**Report on DNS query server design using UDP**

In this project, I use Python to implement the DNS query server under UDP.

The detail of the comment is in the code files, the UDP construction is based on the socket package and . I would like to introduce my design in the following paragraph

1. I initialize the server in a class object such that we can store some information inside the object, for example the cache loaded from the master file.
2. I choose the dictionary to store the information as cache, as dictionary is easy for the server to look up the information response to the client query. During the query process, we need to lookup the domain and query type, then response with values, where the values could be multiple. Therefore, the design of the data structure to store the information is a dictionary of dictionary where the nested value is an array.
3. Then I go to the Client side, to make sure the consistency of the code style, I also initialize the client in a class object. I use

Limitation:

1. Reboot time for the server is not set
2. The information stored inside the cache of the server must be manually updated
3. Size of the message is still limited.
4. A single client must wait until the last query from itself was finalised.