**Part C Explanation**

I have used top 5 websites from the list available in https://ahrefs.com/blog/most-visited-websites/ for conducting the experiment in Part C.

The five websites are as follows - **youtube.com, en.wikipedia.org, twitter.com, instagram.com, amazon.com.**

In total 3 experiments were conducted which are as follows –

1) Used self-implemented **Mydig tool** to resolve the DNS of the five websites as mentioned above. Conducted this experiment 10 times for each of the 5 websites and at last noted the average of the time taken by each website in milliseconds.
2) Use **Google DNS (8.8.8.8)** to resolve the DNS of the five websites as mentioned above. Conducted this experiment 10 times for each of the 5 websites and at last noted the average of the time taken by each website in milliseconds.
3) Use **Local DNS (10.1.16.16)** to resolve the DNS of the five websites as mentioned above. Conducted this experiment 10 times for each of the 5 websites and at last noted the average of the time taken by each website in milliseconds. Conducted the experiment for Local DNS by using Stony Brook DNS server.

**Experiment 1 Output Data**

**Average DNS Resolution Time for MyDig**

youtube.com - 70.59797 msec

en.wikipedia.org - 180.57091000000003 msec

twitter.com - 151.69006 msec

instagram.com - 57.20698000000001 msec

amazon.com - 125.75195 msec

**Experiment 2 Output Data**

**Average DNS Resolution Time for Google DNS**

youtube.com - 8.32747 msec

en.wikipedia.org - 9.455850000000002 msec

twitter.com - 8.695959999999998 msec

instagram.com - 8.72904 msec

amazon.com - 10.760790000000002 msec

**Experiment 3 Output Data for Local DNS**

**Average DNS Resolution Time**

youtube.com - 10.230070000000001 msec

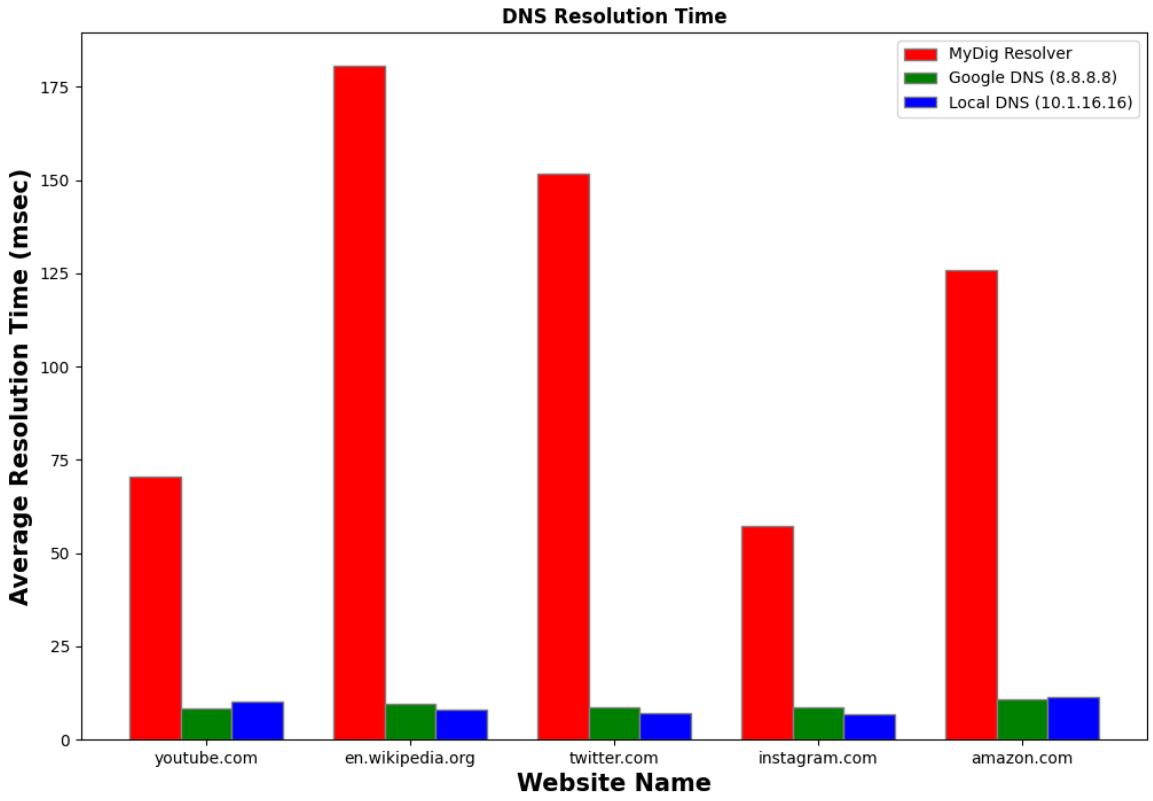
en.wikipedia.org - 7.86442 msec

twitter.com - 7.12983 msec

instagram.com - 6.742610000000001 msec

amazon.com - 11.3602 msec

**Graph Output**




**Observation**

A graph was plotted for **Average Resolution Time (in msec) vs Website Name** for each of the 5 websites mentioned beforehand.

It can be observed from the graph that the Mydig tool takes the most amount of time compared to the Google DNS and the Local DNS. One major factor owing to this output was the absence of caching

in the Mydig implementation. Both Google DNS & Local DNS implement caching at all levels thereby drastically reducing the computation time for each DNS resolution.

Although Google DNS and Local DNS have almost similar resolution times, the Local DNS performs slightly better for majority of the websites. This may be due to the fact that the Local DNS server is located closer to my location than the Google DNS server.