RTT: 208.41646194458008 millisec
```

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPpinger.py 131.229.65.117
Pinging 131.229.65.117 [131.229.65.117] 3 times using Python:
Ping 1 RTT 5.165576934814453 millisec
Ping 2 RTT 4.0683746337890625 millisec
Ping 3 RTT 5.953788757324219 millisec
Average RTT: 5.062580108642578 millisec
```

Traceroute

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py
104.102.112.162
 1 rtt=7 ms 131.229.147.254 (Hostname not found)
 2 rtt=17 ms 131.229.11.142 (Hostname not found)
 3 rtt=21 ms 131.229.10.104 (Hostname not found)
 4 rtt=4 ms 134.241.249.33 (Hostname not found)
 5 rtt=5 ms 69.16.1.33 (Hostname not found)
 6 rtt=3 ms 18.2.136.89 (umassnet-cps2-nox-mghpcc-gw1.nox.org)
 7 rtt=10 ms 192.5.89.57 (Hostname not found)
 8 rtt=11 ms 206.53.143.2 (ae4.ecx-bos2.netarch.akamai.com)
 9 rtt=9 ms 104.102.112.162 (a104-102-112-162.deploy.static.akamaitechnologies.com)
```

Total RTT: 87 ms

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py
104.102.112.162
```

Traceback (most recent call last):

File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPtraceroute.py", line 148, in
<module>

```
get_route(target)
```

File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPtraceroute.py", line 107, in
get_route

```
types, code, checksum, packetID, sequence = struct.unpack("bbHHh", icmpHeader)
```

AA

KeyboardInterrupt

 $\wedge C$

```
C:\Users\LAWSON_I\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py
```

171.67.215.200

```
1 rtt=9 ms 131.229.147.254 (Hostname not found)
```

```
2 rtt=27 ms 131.229.11.142 (Hostname not found)
```

```
3 rtt=25 ms 131.229.10.104 (Hostname not found)
```

4 rtt=4 ms 134.241.249.33 (Hostname not found)

5 rtt=5 ms 69.16.1.33 (Hostname not found)

6 rtt=3 ms 18.2.8.89 (umassnet-re2-nox-mghpcc-gw1.nox.org)

7 rtt=9 ms 192.5.89.254 (nox-mghpcc-gw1-i2-re-chic.nox.org)

8 rtt=71 ms 163.253.1.21 (fourhundredge-0-0-0-2.4079.core2.clev.net.internet2.edu)

9 rtt=71 ms 163.253.2.144 (fourhundredge-0-0-0-22.4079.core1.clev.net.internet2.edu)

10 rtt=70 ms 163.253.1.211 (fourhundredge-0-0-0-2.4079.core1.eqch.net.internet2.edu)

```
11 rtt=72 ms 163.253.1.206 (fourhundredge-0-0-0-1.4079.core1.chic.net.internet2.edu)
```

12 rtt=70 ms 163.253.2.29 (fourhundredge-0-0-0-1.4079.core2.kans.net.internet2.edu)

13 rtt=68 ms 163.253.1.250 (fourhundredge-0-0-0-1.4079.core2.denv.net.internet2.edu)

14 rtt=70 ms 163.253.1.169 (fourhundredge-0-0-0-3.4079.core2.salt.net.internet2.edu)

15 rtt=70 ms 163.253.1.186 (fourhundredge-0-0-0-2.4079.core2.sacr.net.internet2.edu)

16 rtt=71 ms 163.253.1.38 (fourhundredge-0-0-0-23.4079.core1.sacr.net.internet2.edu)

17 rtt=71 ms 163.253.1.193 (fourhundredge-0-0-0-0.4079.core1.sunn.net.internet2.edu)

18 rtt=69 ms 137.164.26.126 (hpr-svl-agg10--internet2r&e-100ge.cenic.net)

19 rtt=68 ms 137.164.25.95 (hpr-oak-agg8--svl-hpr3-100g.cenic.net)

20 rtt=70 ms 137.164.25.77 (oak-agg8-hpr--emvl1-agg-01-hpr--100g--01.cenic.net)

```
21 rtt=71 ms 137.164.26.241 (Hostname not found)
```

22 rtt=68 ms 171.66.255.200 (campus-ial-nets-b-vl1104.SUNet)

```
* * * Request timed out.
```

```
* * * Request timed out.
```

24 rtt=68 ms 171.67.215.200 (web.stanford.edu)

Total RTT: 1199 ms

```
C:\Users\LAWSON\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 20.225.32.183
```

```
1 rtt=12 ms 131.229.147.254 (Hostname not found)
```

```
2 rtt=16 ms 131.229.11.142 (Hostname not found)
```

```
3 rtt=22 ms 131.229.10.104 (Hostname not found)
```

4 rtt=3 ms 134.241.249.33 (Hostname not found)
5 rtt=6 ms 69.16.1.33 (Hostname not found)
6 rtt=5 ms 18.2.136.89 (umassnet-cps2-nox-mghpcc-gw1.nox.org)
7 rtt=8 ms 192.5.89.57 (Hostname not found)
8 rtt=2 ms 206.53.143.7 (massix.bos01-96e-1.ntwk.msn.net)
9 rtt=16 ms 104.44.231.118 (ae28-0.ear05.nyc30.ntwk.msn.net)
* * * Request timed out.
* * * Request timed out.
11 rtt=69 ms 104.44.28.55 (be-9-0.ibr04.bl20.ntwk.msn.net)
12 rtt=54 ms 104.44.30.120 (be-8-0.ibr02.bn6.ntwk.msn.net)
13 rtt=60 ms 104.44.29.181 (be-7-0.ibr02.atl30.ntwk.msn.net)
14 rtt=55 ms 104.44.28.226 (be-11-0.ibr02.sn1.ntwk.msn.net)
15 rtt=54 ms 104.44.23.68 (ae122-0.icr02.sn1.ntwk.msn.net)
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
21 rtt=58 ms 20.225.32.183 (Hostname not found)

Total RTT: 440 ms

C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 128.2.42.52

1 rtt=1 ms 131.229.147.254 (Hostname not found)
2 rtt=18 ms 131.229.11.142 (Hostname not found)
3 rtt=21 ms 131.229.10.104 (Hostname not found)
4 rtt=4 ms 134.241.249.33 (Hostname not found)
5 rtt=8 ms 69.16.1.33 (Hostname not found)
6 rtt=3 ms 18.2.8.89 (umassnet-re2-nox-mghpcc-gw1.nox.org)
7 rtt=8 ms 192.5.89.57 (Hostname not found)
8 rtt=10 ms 192.5.89.222 (i2-re-nox300gw1.nox.org)
9 rtt=7 ms 163.253.1.241 (fourhundredge-0-0-0-0.4079.core1.phil.net.internet2.edu)
10 rtt=3 ms 163.253.5.33 (Hostname not found)
11 rtt=25 ms 162.223.17.79 (162-223-17-79.static.firstlight.net)
12 rtt=24 ms 128.2.0.181 (CORE0-POD-I-DCNS-8500.GW.CMU.NET)
13 rtt=28 ms 128.2.0.202 (POD-D-CYH-CORE0.GW.CMU.NET)
14 rtt=31 ms 128.2.42.52 (WWW-CMU-PROD-VIP.ANDREW.CMU.EDU)

Total RTT: 191 ms

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 65.8.19.129
```

```
1 rtt=4 ms 131.229.147.254 (Hostname not found)
2 rtt=6 ms 131.229.11.142 (Hostname not found)
3 rtt=22 ms 131.229.10.104 (Hostname not found)
4 rtt=4 ms 134.241.249.33 (Hostname not found)
5 rtt=2 ms 69.16.1.33 (Hostname not found)
6 rtt=1 ms 65.175.24.205 (ae6-201.cr1-bos1.ip4.gtt.net)
7 rtt=3 ms 89.149.130.30 (ae0.cr2-bos1.ip4.gtt.net)
* * * Request timed out.
* * * Request timed out.
9 rtt=7 ms 52.93.76.141 (Hostname not found)
10 rtt=14 ms 52.93.76.60 (Hostname not found)
11 rtt=9 ms 150.222.71.89 (Hostname not found)
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
17 rtt=10 ms 65.8.19.129 (server-65-8-19-129.bos50.r.cloudfront.net)
```

Total RTT: 80 ms

```
C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py
```

```
197.255.125.220
1 rtt=0 ms 131.229.147.254 (Hostname not found)
2 rtt=19 ms 131.229.11.142 (Hostname not found)
3 rtt=18 ms 131.229.10.104 (Hostname not found)
4 rtt=3 ms 134.241.249.33 (Hostname not found)
5 rtt=3 ms 69.16.1.33 (Hostname not found)
6 rtt=5 ms 18.2.8.89 (umassnet-re2-nox-mghpcc-gw1.nox.org)
7 rtt=7 ms 192.5.89.57 (Hostname not found)
8 rtt=3 ms 192.5.89.222 (i2-re-nox300gw1.nox.org)
9 rtt=8 ms 163.253.1.42 (fourhundredge-0-0-0-20.4079.core1.newy32aoa.net.internet2.edu)
10 rtt=70 ms 198.71.45.237 (Hostname not found)
11 rtt=99 ms 62.40.98.106 (ae8.mx1.lon2.uk.geant.net)
12 rtt=94 ms 62.40.98.64 (ae2.mx1.lon.uk.geant.net)
13 rtt=85 ms 62.40.125.234 (wacren-gw.mx1.lon.uk.geant.org)
14 rtt=204 ms 196.216.188.145 (if-xe-0-0-1-0.aggr-lag.as37288.wacren.net)
```

15 rtt=209 ms 196.216.188.129 (if-xe-0-1-0-0.aggr-acc.as37288.wacren.net)
16 rtt=204 ms 196.216.188.138 (if-xe-1-0-0-0.edge-acc.as37288.wacren.net)
17 rtt=199 ms 196.216.188.6 (garnet.edge-acc.as37288.wacren.net)
18 rtt=183 ms 169.239.248.66 (Hostname not found)
19 rtt=182 ms 197.255.127.3 (Hostname not found)
20 rtt=189 ms 197.255.127.43 (Hostname not found)
21 rtt=183 ms 197.255.125.220 (Hostname not found)

Total RTT: 1967 ms

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py

178.154.243.30

1 rtt=22 ms 131.229.147.254 (Hostname not found)
2 rtt=28 ms 131.229.11.142 (Hostname not found)
3 rtt=25 ms 131.229.10.104 (Hostname not found)
4 rtt=5 ms 134.241.249.33 (Hostname not found)
5 rtt=15 ms 69.16.1.33 (Hostname not found)
6 rtt=8 ms 65.175.24.205 (ae6-201.cr1-bos1.ip4.gtt.net)
7 rtt=8 ms 89.149.130.30 (ae0.cr2-bos1.ip4.gtt.net)
8 rtt=6 ms 4.68.37.109 (lag-18.bear2.Boston1.Level3.net)

* * * Request timed out.

* * * Request timed out.

10 rtt=18 ms 4.14.99.138 (CARQUADRIN.bear2.Washington111.Level3.net)

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.

20 rtt=132 ms 130.193.63.246 (Hostname not found)

* * * Request timed out.

* * * Request timed out.

* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
27 rtt=142 ms 178.154.243.30 (Hostname not found)

Total RTT: 409 ms

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 43.245.41.9
1 rtt=1 ms 131.229.147.254 (Hostname not found)
2 rtt=51 ms 131.229.11.142 (Hostname not found)
3 rtt=11 ms 131.229.10.104 (Hostname not found)
4 rtt=0 ms 134.241.249.33 (Hostname not found)
5 rtt=4 ms 69.16.1.33 (Hostname not found)
6 rtt=2 ms 65.175.24.205 (ae6-201.cr1-bos1.ip4.gtt.net)
7 rtt=7 ms 89.149.130.30 (ae0.cr2-bos1.ip4.gtt.net)
8 rtt=5 ms 76.74.50.107 (Hostname not found)
9 rtt=7 ms 43.245.41.9 (uom.squizedge.cloud)

Total RTT: 88 ms

C:\Users\LAWSON_1\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 4.224.55.79
1 rtt=3 ms 131.229.147.254 (Hostname not found)
2 rtt=20 ms 131.229.11.142 (Hostname not found)
3 rtt=25 ms 131.229.10.104 (Hostname not found)
4 rtt=5 ms 134.241.249.33 (Hostname not found)
5 rtt=6 ms 69.16.1.33 (Hostname not found)
6 rtt=6 ms 18.2.136.89 (umassnet-cps2-nox-mghpcc-gw1.nox.org)
7 rtt=8 ms 192.5.89.57 (Hostname not found)
8 rtt=2 ms 206.53.143.7 (massix.bos01-96e-1.ntwk.msn.net)
9 rtt=11 ms 104.44.231.118 (ae28-0.ear05.nyc30.ntwk.msn.net)
10 rtt=206 ms 104.44.33.215 (be-24-0.ibr02.nyc30.ntwk.msn.net)
11 rtt=213 ms 104.44.18.155 (be-7-0.ibr02.lon22.ntwk.msn.net)
12 rtt=205 ms 104.44.7.50 (be-12-0.ibr02.par30.ntwk.msn.net)
13 rtt=275 ms 104.44.7.214 (be-1-0.ibr02.par21.ntwk.msn.net)
14 rtt=208 ms 104.44.18.7 (be-6-0.ibr02.gva20.ntwk.msn.net)
15 rtt=207 ms 104.44.29.58 (be-7-0.ibr02.mrs21.ntwk.msn.net)
* * * Request timed out.

```

16 rtt=201 ms 104.44.31.15 (Hostname not found)
17 rtt=208 ms 104.44.31.134 (Hostname not found)
18 rtt=197 ms 104.44.18.34 (be-1-0.ibr02.pnq21.ntwk.msn.net)
* * * Request timed out.
* * * Request timed out.
19 rtt=201 ms 104.44.21.22 (ae124-0.rwa03.pnq21.ntwk.msn.net)
Traceback (most recent call last):
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPtraceroute.py", line 148, in
<module>
    get_route(target)
  File "C:\Users\LAWSON_\Documents\GitHub\csc-249-p4\ICMPtraceroute.py", line 78, in
get_route
    whatReady = select.select([mySocket], [], [], timeLeft)
                      ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
ValueError: timeout must be non-negative

```

Updated my code by implementing Maggie Hollis' fix for this negative time issue

```

C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 4.224.55.79
1 rtt=5 ms 131.229.147.254 (Hostname not found)
2 rtt=13 ms 131.229.11.142 (Hostname not found)
3 rtt=16 ms 131.229.10.104 (Hostname not found)
4 rtt=29 ms 134.241.249.33 (Hostname not found)
5 rtt=4 ms 69.16.1.33 (Hostname not found)
6 rtt=5 ms 18.2.136.89 (umassnet-cps2-nox-mghpcc-gw1.nox.org)
7 rtt=7 ms 192.5.89.57 (Hostname not found)
8 rtt=4 ms 206.53.143.7 (massix.bos01-96e-1.ntwk.msn.net)
9 rtt=21 ms 104.44.231.118 (ae28-0.ear05.nyc30.ntwk.msn.net)
10 rtt=208 ms 104.44.33.215 (be-24-0.ibr02.nyc30.ntwk.msn.net)
11 rtt=193 ms 104.44.18.155 (be-7-0.ibr02.lon22.ntwk.msn.net)
12 rtt=206 ms 104.44.7.50 (be-12-0.ibr02.par30.ntwk.msn.net)
13 rtt=210 ms 104.44.7.214 (be-1-0.ibr02.par21.ntwk.msn.net)
14 rtt=197 ms 104.44.18.7 (be-6-0.ibr02.gva20.ntwk.msn.net)
15 rtt=206 ms 104.44.29.58 (be-7-0.ibr02.mrs21.ntwk.msn.net)
16 rtt=197 ms 104.44.31.15 (Hostname not found)
17 rtt=194 ms 104.44.31.134 (Hostname not found)
18 rtt=206 ms 104.44.18.34 (be-1-0.ibr02.pnq21.ntwk.msn.net)
* * * Request timed out.
* * * Request timed out.
19 rtt=200 ms 104.44.21.22 (ae124-0.rwa03.pnq21.ntwk.msn.net)
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.

```

* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
* * * Request timed out.
24 rtt=209 ms 4.224.55.79 (Hostname not found)

Total RTT: 2328 ms

C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py
129.187.255.109
1 rtt=9 ms 131.229.147.254 (Hostname not found)
2 rtt=19 ms 131.229.11.142 (Hostname not found)
3 rtt=17 ms 131.229.10.104 (Hostname not found)
4 rtt=3 ms 134.241.249.33 (Hostname not found)
5 rtt=2 ms 69.16.1.33 (Hostname not found)
6 rtt=5 ms 18.2.8.89 (umassnet-re2-nox-mghpcc-gw1.nox.org)
7 rtt=5 ms 192.5.89.57 (Hostname not found)
8 rtt=10 ms 192.5.89.222 (i2-re-nox300gw1.nox.org)
9 rtt=10 ms 163.253.1.44 (fourhundredge-0-0-0-21.4079.core1.newy32aoa.net.internet2.edu)
10 rtt=81 ms 198.71.45.237 (Hostname not found)
11 rtt=91 ms 62.40.98.238 (ae7.mx1.gen.ch.geant.net)
12 rtt=110 ms 62.40.98.182 (ae5.rt1.fra.de.geant.net)
13 rtt=104 ms 62.40.124.218 (dfn-gw.rt1.fra.de.geant.net)
14 rtt=117 ms 188.1.145.230 (cr-gar1-be6.x-win.dfn.de)
15 rtt=107 ms 188.1.37.90 (kr-gar188-0.x-win.dfn.de)
16 rtt=112 ms 129.187.0.168 (vl-3001.cvr2-2wr.lrz.de)
17 rtt=115 ms 129.187.255.109 (wwwv21.tum.de)

Total RTT: 916 ms

C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>python ICMPtraceroute.py 131.229.65.117
1 rtt=10 ms 131.229.147.254 (Hostname not found)
2 rtt=31 ms 131.229.11.142 (Hostname not found)
3 rtt=4 ms 131.229.65.117 (bouncenode01.smith.edu)

Total RTT: 45 ms

C:\Users\LAWSON_\Documents\GitHub\csc-249-p4>