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1PM

DNS Hands-on Assignment

1. The IP address of thyme.lcs.mit.edu is 18.26.0.1222
2. The terminology of chapter 4 for CNAME is synonym. They use this in the example of minehaha.cs.pedantic.edu and Mississippi.cse.pedantic.edu where these two are synonyms binded to the name www.cse.pedantic.edu.
3. 1800 secs was the expiration time for the thyme CNAME.
4. "ai" had the IP address of 128.52.32.80. "ai." Had the IP address of 209.59.119.34
5. These two lookups had different results because the question section for which domain name to look up were different. For both we set the search list to have the single domain name of mit.edu. For the first one "ai", we look up the domain name of "ai.mit.edu". For the second one "ai.", we already have a trailing period thus, the question section lists the domain name that we look up to be: "ai.", instead of having the domain name of mit.edu at the end.
6. We use "dig . ns" to find all the root servers. I chose to use the first one which was "a.root-servers.net". Then we use the dig command "dig @a.root-servers.net lirone.csail.mit.edu +norecurs".
7. We use a series of dig commands with specific server look ups. I used the first servers that the dig commands gave. These were the commands I used:
   dig @l.edu-servers.net. lirone.csail.mit.edu +norecurs
   dig @usw2.akam.net. lirone.csail.mit.edu +norecurs
   dig @auth-ns0.csail.mit.edu lirone.csail.mit.edu +norecurs

   With these commands we got that the IP address was 128.56.129.186.
8. a. I used "dig www.dmoz.org +norecurs"
   b. No. This is because even though the cache had the CNAME is the cache, the cache did not contain the IP address.
   c. It took 28 milliseconds
9. This query took about 27 milliseconds
10. This action took about 28 milliseconds again, but the cache has served its purpose. We can tell because the IP address is now given in the answer section instead of just having only the CNAME value.