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CSE310, HW 1

1. Part A

Instruction for "mydig.py"

Click the file named "mudig.py", if it works, enter the website name that you want to get an IP address and response time. The text file will be created with the name "mydig_output.txt" when it successfully worked. it supports A record type only.

```
C:\Users\김강민\AppData\Local\Programs\Python\Python3
Please enter website : www.cnn.com
QUESTION SECTION:
www.cnn.com IN A

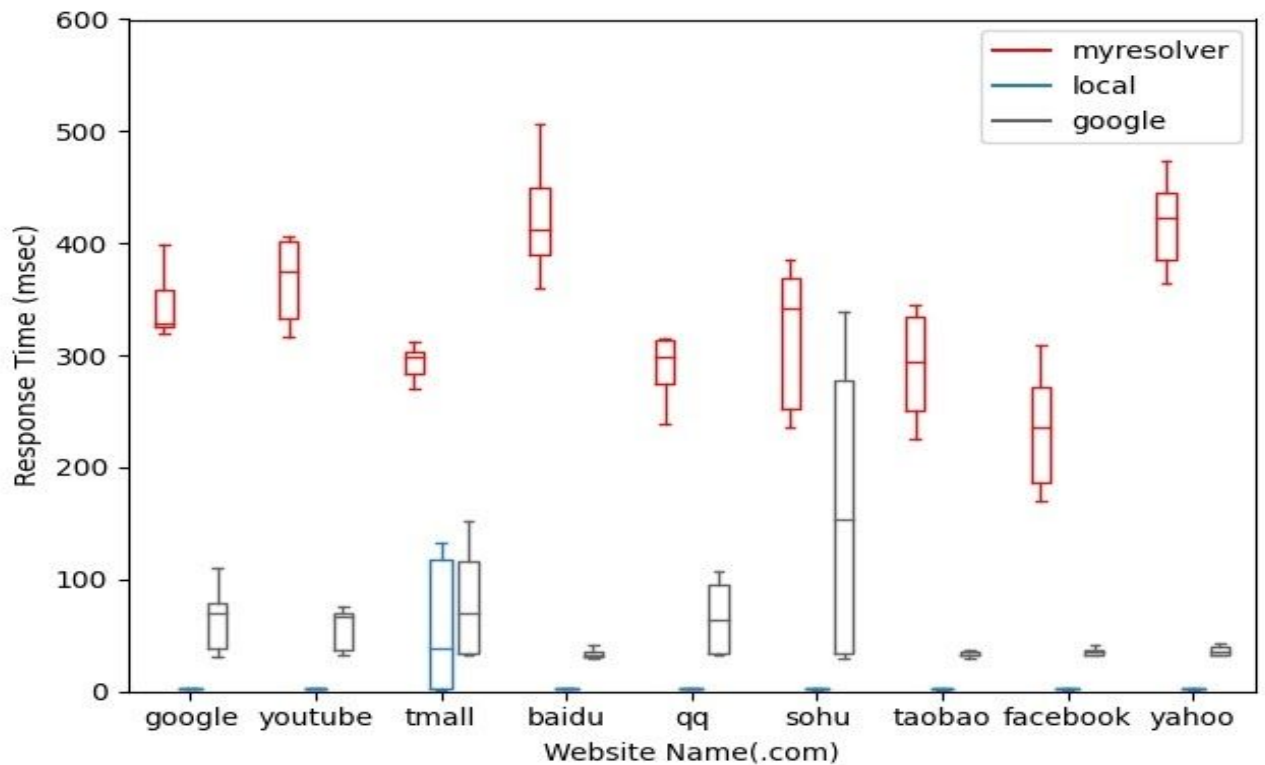
ANSWER SECTION:
www.cnn.com 330 IN A 151.101.89.67

Query Time: 434.432 msec
WHEN: 2021-03-04 09:45:53.674801

Process finished with exit code 0
```

2. Part B

Observation from the Graph



My dig tool takes an overwhelming amount of time compared to local DNS resolver and Google resolver. Perhaps it can be estimated that the local DNS resolver and Google resolver could be caching the values and have a faster response rate. Most of the response times I implemented resolver is over 300ms, while the local DNS resolver is below 10ms on average, and the Google resolver is also below 100ms. In the beginning, I used TCP instead of UDP, but TCP was a protocol for checking errors(focus on connection), so the result showed a slower response speed than UDP. So for a faster response, I used UDP, which is connectionless than TCP, to speed up the response.