

Output for Part C:

5 random websites from the site <https://www.similarweb.com/top-websites/> were selected instead from the link mentioned in the assignment which is: <http://www.alexa.com/topsites> which is currently not functional. Each website was resolved 10 times with the respective average resolution time computation.

The 5 websites used are:

['reddit.com', 'youtube.com', 'tiktok.com', 'instagram.com', 'google', 'netflix.com']

On running the command: `py MyDigPartC.py`, the output is as shown below:

Average resolving time for domain: reddit.com ----> 835.3 msec

Average resolving time for domain: youtube.com ----> 801.4 msec

Average resolving time for domain: tiktok.com ----> 871.5 msec

Average resolving time for domain: instagram.com ----> 848.3 msec

Average resolving time for domain: google.com ----> 823.7 msec

Average resolving time for domain: netflix.com ----> 794.1 msec

The above readings are obtained from the MyDig resolver

Experiments:

Here I've used my roommate's T-Mobile hotspot. The IP address of the local DNS server in this network: **192.168.31.99** was found using the command `ipconfig/all` via the Windows Command Prompt

Experiment 1: Average time using **MyDig resolver**: [0. , 794.1, 801.4, 823.7, 835.3, 848.3, 871.5]

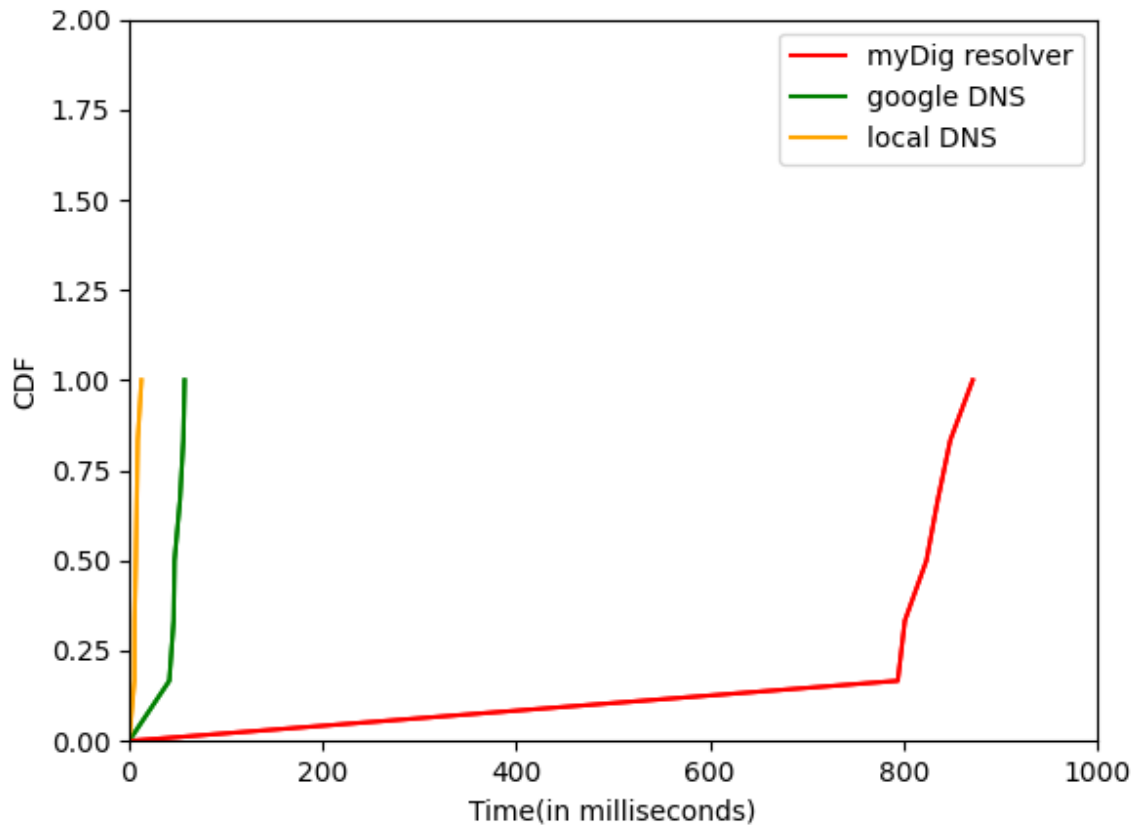
This is the resolver used in Part A of this assignment

Experiment 2: Average time using **Google DNS**: [0. , 41.5, 46. , 46.9, 52.5, 56. , 57.3]

The IP address of the Google DNS is **8.8.4.4**

Experiment 3: Average time using **Local DNS**: [0. , 5.4, 5.6, 6.9, 7.9, 8.9, 12.7]

Below is a graph illustrating the performance analysis of the 3 resolvers used in Part C:



From the graph it's evident that the Local DNS(IP Address: **192.168.31.99**) performed the fastest due to its close proximity to us and also due to the fact that it maintained in its cache the copy of the resolved domain names, followed by the Google DNS which performed slightly less fast.

The MyDig resolver performed was the slowest compared to the other two resolvers.