

### Part3:

I used top 25 sites from <http://www.alex.com/topsites> and calculated average dns resolution time for each site by executing it around 10times. The below data is the average dns resolution time for each site using 3 types of DNS resolver:

```
# avg time using local dns resolver = [0.007800006866455078, 0.006299996376037597,
0.0062000036239624025, 0.007899999618530273, 0.007799983024597168, 0.007800006866455078,
0.0062000036239624025, 0.007800006866455078, 0.006399989128112793, 0.006299996376037597,
0.009400010108947754, 0.0062000036239624025, 0.006299996376037597, 0.0062000036239624025,
0.009399986267089844, 0.009400010108947754, 0.009299993515014648, 0.006299996376037597,
0.0062000036239624025, 0.006299996376037597, 0.0062000036239624025, 0.006299996376037597,
0.007700014114379883, 0.006199979782104492, 0.007900023460388183]
```

```
# avg time using local google dns resolver = [0.023399996757507324, 0.021899986267089843,
0.009299993515014648, 0.01100001335144043, 0.028099989891052245, 0.014000010490417481,
0.009399986267089844, 0.02130000591278076, 0.007800006866455078, 0.009400010108947754,
0.015599989891052246, 0.0928999900817871, 0.008100008964538575, 0.023000001907348633,
0.0125, 0.009399986267089844, 0.0125, 0.17650001049041747, 0.09700000286102295,
0.2550999879837036, 0.015700006484985353, 0.1370000123977661, 0.021899986267089843,
0.020300006866455077, 0.026600003242492676]
```

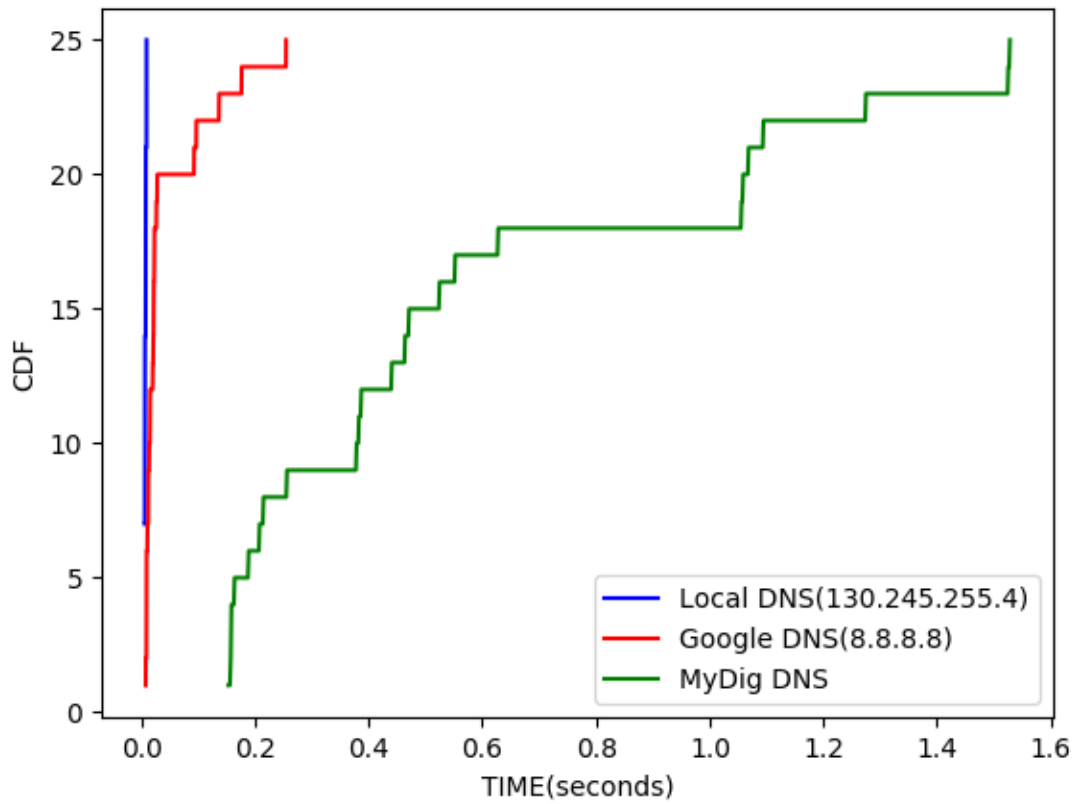
```
# avg time using local mydig dns resolver = [0.15900001525878907, 0.15869998931884766,
1.056700015068054, 0.3880999803543091, 0.2578000068664551, 0.16010000705718994,
1.069599986076355, 1.529700016975403, 0.525, 0.20939998626708983, 1.0592999935150147,
0.21660001277923585, 0.15329999923706056, 1.5260999917984008, 0.16520001888275146,
0.18909997940063478, 0.6291000127792359, 0.4647000074386597, 1.095299983024597,
0.37970001697540284, 0.38409998416900637, 1.2753000020980836, 0.442300009727478,
0.47179999351501467, 0.5530999898910522]
```

The above data is in seconds.

### Observation :

We observe that local dns resolver(present in stonybrook.edu) took the least amount of time because it maintained cache copy of dns resolved and it is present very near to us. Google dns resolver was better than mydig dns resolver.

I used the IP ('130.245.255.4') for local dns resolver. I found it through ipconfig /all command on windows.



The graph shows that mydig resolver takes lot of time resolving dns(0.2 – 1.6 seconds) as compared to local dns resolver or google dns resolver(less than 0.2 seconds).