Assignment Questions:
A_cach → This means the query is allowed
D_cach → This means the query is not allowed

The set up to allow and denied certain ip address is configured in the /etc/bind/named.conf.options with the following lines:

```
allow-query { ip-address range; }; 
allow-recursion { ip-address range; }; 
query-log yes;
```

SMTP (Simple Mail Transfer Protocol)

Life cycle of email diagram: Alice wants to send an email to Bob

→ Alice opens her MUA (Mail User Agent) such as outlook, gmail, etc... to type her email to Bob.
→ 4 pieces of information are necessary to send an email:
  - TO: bob@builder.com
  - FROM: alice@wonderland.com
  - SUBJECT: Where is the rabbit
  - BODY: [...]

→ Alice press the SEND button; the message then goes to Alice's MTA (Mail Transport Agent).
  - This server makes sure the message ends up at Bob's address.
  - MTA keeps a spool (queue) of the emails it receives.
  - MTA asks DNS from the translation builder.com and gets an ip address.
  - MTA processes the spool and starts sending emails over the cloud

→ Bob's MTA receives the email
  - Bob's MTA is set up to receive emails addressed to builder.com
  - The MTA can still reject the email if the ip translated by Alice's MTA does not point to a mail server or if Bob (the user) does not exist.

→ Bob's MTA sends email to Bob's MDA (Mail Delivery Agent)
  - if both previous condition checked out.
  - Bob's MDA then stores the emails it receives on a hard drive, either as a text file or in a database.

→ Bob's IMAP or POP server then reads emails from the hard drive and places them into Bob's MUA inbox. This server also remove emails from the hard drive when instructed by the MUA.

→ Bob finally receives Alice's email.

→ MTA servers also send messages if the email is undeliverable. Ex: Alice's MTA will send her an email if bob's address is incorrect, bob's server is down, or the server can't be reached for whatever reason.
Also Bob's MTA server will send Alice's MTA server a message if bob is not a user or if Bob can't be found. This message will then be sent to Alice's MDA, IMAP or POP server, and in turn will be delivered to her MUA.