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We used python3 for our project.

2. No Colloboration was made outside of the group. We used the slides and piazza to answer our questions. We also consulted the python docs on how to use the select() function: https://docs.python.org/3/library/select.html.

3. LS was implemented using the select method to determine when one ts server responds. LS first creates two sockets connecting to TS1 and TS2, and then calls select() with these two sockets in the readList parameter. This blocks the program until one is ready to be recv()'d from or returns all empty lists if the timeout (which is set to 5 seconds) is reached. If the read list returned from select is empty, LS sends a TIMEOUT to the client. Otherwise we call recv() on the first socket in the read list (the one which responded to our ls) and send the data back to the client.

4. Our project works as intended.

5. Our biggest trouble in this project was figuring out how exactly to use the select() function to block until we receive a response from TS1 or TS2. This issue was resolved through consultation with the python documentation and lots of debugging.

6. This project gave us a better understanding of how DNS's work on a micro-level. This project coupled with recitation and lecture slides has given us a solid foundation in this aspect of the internet.
This project was also great practice for using sockets and working with multiple sockets simultaneously. More practice creating, connecting, and sending data in between sockets made us much more comfortable in this aspect of network programming. Learning how to use the select() function was also a very useful exercise in understanding blocking/non-blocking IO. This part of the project was a practical lesson that we hope to use moving forward not only in this class, but in our careers after graduation.
We observed that this project required us to use our LS as a Server to our client, and as a client to our TS1 and TS2. We found this to be an interesting and challenging task.