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**Exercise 3:**

**Question 1:**

* The IP address of [www.eecs.berkeley.edu](http://www.eecs.berkeley.edu) is 23.185.0.1
* A screenshot of a cell phone

  Description automatically generatedThe type of DNS query is sent to get this answer is A

**Question 2:**

* From the result as above:

We can say the canonical name for the eecs.berkeley web server can be either live-eecs.pantheonsite.io or fe1.edge.pantheon.io

* The reason for having an alias for this server it is easier for clients remember, also it is useful for the clients want to use other services (eg mail.google.com, map.google.com,…)

**Question 3:**

* In the Authority section, it shows the authoritative name servers for the domain.
* A close up of text on a white surface

  Description automatically generatedIn the Additional sections, it shows the corresponding IP addresses for the authoritative name servers. (including IPv4 and IPv6).

**Question 4:**

* A picture containing knife

  Description automatically generatedThe IP address of the local nameserver for my machine is 129.94.242.2

**Question 5:**

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  Description automatically generatedThe DNS nameservers for the domain and their corresponding IP addresses are:

The nameservers in the authority section and their IP address in the additional section.

* The type of DNS query is NS

**Question 6:**

* The DNS name associated with the IP address 111.68.101.54 is webserver.seecs.nust.edu.pk
* The type of DNS is PTR.

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**Question 7:** dig @129.94.242.33 yahoo.com MX

* I did not get authoritative answer. Because the flags are: qr rd ra;
  + As we can see the flag “ra” is not represent authoritative answer.
* Because the authoritative answer only comes from a nameserver that is considered authoritative for the domain which it’s returning a record.

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**Question 8:**

* Command: dig @adns2.berkeley.edu yahoo.com MX

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* We did not get response. The reason might be the DNS queries that are sent from devices that are not part of the Berkeley network.

**Question 9:**

* Command: dig @ns1.yahoo.com yahoo.com MX
* The type of DNS query is sent to obtain this information is MX

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**Question 10:**

* Get root nameserver by using command: dig . NS

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* We need to get namesever for the hostname by sending DNS query to root nameserver (say k.root-servers.net) by using command: dig @k.root-servers.net vx2.cse.unsw.edu.au

A screenshot of a cell phone

Description automatically generated

* Find the nameserver for the “edu.au.” domain using command: dig @a.au vx2.cse.unsw.edu.au NS

A screenshot of a cell phone

Description automatically generated

* A screenshot of a cell phone

  Description automatically generatedFind the nameserver for domain “unsw.edu.au” using command: dig @s.au vx2.cse.unsw.edu.au NS
* Find the nameserver for domain “cse.unsw.edu.au” using command:

dig @ns3.unsw.edu.au vx2.cse.edu.au NX

* A screenshot of a cell phone

  Description automatically generatedFind the IP address of the host using command:

dig @beethoven.orchestra.cse.unsw.edu.au vx2.cse.unsw.edu A

A screenshot of text

Description automatically generated

The IP address is 129.94.242.115