Project 3 – Traceroute

How to run:

(Using Mac, Python3):
On the command line, enter:
sudo python3 IcmpHelperLibrary.py
(You may be prompted for your computer's password).
You will need root access privileges to run this program.

(I have not tested on a windows OS, though I believe you will still need root privileges to do so)

At the bottom of the script, you'll find the "main" section. Uncomment out different lines to test different items.

Ping Tests:

(ping to en.parisinfo.com)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py

 [#] STARTING PING:

Tracing to (oxforddigital.co.uk) 217.160.0.121  with TTL of  1
  TTL=1     RTT=1 ms     Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py

 [#] STARTING PING:
Pinging (en.parisinfo.com) 89.185.35.152
  TTL=255    RTT=174 ms    Type=0    Code=0        Identifier=8837    Sequence Number=0    89.185.35.152
Pinging (en.parisinfo.com) 89.185.35.152
  TTL=255    RTT=171 ms    Type=0    Code=0        Identifier=8837    Sequence Number=1    89.185.35.152
Pinging (en.parisinfo.com) 89.185.35.152
  TTL=255    RTT=171 ms    Type=0    Code=0        Identifier=8837    Sequence Number=2    89.185.35.152
Pinging (en.parisinfo.com) 89.185.35.152
  TTL=255    RTT=172 ms    Type=0    Code=0        Identifier=8837    Sequence Number=3    89.185.35.152
 [*] PING RTT REPORT:
    Min RTT:  171
    Max RTT:  174
    Avg RTT:  171.68  *based on exact RTT times (not rounded)
 [*] Packet Calculations:
    Total Packets Sent:  4
    Packets Lost:  0 %
    Packet Success:  100 %
```

(ping to www.gov.za)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py

 [#] STARTING PING:
Pinging (www.gov.za) 164.151.129.20
   TTL=255    RTT=320 ms    Type=0    Code=0        Identifier=13712    Sequence Number=0    164.151.129.20
Pinging (www.gov.za) 164.151.129.20
   TTL=255    RTT=319 ms    Type=0    Code=0        Identifier=13712    Sequence Number=1    164.151.129.20
Pinging (www.gov.za) 164.151.129.20
   TTL=255    RTT=319 ms    Type=0    Code=0        Identifier=13712    Sequence Number=2    164.151.129.20
Pinging (www.gov.za) 164.151.129.20
   TTL=255    RTT=318 ms    Type=0    Code=0        Identifier=13712    Sequence Number=3    164.151.129.20
 [*] PING RTT REPORT:
     Min RTT:  318
     Max RTT:  320
     Avg RTT:  319.03  *based on exact RTT times (not rounded)
 [*] Packet Calculations:
     Total Packets Sent:  4
     Packets Lost:  0 %
     Packet Success:  100 %
```

(ping to www.patrickstumbaugh.com)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py

 [#] STARTING PING:
Pinging (patrickstumbaugh.com) 185.199.109.153
   TTL=255    RTT=11 ms    Type=0    Code=0        Identifier=10446    Sequence Number=0    185.199.109.153
Pinging (patrickstumbaugh.com) 185.199.109.153
   TTL=255    RTT=8 ms    Type=0    Code=0        Identifier=10446    Sequence Number=1    185.199.109.153
Pinging (patrickstumbaugh.com) 185.199.109.153
   TTL=255    RTT=8 ms    Type=0    Code=0        Identifier=10446    Sequence Number=2    185.199.109.153
Pinging (patrickstumbaugh.com) 185.199.109.153
   TTL=255    RTT=8 ms    Type=0    Code=0        Identifier=10446    Sequence Number=3    185.199.109.153
 [*] PING RTT REPORT:
     Min RTT:  8
     Max RTT:  11
     Avg RTT:  8.93  *based on exact RTT times (not rounded)
 [*] Packet Calculations:
     Total Packets Sent:  4
     Packets Lost:  0 %
     Packet Success:  100 %
```

(ping to www.koreaherald.com)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py

 [#] STARTING PING:
Pinging (www.koreaherald.com) 110.93.135.40
   TTL=255    RTT=255 ms    Type=0    Code=0        Identifier=10699    Sequence Number=0    110.93.135.40
Pinging (www.koreaherald.com) 110.93.135.40
   TTL=255    RTT=169 ms    Type=0    Code=0        Identifier=10699    Sequence Number=1    110.93.135.40
Pinging (www.koreaherald.com) 110.93.135.40
   TTL=255    RTT=168 ms    Type=0    Code=0        Identifier=10699    Sequence Number=2    110.93.135.40
Pinging (www.koreaherald.com) 110.93.135.40
   TTL=255    RTT=168 ms    Type=0    Code=0        Identifier=10699    Sequence Number=3    110.93.135.40
 [*] PING RTT REPORT:
     Min RTT:  168
     Max RTT:  255
     Avg RTT:  190.15  *based on exact RTT times (not rounded)
 [*] Packet Calculations:
     Total Packets Sent:  4
     Packets Lost:  0 %
     Packet Success:  100 %
```

Traceroute Tests:

(Traceroute to www.google.com)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py


 [#] STARTING TRACEROUTE:
Tracing to (www.google.com) 172.217.14.196  with TTL of  1
  TTL=1    RTT=1 ms     Type=11     Code=0     10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  2
  TTL=2    RTT=69 ms    Type=11     Code=0     10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  3
  TTL=3    RTT=1 ms     Type=11     Code=0     10.137.65.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  4
  TTL=4    RTT=5 ms     Type=11     Code=0     70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  5
  TTL=5    RTT=20 ms    Type=11     Code=0      209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  6
  TTL=6    RTT=9 ms     Type=11     Code=0      209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  7
  TTL=7    RTT=10 ms    Type=11     Code=0      209.85.173.42
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  8
  TTL=8    RTT=10 ms    Type=11     Code=0      74.125.243.193
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  9
  TTL=9    RTT=8 ms     Type=11     Code=0      209.85.254.237
ICMP CODE:  0 , TTL Expired
Tracing to (www.google.com) 172.217.14.196  with TTL of  10
  TTL=10   RTT=8 ms     Type=0      Code=0          Identifier=10980     Sequence Number=10    172.217.14.196
 [!] Destination reached!
```

(Traceroute to www.patrickstumbaugh.com)

```
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py


 [#] STARTING TRACEROUTE:
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  1
  TTL=1    RTT=2 ms     Type=11     Code=0     10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  2
  TTL=2    RTT=1 ms     Type=11     Code=0     10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  3
  TTL=3    RTT=0 ms     Type=11     Code=0     10.137.65.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  4
  TTL=4    RTT=3 ms     Type=11     Code=0     70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  5
  TTL=5    RTT=8 ms     Type=11     Code=0     209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  6
  TTL=6    RTT=8 ms     Type=11     Code=0     209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  7
  TTL=7    RTT=8 ms     Type=11     Code=0     64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  8
  TTL=8    RTT=7 ms     Type=11     Code=0     103.244.50.206
ICMP CODE:  0 , TTL Expired
Tracing to (www.patrickstumbaugh.com) 185.199.108.153  with TTL of  9
  TTL=9    RTT=9 ms     Type=0      Code=0          Identifier=11270     Sequence Number=9    185.199.108.153
 [!] Destination reached!
```

(Traceroute to www.gov.za) (3 pics for this traceroute)

```
 [#] STARTING TRACEROUTE:
Tracing to (www.australia.gov.au) 99.86.33.54  with TTL of  1
  TTL=1    RTT=1 ms    Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Patricks-MacBook-Pro:Python-Traceroute pstumbaugh$ sudo python3 IcmpHelperLibrary.py
Password:


 [#] STARTING TRACEROUTE:
Tracing to (www.gov.za) 164.151.129.20  with TTL of  1
  TTL=1    RTT=1 ms    Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  2
  TTL=2    RTT=1 ms    Type=11    Code=0    10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  3
  TTL=3    RTT=0 ms    Type=11    Code=0    10.137.65.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  4
  TTL=4    RTT=3 ms    Type=11    Code=0    70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  5
  TTL=5    RTT=9 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  6
  TTL=6    RTT=9 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  7
  TTL=7    RTT=9 ms    Type=11    Code=0    64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  8
  TTL=8    RTT=159 ms    Type=11    Code=0    64.125.29.104
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  9
  TTL=9    RTT=5413 ms    Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  10
  TTL=10    RTT=1 ms    Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  11
  TTL=11    RTT=0 ms    Type=11    Code=0    10.137.76.1
```

```
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  12
  TTL=12    RTT=0 ms    Type=11    Code=0    10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  13
  TTL=13    RTT=1 ms    Type=11    Code=0    10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  14
  TTL=14    RTT=0 ms    Type=11    Code=0    10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  15
  TTL=15    RTT=1 ms    Type=11    Code=0    10.137.65.1
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  16
  TTL=16    RTT=2 ms    Type=11    Code=0    70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  17
  TTL=17    RTT=35 ms    Type=11    Code=0    70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  18
  TTL=18    RTT=1 ms    Type=11    Code=0    70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  19
  TTL=19    RTT=8 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  20
  TTL=20    RTT=29 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  21
  TTL=21    RTT=7 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  22
  TTL=22    RTT=8 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  23
  TTL=23    RTT=9 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  24
  TTL=24    RTT=7 ms    Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  25
  TTL=25    RTT=7 ms    Type=11    Code=0    64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  26
  TTL=26    RTT=8 ms    Type=11    Code=0    64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  27
  TTL=27    RTT=7 ms    Type=11    Code=0    64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  28
  TTL=28    RTT=14 ms    Type=11    Code=0    64.125.29.84
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  29
  TTL=29    RTT=2 ms    Type=11    Code=0    64.125.28.195
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  30
  TTL=30    RTT=1 ms    Type=11    Code=0    64.125.29.212
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  31
  TTL=31    RTT=136 ms    Type=11    Code=0    64.125.29.104
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  32
  TTL=32    RTT=19 ms    Type=11    Code=0    5.11.8.144
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  33
  TTL=33    RTT=42 ms    Type=11    Code=0    217.15.112.21
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  34
  TTL=34    RTT=9 ms    Type=11    Code=0    5.11.10.159
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  35
  TTL=35    RTT=26 ms    Type=11    Code=0    41.175.242.65
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  36
  TTL=36    RTT=5 ms    Type=11    Code=0    77.246.59.85
ICMP CODE:  0 , TTL Expired
Tracing to (www.gov.za) 164.151.129.20  with TTL of  37
Packet Sequence number expected:  37 , BUT — Packet Sequence number received:  24
  TTL=37    RTT=318 ms    Type=0    Code=0       Identifier=12472    Sequence Number=24    164.151.129.20
  [!] Destination reached!
```

(Traceroute to www.travelportland.com)

```
 [#] STARTING TRACEROUTE:
Tracing to (travelportland.com) 104.26.9.35  with TTL of  1
  TTL=1    RTT=5 ms     Type=11    Code=0    10.137.76.1
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  2
  TTL=2    RTT=1 ms     Type=11    Code=0    10.137.64.170
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  3
  TTL=3    RTT=0 ms     Type=11    Code=0    10.137.65.1
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  4
  TTL=4    RTT=3 ms     Type=11    Code=0    70.99.7.210
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  5
  TTL=5    RTT=8 ms     Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  6
  TTL=6    RTT=8 ms     Type=11    Code=0    209.63.101.2
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  7
  TTL=7    RTT=8 ms     Type=11    Code=0    64.125.12.69
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  8
  TTL=8    RTT=9 ms     Type=11    Code=0    206.81.81.10
ICMP CODE:  0 , TTL Expired
Tracing to (travelportland.com) 104.26.9.35  with TTL of  9
  TTL=9    RTT=8 ms     Type=0    Code=0      Identifier=14292    Sequence Number=9    104.26.9.35
  [!] Destination reached!
```