PART C – EXPLANATION
CSE 534 – ASSIGNMENT 1

We select **5 websites** from the top 25 websites list mentioned in https://www.alexa.com/topsites.
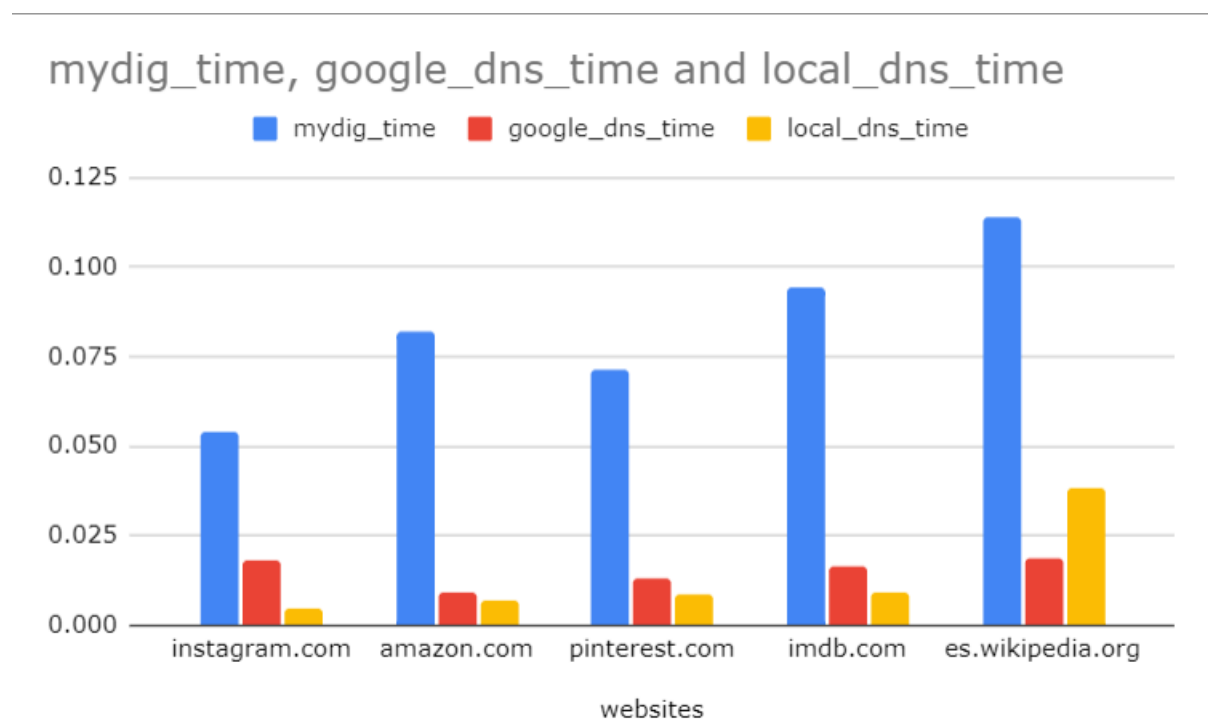The website domains used are:
['instagram.com','amazon.com','pinterest.com','imdb.com',"es.wikipedia.org"]

For these websites we perform the following things:

- We ran our custom dns resolver on these websites 10 times and calculated the average time.
- We then ran these websites 10 times using the local dns resolver(130.245.255.4) and calculated the average time over these 10 runs.
- Finally, we also calculate the average time over 10 runs using the google dns resolver(8.8.8.8)

The following graph that we plot compares the average time of all three resolvers for the 5 websites taken into consideration.

- Inferences:

From the graph, we can see that our custom DNS Resolver performs reasonably well against the Local and Google DNS resolver with a maximum difference of about 90 msec. We can also observe that the local DNS server outperforms the Google DNS Resolver and the custom DNS resolver because of their caching implementation of important websites as well their close proximity to the host. The outlier of es.wikipedia.org with respect to the performance of the local dns performance could be because it may not be cached by the resolver. Hence, we can hope to improve the performance of our custom DNS resolver by implementing caching.