**PROCEDURE:**

To find the ip address of a desired domain ,first request is sent to the root server and in return get the ip of the TLD .TLD returns the name of authoritative name server,from which finally gets the IP of the desired domain.The whole process is doing repeatedly .

The process we are following is described below:

First this take the domain name as input from the user and predetermined root level server(for initiating the communication).Then a request message is built here following the specified format and sent. Then the server responses, following the same format .

There are 4 types of response we are working with

* **Type A:** That means, our desired ip address is inside this response.
* **CNAME**:This type of response serves us canonical name of that server.So, to get the IP, we followed the same process for all the CNAME, as we did it for the main domain.
* **NS**:If response is NS type,then we start the process again by sending request to the IP address of NS .
* **SOA:** If the type is SOA,we were said to declare it as “Erroneous Message”

**Limitation:**

For some host (for example: mit.edu), our code can't find the IP. We can't fix it and can’t find the reason behind it .

At first, to understand the mechanism of the whole process we studied the recommended chapter from our text book.For better understanding of how and in which format the query is sent and received we took help from the following website:

<https://routley.io/tech/2017/12/28/hand-writing-dns-messages.html>

Also we use wireshark to get the idea of extracting the response message from the server and store the desired information.

And also, we discussed with other group members also to get better clarification.