Hands-on-3 : Domain Name Service

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Question1
DNS is actually a general-purpose name management and name resolution system that hierarchically distributes the management of names among different naming authorities and also hierarchically distributes the job of resolving names to different name servers. Its design allows it to respond rapidly to requests for name resolution and
to scale up to extremely large numbers of stored records and numbers of requests.

Question2
A (the IP address),
CNAME(Canonical name record),
TXT (text annotations),
MX (mail exchanges), and
NS (nameservers).

Question3
通过dig -x查找该ip对应的DNS服务器

$ dig -x 8.8.8.8 +short
google-public-dns-a.google.com.
8.8.8.8是google的一个公共DNS服务器

Question4
$ dig . NS
ANSWER SECTION:
. 518400 IN NS e.root-servers.net.
$ dig @a.root-servers.net. edu. NS
AUTHORITY SECTION:
edu. 172800 IN NS l.edu-servers.net.
$ dig @c.edu-servers.net. mit.edu. NS
AUTHORITY SECTION:
mit.edu. 172800 IN NS usw2.akam.net.
$ dig @usw2.akam.net. lirone.mit.edu.
->>HEADER<<- status: NXDOMAIN,
&&
AUTHORITY SECTION:
mit.edu. 1800 IN SOA

Therefore, www.lire.mit.edu doesn't exist!!

Question5
No servers could be reached in time.

Question6
Some possibilities are that the location of the server is too far, or request to that specific server is too many then the server refuse to accept the connection.