

Author: Francis C. Dailig
Name: Project3 – Traceroute.py
Date: 17 May 2020

1. Instructions on how to run:

```
$ sudo su  
$ python3 Traceroute.py  
$ python3 Traceroute.py <size>
```

Screenshot without size argument:

```
sh-3.2# mv Traceroute3.py Traceroute.py  
sh-3.2# python3 Traceroute.py  
Argument List: ['./Traceroute.py']  
* 112.*74.43.74 (Request timed out.) 8.067 ms 4.469 ms 3.950 ms  
* rtt=29 ms 8.24 min_rtt=29 ms 8.24 max_rtt=29 ms avg_rtt=29 ms Loss Rate: 50.00  
* 112.*74.84.2.0 (Request timed out.) 11 ms Loss Rate: 66.67  
* rtt=1 ms 85.1 min_rtt=1 ms 85.1 max_rtt=29 ms avg_rtt=15 ms Loss Rate: 50.00  
* 112.*74.85.2 (Request timed out.) 28.7 ms Loss Rate: 60.00  
* 112.*74.88.1.8 (Request timed out.) 153 ms Loss Rate: 66.67  
* 112.*74.88.1.50 (Request timed out.) 149 ms Loss Rate: 71.43  
* 121.*89.2.109 (Request timed out.) 152.0 ms Loss Rate: 75.00 ms 169.538 ms  
* 54.2.*102.1.2 (Request timed out.) 51.0 ms Loss Rate: 77.78 ms  
5 rtt=44 ms 92.92 min_rtt=1 ms 92.92 max_rtt=44 ms avg_rtt=25 ms Loss Rate: 70.00  
* 54.2.*91.102.1.5 (Request timed out.) 41.5 ms Loss Rate: 72.73  
* 52.95.34.8 (52.95.34.8) Request timed out. 3 ms Loss Rate: 75.00  
* 54.2.*91.102.1.9 (Request timed out.) 63.9 ms Loss Rate: 76.92  
7 rtt=18 ms 177 min_rtt=1 ms 177 max_rtt=44 ms avg_rtt=23 ms Loss Rate: 71.43  
* 54.2.*91.42.117 (Request timed out.) 68.9 ms Loss Rate: 73.33  
8 rtt=23 ms 177 min_rtt=1 ms 177 max_rtt=44 ms avg_rtt=23 ms Loss Rate: 68.75  
* * * * Request timed out. Loss Rate: 70.59  
9 rtt=180 ms min_rtt=1 ms max_rtt=180 ms avg_rtt=49 ms Loss Rate: 66.67  
* * * * Request timed out. Loss Rate: 68.42  
10 rtt=138 ms min_rtt=1 ms max_rtt=180 ms avg_rtt=62 ms Loss Rate: 65.00  
* * * * Request timed out. Loss Rate: 66.67  
11 rtt=139 ms min_rtt=1 ms max_rtt=180 ms avg_rtt=72 ms Loss Rate: 63.64  
* * * * Request timed out. Loss Rate: 65.22  
12 rtt=152 ms min_rtt=1 ms max_rtt=180 ms avg_rtt=81 ms Loss Rate: 62.50  
* * * * Request timed out. Loss Rate: 64.00  
13 rtt=190 ms min_rtt=1 ms max_rtt=190 ms avg_rtt=92 ms Loss Rate: 61.54  
* * * * Request timed out. Loss Rate: 62.96  
* * * * Request timed out. Loss Rate: 64.29  
* * * * Request timed out. Loss Rate: 65.52  
* * * * Request timed out. Loss Rate: 66.67  
* * * * Request timed out. Loss Rate: 67.74  
* * * * Request timed out. Loss Rate: 68.75  
* * * * Request timed out. Loss Rate: 69.70  
* * * * Request timed out. Loss Rate: 70.59  
* * * * Request timed out. Loss Rate: 71.43  
* * * * Request timed out. Loss Rate: 72.22  
* * * * Request timed out. Loss Rate: 72.97  
* * * * Request timed out. Loss Rate: 73.68  
* * * * Request timed out. Loss Rate: 74.36  
* * * * Request timed out. Loss Rate: 75.00  
* * * * Request timed out. Loss Rate: 75.61  
* * * * Request timed out. Loss Rate: 76.19  
* * * * Request timed out. Loss Rate: 76.74  
* * * * Request timed out. Loss Rate: 77.27  
* * * * Request timed out. Loss Rate: 77.78  
* * * * Request timed out. Loss Rate: 78.26  
* * * * Request timed out. Loss Rate: 78.72  
* * * * Request timed out. Loss Rate: 79.17  
* * * * Request timed out. Loss Rate: 79.59  
* * * * Request timed out. Loss Rate: 80.00  
* * * * Request timed out. Loss Rate: 80.39  
* * * * Request timed out. Loss Rate: 80.77  
26 rtt=468 ms min_rtt=1 ms max_rtt=468 ms avg_rtt=126 ms Loss Rate: 79.25 10.1.0.1  
* * * * Request timed out. Loss Rate: 79.63  
27 rtt=14 ms min_rtt=1 ms max_rtt=468 ms avg_rtt=116 ms Loss Rate: 78.18 10.1.0.1  
* * * * Request timed out. Loss Rate: 78.57  
28 rtt=12 ms min_rtt=1 ms max_rtt=468 ms avg_rtt=108 ms Loss Rate: 77.19 10.1.0.1  
* * * * Request timed out. Loss Rate: 77.59  
29 rtt=2 ms min_rtt=1 ms max_rtt=468 ms avg_rtt=101 ms Loss Rate: 76.27 10.0.101.254
```

Screenshot without size argument:

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Screenshot with size argument:

```
sh-3.2# python3 Traceroute.py 128
Argument List: ['Traceroute.py', '128']
* Request timed out. CS 37 Loss Rate: 100.00 A Resources Statistics
1 rtt=2 ms min_rtt=2 ms max_rtt=2 ms avg_rtt=2 ms Loss Rate: 50.00 10.1.0.1
* L* E Q&A * Request timed out. ReadinLoss Rate: 66.67 project1 10 project2 25 project3 26 project4 weekly_exercise
2 rtt=8 ms min_rtt=2 ms max_rtt=8 ms avg_rtt=5 ms Loss Rate: 50.00 10.0.101.254
* * * Request timed out. Loss Rate: 60.00
* * * Request timed out. Loss Rate: 66.67
* * Request timed out. Loss Rate: 71.43
* * Request timed out. Loss Rate: 75.00 question @266
* through checksum, I can't use utf-8 or asci... Loss Rate: 77.78
* Request timed out. Loss Rate: 77.78
5 rtt=14 ms min_rtt=2 ms max_rtt=14 ms avg_rtt=8 ms Loss Rate: 70.00 112.188.53.5
* How* to run of * windRequest timed out. Loss Rate: 72.73
* I am* getting in loop Request timed out. runningLoss Rate: 75.00
* in admin powershellRequest timed out. if thisLoss Rate: 76.92
7 rtt=283 ms or the min_rtt=2 ms max_rtt=283 ms avg_rtt=77 ms Loss Rate: 71.43 112.174.48.254
* * * Request timed out. Loss Rate: 73.33
8 rtt=30 ms maximin_rtt=2 ms andmax_rtt=283 ms avg_rtt=68 ms Loss Rate: 68.75 112.174.85.234
* Is th* maximu*, avRequest timed out. RTT foLoss Rate: 70.59
9 rtt=173 ms ace or min_rtt=2 ms ose max_rtt=283 ms avg_rtt=85 ms Loss Rate: 66.67 112.174.88.250
* ping* for each *hop Request timed out. Loss Rate: 68.42
10 rtt=139 ms min_rtt=2 ms max_rtt=283 ms avg_rtt=93 ms Loss Rate: 65.00 121.189.2.109
* Project 3: ID *nd S* Request timed out. Loss Rate: 66.67
11 rtt=141 ms as to min_rtt=2 ms max_rtt=283 ms avg_rtt=99 ms Loss Rate: 63.64 54.239.102.56
* numbers are coming in Request timed out. Is it Loss Rate: 65.22
12 rtt=153 ms ave gen... min_rtt=2 ms max_rtt=283 ms avg_rtt=105 ms Loss Rate: 62.50 52.93.34.14
* * * Request timed out. Loss Rate: 64.00
13 rtt=197 ms min_rtt=2 ms max_rtt=283 ms avg_rtt=114 ms Loss Rate: 61.54 52.93.134.177
* Sorry, but Can't Q... Request timed out. Loss Rate: 62.96
* * * Request timed out. Loss Rate: 64.29
* YESTERDAY * Request timed out. Loss Rate: 65.52
* struct.error * Request timed out. Loss Rate: 66.67 edit thanks! 0
* My code runs *r about 10 seconds and then I get the following error: "socket.error: [Errno 2] No such file or directory". I turned off the firewall, changing the port number, and then I still get the same error. Request timed out. Loss Rate: 67.74
* * Request timed out. Loss Rate: 68.75
* * Request timed out. Loss Rate: 69.70
* * Request timed out. Loss Rate: 70.59
* * Request timed out. Loss Rate: 71.43
* Data for checksum... Request timed out. Loss Rate: 72.22
* Hi I am a little bit confused about the checksum. I have checked the checksum(header+data). Request timed out. Loss Rate: 72.97
* * Request timed out. Loss Rate: 73.68
* * Request timed out. Loss Rate: 74.36
* Adding a line to the... Request timed out. ... Loss Rate: 75.00 thanks! 1
* Hey, can we add some... Request timed out. Loss Rate: 75.61
* * Request timed out. Loss Rate: 76.19
* * Request timed out. Loss Rate: 76.74
* * Request timed out. Loss Rate: 77.27
* Will *e Get Penalized? Request timed out. .... Loss Rate: 77.78
* I got my code to work... ascii Loss Rate: 78.26 start a new followup discussion
* functions. Is this ok? Request timed out. Loss Rate: 78.72
* point for not using Request timed out. Loss Rate: 79.17 Compose a new followup discussion
* * Request timed out. Loss Rate: 79.59
* Hosts in different co... Request timed out. Loss Rate: 80.00
* * Request timed out. Loss Rate: 80.39
* * Request timed out. Loss Rate: 80.77
* program for hosts in Request timed out. I went... Loss Rate: 80.77
* to traceroute. *g, an... Request timed out. Loss Rate: 81.13
* * Request timed out. Loss Rate: 81.48
* How to fetch the ip... Request timed out!P... Loss Rate: 81.82
* * Request timed out. Loss Rate: 82.14
* How to fetch the ip... Request timed out. socket? Loss Rate: 82.46
* am having a difficult Request timed out. icmp Loss Rate: 82.46
* type from the * pac... Request timed out. Loss Rate: 82.76
sh-3.2#
```

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2. Screenshots of four different hosts (note, the above screenshots are for oregonstate.edu). The remaining three hosts are:

a. koreaherald.com

```
sh-3.2# python3 Traceroute.py
Argument List: ['Traceroute.py']
traceroute to host: koreaherald.com
 *      *      * Request timed out.    Loss Rate: 100.00
 *      *      * Request timed out.    Loss Rate: 100.00
1 rtt=173 ms   min_rtt=173 ms   max_rtt=173 ms   avg_rtt=173 ms   Loss Rate: 66.67      10.1.0.1
 *      *      * Request timed out.    Loss Rate: 75.00
2 rtt=39 ms    min_rtt=39 ms    max_rtt=173 ms   avg_rtt=106 ms   Loss Rate: 60.00      10.0.101.254
 *      *      * Request timed out.    Loss Rate: 66.67
 *      *      * Request timed out.    Loss Rate: 71.43
 *      *      * Request timed out.    Loss Rate: 75.00
 *      *      * Request timed out.    Loss Rate: 77.78
 *      *      * Request timed out.    Loss Rate: 80.00
 *      *      * Request timed out.    Loss Rate: 81.82
5 rtt=25 ms    min_rtt=25 ms    max_rtt=173 ms   avg_rtt=79 ms   Loss Rate: 75.00      Inb112.188.52.193 aslboard
 *      *      * Request timed out.    Loss Rate: 76.92
 *      *      * Request timed out.    Loss Rate: 78.57
 *      *      * Request timed out.    Loss Rate: 80.00
7 rtt=32 ms    min_rtt=25 ms    max_rtt=173 ms   avg_rtt=67 ms   Loss Rate: 75.00      112.174.10.210
 *      *      * Request timed out.    Loss Rate: 76.47
8 rtt=14 ms    min_rtt=14 ms    max_rtt=173 ms   avg_rtt=57 ms   Loss Rate: 72.22      211.44.125.69
 *      *      * Request timed out.    Loss Rate: 73.68
9 rtt=48 ms    min_rtt=14 ms    max_rtt=173 ms   avg_rtt=55 ms   Loss Rate: 70.00      58.229.10.45
 *      *      * Request timed out.    Loss Rate: 71.43
 *      *      * Request timed out.    Loss Rate: 72.73
 *      *      * Request timed out.    Loss Rate: 73.91
11 rtt=14 ms   min_rtt=14 ms   max_rtt=173 ms   avg_rtt=49 ms   Loss Rate: 70.83      1.255.36.65
 *      *      * Request timed out.    Loss Rate: 72.00
12 rtt=20 ms   min_rtt=14 ms   max_rtt=173 ms   avg_rtt=46 ms   Loss Rate: 69.23      218.236.114.202
 *      *      * Request timed out.    Loss Rate: 70.37
13 rtt=4 ms    min_rtt=4 ms    max_rtt=173 ms   avg_rtt=41 ms   Loss Rate: 67.86      114.31.61.14
 *      *      * Request timed out.    Loss Rate: 68.97
14 rtt=8 ms    min_rtt=4 ms    max_rtt=173 ms   avg_rtt=38 ms   Loss Rate: 66.67      114.31.61.190
 *      *      * Request timed out.    Loss Rate: 67.74
 *      *      * Request timed out.    Loss Rate: 68.75
 *      *      * Request timed out.    Loss Rate: 69.70
16 rtt=11 ms   min_rtt=4 ms   max_rtt=173 ms   avg_rtt=35 ms   Loss Rate: 67.65      110.93.135.40
sh-3.2#
```

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b. eng.koreabaseball.com

```
sh-3.2# python3 Traceroute.py
Argument List: ['Traceroute.py']
traceroute to host: eng.koreabaseball.com
* * * Request timed out. Loss Rate: 100.00
1 rtt=6 ms min_rtt=6 ms max_rtt=6 ms avg_rtt=6 ms Loss Rate: 50.00 10.1.0.1
* * * Request timed out. Loss Rate: 66.67
2 rtt=2 ms min_rtt=2 ms max_rtt=6 ms avg_rtt=4 ms Loss Rate: 50.00 10.0.101.254
* * * Request timed out. Loss Rate: 60.00 8.7K
* * * Request timed out. Loss Rate: 66.67
* * * Request timed out. Loss Rate: 71.43
* * * Request timed out. Loss Rate: 75.00 Like Comment Share
* * * Request timed out. Loss Rate: 77.78
5 rtt=11 ms min_rtt=2 ms max_rtt=11 ms avg_rtt=6 ms Loss Rate: 70.00 112.188.53.137
* * * Request timed out. Loss Rate: 72.73
* * * Request timed out. Loss Rate: 75.00 Chelsea Seger ▶ JTTOTS: The Re-Up
* * * Request timed out. Loss Rate: 76.92 7 hrs
7 rtt=9 ms min_rtt=2 ms max_rtt=11 ms avg_rtt=7 ms Loss Rate: 71.43 112.174.34.230
* * * Request timed out. Loss Rate: 73.33
8 rtt=4 ms min_rtt=2 ms max_rtt=11 ms avg_rtt=6 ms Loss Rate: 68.75 218.145.32.102
* * * Request timed out. Loss Rate: 70.59
* * * Request timed out. Loss Rate: 72.22
* * * Request timed out. Loss Rate: 73.68
* * * Request timed out. Loss Rate: 75.00
* * * Request timed out. Loss Rate: 76.19
* * * Request timed out. Loss Rate: 77.27
* * * Request timed out. Loss Rate: 78.26
* * * Request timed out. Loss Rate: 79.17
* * * Request timed out. Loss Rate: 80.00
* * * Request timed out. Loss Rate: 80.77
* * * Request timed out. Loss Rate: 81.48
* * * Request timed out. Loss Rate: 82.14
* * * Request timed out. Loss Rate: 82.76
* * * Request timed out. Loss Rate: 83.33
* * * Request timed out. Loss Rate: 83.87
* * * Request timed out. Loss Rate: 84.38
* * * Request timed out. Loss Rate: 84.85
* * * Request timed out. Loss Rate: 85.29
* * * Request timed out. Loss Rate: 85.71
* * * Request timed out. Loss Rate: 86.11
* * * Request timed out. Loss Rate: 86.49
* * * Request timed out. Loss Rate: 86.84
* * * Request timed out. Loss Rate: 87.18
* * * Request timed out. Loss Rate: 87.50 Paul Shutt
* * * Request timed out. Loss Rate: 87.80 at 1:25 AM
* * * Request timed out. Loss Rate: 88.10
* * * Request timed out. Loss Rate: 88.37 da Morrot
* * * Request timed out. Loss Rate: 88.64
* * * Request timed out. Loss Rate: 88.89
* * * Request timed out. Loss Rate: 89.13 5
* * * Request timed out. Loss Rate: 89.36
* * * Request timed out. Loss Rate: 89.58
* * * Request timed out. Loss Rate: 89.80 Like Comment
* * * Request timed out. Loss Rate: 90.00
* * * Request timed out. Loss Rate: 90.20
* * * Request timed out. Loss Rate: 90.38 more comments
* * * Request timed out. Loss Rate: 90.57
* * * Request timed out. Loss Rate: 90.74 Ryan Herlihy Dunk tank of love
* * * Request timed out. Loss Rate: 90.91
* * * Request timed out. Loss Rate: 91.07 Like · Reply · 4h
* * * Request timed out. Loss Rate: 91.23
* * * Request timed out. Loss Rate: 91.38
Danny Lum We did the vehicle rollover thing and a guy in my
squad had a pebble get lodged in his ear lol
```

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c. usna.edu

```
sh-3.2# python3 Traceroute.py
Argument List: ['Traceroute.py']
traceroute to host: usna.edu
 *      *      * Request timed out.    Loss Rate: 100.00
1  rtt=5 ms    min_rtt=5 ms    max_rtt=5 ms    avg_rtt=5 ms    Loss Rate: 50.00
 *      *      * Request timed out.    Loss Rate: 66.67
2  rtt=3 ms    min_rtt=3 ms    max_rtt=5 ms    avg_rtt=4 ms    Loss Rate: 50.00
 *      *      * Request timed out.    Loss Rate: 60.00
 *      *      * Request timed out.    Loss Rate: 66.67
 *      *      * Request timed out.    Loss Rate: 71.43
 *      *      * Request timed out.    Loss Rate: 75.00
 *      *      * Request timed out.    Loss Rate: 77.78
5  rtt=32 ms   min_rtt=3 ms    max_rtt=32 ms   avg_rtt=13 ms   Loss Rate: 70.00
 *      *      * Request timed out.    Loss Rate: 72.73
 *      *      * Request timed out.    Loss Rate: 75.00
 *      *      * Request timed out.    Loss Rate: 76.92
7  rtt=21 ms   min_rtt=3 ms    max_rtt=32 ms   avg_rtt=15 ms   Loss Rate: 71.43
 *      *      * Request timed out.    Loss Rate: 73.33
8  rtt=17 ms   min_rtt=3 ms    max_rtt=32 ms   avg_rtt=15 ms   Loss Rate: 68.75
 *      *      * Request timed out.    Loss Rate: 70.59
9  rtt=144 ms   min_rtt=3 ms    max_rtt=144 ms   avg_rtt=37 ms   Loss Rate: 66.67
 *      *      * Request timed out.    Loss Rate: 68.42
10 rtt=136 ms   min_rtt=3 ms    max_rtt=144 ms   avg_rtt=51 ms   Loss Rate: 65.00
 *      *      * Request timed out.    Loss Rate: 66.67
11 rtt=230 ms   min_rtt=3 ms    max_rtt=230 ms   avg_rtt=73 ms   Loss Rate: 63.64
 *      *      * Request timed out.    Loss Rate: 65.22
12 rtt=227 ms   min_rtt=3 ms    max_rtt=230 ms   avg_rtt=90 ms   Loss Rate: 62.50
 *      *      * Request timed out.    Loss Rate: 64.00
13 rtt=202 ms   min_rtt=3 ms    max_rtt=230 ms   avg_rtt=102 ms  Loss Rate: 61.54
 *      *      * Request timed out.    Loss Rate: 62.96
14 rtt=223 ms   min_rtt=3 ms    max_rtt=230 ms   avg_rtt=113 ms  Loss Rate: 60.71
 *      *      * Request timed out.    Loss Rate: 62.07
15 rtt=641 ms   min_rtt=3 ms    max_rtt=641 ms   avg_rtt=157 ms  Loss Rate: 60.00
 *      *      * Request timed out.    Loss Rate: 61.29
 *      *      * Request timed out.    Loss Rate: 62.50
16 rtt=196 ms   min_rtt=3 ms    max_rtt=641 ms   avg_rtt=160 ms  Loss Rate: 60.61
                                         136.160.255.58
```

3. I worked on both extra credit tasks.