

Assignment 3 Report

- A. Ping application with packets sent to local host. The packets were sent to 127.0.0.1 and it was seen that the RTT was shortest compared to any packets sent to any other server done in this experiment as it was the local host, averaging 0.055 ms.

```
Pinging 127.0.0.1 using Python:
36 bytes from 127.0.0.1; time=0.01 ms
36 bytes from 127.0.0.1; time=0.07 ms
36 bytes from 127.0.0.1; time=0.03 ms
36 bytes from 127.0.0.1; time=0.07 ms
36 bytes from 127.0.0.1; time=0.07 ms
36 bytes from 127.0.0.1; time=0.06 ms
36 bytes from 127.0.0.1; time=0.07 ms
^C--- 127.0.0.1 ping statistics ---
round-trip min/avg/max = 0.013/0.055/0.071 ms
```

- B. Ping application with packets sent to stonybrook.edu. This time, the RTT of pings sent to stonybrook.edu was comparably greater than the local host, averaging around 10.85 ms.

```
Pinging 172.30.32.25 using Python:
36 bytes from 172.30.32.25; time=6.21 ms
36 bytes from 172.30.32.25; time=12.62 ms
36 bytes from 172.30.32.25; time=11.41 ms
36 bytes from 172.30.32.25; time=5.11 ms
36 bytes from 172.30.32.25; time=17.61 ms
36 bytes from 172.30.32.25; time=12.13 ms
^C--- stonybrook.edu ping statistics ---
round-trip min/avg/max = 5.113/10.848/17.609 ms
```

C. Ping application with packets sent to servers of different continents.

- Asia: naver.com. It can be seen that the server in the Asian continent, specifically in South Korea, timed out. I also tested this with the built in ping command in bash and it also timeout.

```
(base) Michaels-MacBook-Pro:hw3 michaellee$ sudo python sample_pinger.py naver.com
Pinging 223.130.195.200 using Python:
Request timed out.
Request timed out.
Request timed out.
^C--- naver.com ping statistics ---
round-trip min/avg/max = 0/0/0 ms
```

- Australia: abc.net.au. Just like the Asian continent, Australia timed out.

```
(base) Michaels-MacBook-Pro:hw3 michaellee$ sudo python sample_pinger.py abc.net.au
Pinging 203.2.218.214 using Python:
Request timed out.
Request timed out.
Request timed out.
Request timed out.
^C--- abc.net.au ping statistics ---
round-trip min/avg/max = 0/0/0 ms
```

- North America: google.com. Google.com had an average RTT of 11.5 ms, a little longer than stonybrook.edu, which was expected as google.com server is further away in proximity than stonybrook.edu but not far away enough to time out.

```
(base) Michaels-MacBook-Pro:hw3 michaellee$ sudo python sample_pinger.py google.com
Pinging 142.250.73.206 using Python:
36 bytes from 142.250.73.206; time=11.85 ms
36 bytes from 142.250.73.206; time=11.82 ms
36 bytes from 142.250.73.206; time=11.45 ms
36 bytes from 142.250.73.206; time=11.30 ms
36 bytes from 142.250.73.206; time=11.19 ms
^C--- google.com ping statistics ---
round-trip min/avg/max = 11.192/11.523/11.846 ms
```

- Europe: google.co.uk. Google.co.uk had a longer RTT average than any of the rest as it is the only server not in North America that didn't time out. It had an average RTT of 12.28 ms

```
(base) Michaels-MacBook-Pro:hw3 michaellee$ sudo python sample_pinger.py www.google.co.uk
Pinging 142.251.163.94 using Python:
36 bytes from 142.251.163.94; time=11.37 ms
36 bytes from 142.251.163.94; time=14.86 ms
36 bytes from 142.251.163.94; time=13.14 ms
36 bytes from 142.251.163.94; time=10.95 ms
36 bytes from 142.251.163.94; time=11.13 ms
^C--- www.google.co.uk ping statistics ---
round-trip min/avg/max = 10.945/12.288/14.861 ms
```