**CS212 Project**

**DHCP Server**  
**Instructions**

Project is performed on windows:

1. Open multiple powershell windows
2. On first powershell window, run command python broadcast\_server.py
3. Then after that, in subsequent windows, run command python dhcp\_server1.py, python dhcp\_server2.py, python dhcp\_server3.py. In my code I have added only 3 files but more files can be added by copying the file code of dhcp server in a new file and changing the server\_id.
4. Now after running all this, run command python dhcp\_client.py. It will connect the client to broadcast.
5. Now for client to obtain address, type 1 in client file, which will send discover to broadcast which will send it to servers. Servers will send their offers through broadcast and the offers received by client will be shown in its window. Then, it will randomly select a address and send request to server of that address and send not-needed to rest of servers whose address are not selected through broadcast. The server who got request packet will send ack packet through broadcast to client and client will be assigned a IP address for specific amount of time.
6. After lease time ends or 2 is inputted once address is obtained, a release packet will be sent at address’s server via a broadcast and then a closeack packet will be send via broadcast from server to client and client will lose its address.
7. If client has a address and 1 is entered, it will show invalid. If client doesn’t have a address and 2 is inputted, it will show invalid.
8. If client has a address, to refresh it so that it doesn’t shut down automatically, enter 3 which will refresh the lease time.
9. In servers, you can input 1 to check the available addresses, 2 to check non-available addresses and 3 to disconnect server from broadcast network.
10. If an address is lost when it offers to client, after a specific time server on no response will realize that it is lost and add it back to its available addresses.
11. Input 0 in client to disconnect it from broadcast and close its connection.