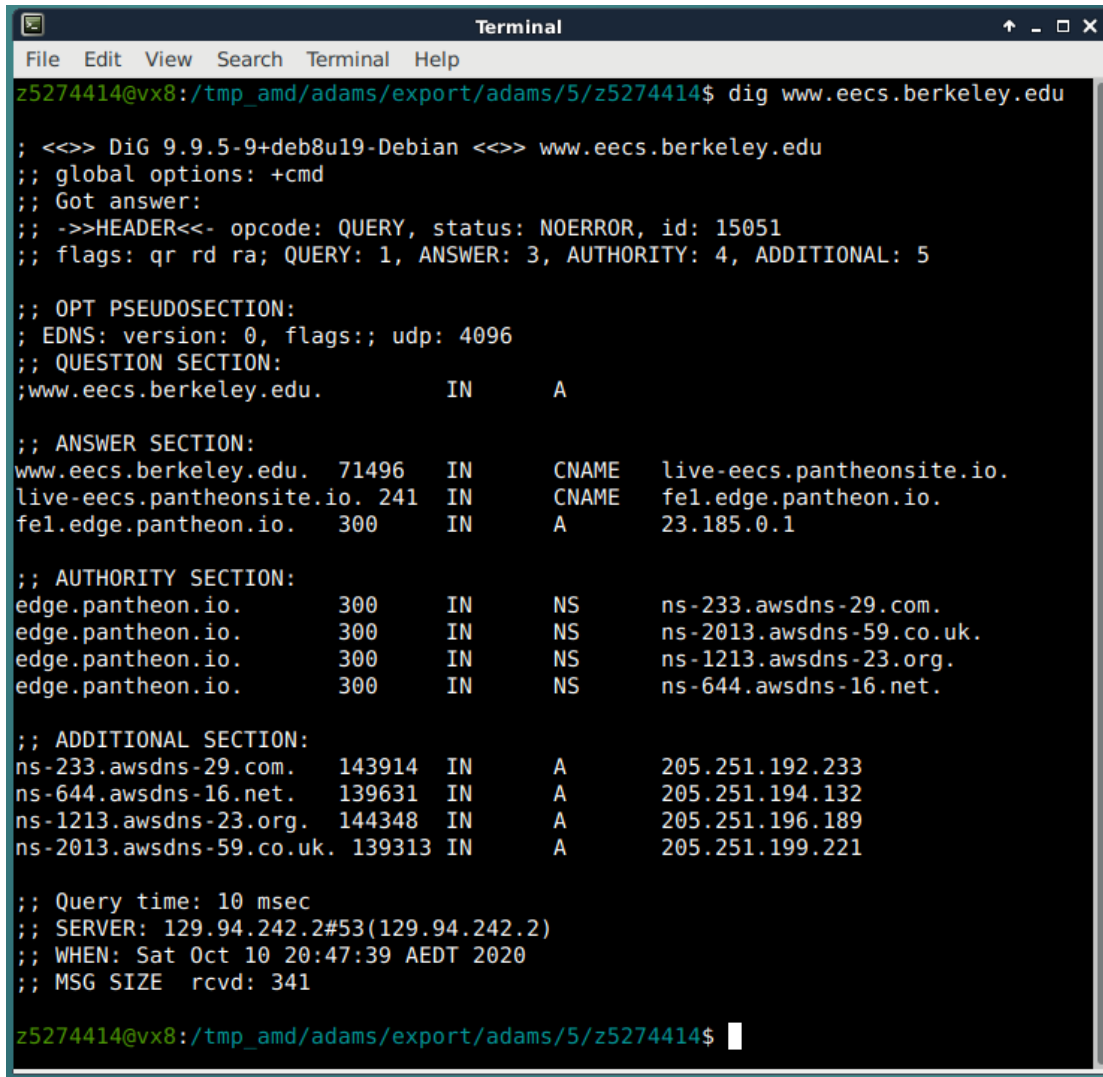


# COMP9331 Lab 3

## Yuxuan Huang z5274414

### Exercise 3:



```
Terminal
File Edit View Search Terminal Help
z5274414@vx8:/tmp_amd/adams/export/adams/5/z5274414$ dig www.eecs.berkeley.edu

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> www.eecs.berkeley.edu
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15051
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 4, ADDITIONAL: 5

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;www.eecs.berkeley.edu.      IN      A

;; ANSWER SECTION:
www.eecs.berkeley.edu.  71496  IN      CNAME   live-eecs.pantheonsite.io.
live-eecs.pantheonsite.io. 241    IN      CNAME   fel.edge.pantheon.io.
fel.edge.pantheon.io.    300    IN      A       23.185.0.1

;; AUTHORITY SECTION:
edge.pantheon.io.       300    IN      NS       ns-233.awsdns-29.com.
edge.pantheon.io.       300    IN      NS       ns-2013.awsdns-59.co.uk.
edge.pantheon.io.       300    IN      NS       ns-1213.awsdns-23.org.
edge.pantheon.io.       300    IN      NS       ns-644.awsdns-16.net.

;; ADDITIONAL SECTION:
ns-233.awsdns-29.com.  143914 IN      A       205.251.192.233
ns-644.awsdns-16.net.  139631 IN      A       205.251.194.132
ns-1213.awsdns-23.org. 144348 IN      A       205.251.196.189
ns-2013.awsdns-59.co.uk. 139313 IN      A       205.251.199.221

;; Query time: 10 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Sat Oct 10 20:47:39 AEDT 2020
;; MSG SIZE rcvd: 341

z5274414@vx8:/tmp_amd/adams/export/adams/5/z5274414$
```

#### Question 1:

The IP address of [www.eecs.berkeley.edu](http://www.eecs.berkeley.edu) is 23.185.0.1. To get this answer, we need a type A query.

#### Question 2:

The canonical name for the eecs.berkeley web server is live-eecs.pantheonsite.io. The canonical name is hard for people to remember,

so having an alias is easier for people to remember the website.

Question 3:

The authority section records the NS resource, so there're four authoritative name servers: ns-233.awsdns-29.com, ns-2013.awsdns-59.com.uk, ns-1213.awsdn-23.org, ns-644.awsdns-16.net.

The additional section records the four IP address for these authoritative name servers. The A records are for IPv4 addresses.

Question 4:

The IP address of the local nameserver for my machine is 129.94.242.2#53.

Question 5:

```
z5274414@vx8:/tmp_amd/adams/export/adams/5/z5274414$ dig eecs.berkeley.edu NS

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> eecs.berkeley.edu NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 59524
;; flags: qr rd ra; QUERY: 1, ANSWER: 5, AUTHORITY: 0, ADDITIONAL: 9

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;eecs.berkeley.edu.      IN      NS

;; ANSWER SECTION:
eecs.berkeley.edu.      3235    IN      NS      ns.eecs.berkeley.edu.
eecs.berkeley.edu.      3235    IN      NS      ns.CS.berkeley.edu.
eecs.berkeley.edu.      3235    IN      NS      adns1.berkeley.edu.
eecs.berkeley.edu.      3235    IN      NS      adns2.berkeley.edu.
eecs.berkeley.edu.      3235    IN      NS      adns3.berkeley.edu.

;; ADDITIONAL SECTION:
ns.CS.berkeley.edu.     51148   IN      A        169.229.60.61
ns.eecs.berkeley.edu.   50531   IN      A        169.229.60.153
adns1.berkeley.edu.     388     IN      A        128.32.136.3
adns1.berkeley.edu.     388     IN      AAAA     2607:f140:ffff:fffe::3
adns2.berkeley.edu.     9378    IN      A        128.32.136.14
adns2.berkeley.edu.     9378    IN      AAAA     2607:f140:ffff:fffe::e
adns3.berkeley.edu.     388     IN      A        192.107.102.142
adns3.berkeley.edu.     9378    IN      AAAA     2607:f140:a000:d::abc

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Sat Oct 10 21:37:42 AEDT 2020
;; MSG SIZE rcvd: 307

z5274414@vx8:/tmp_amd/adams/export/adams/5/z5274414$
```

The DNS nameservers for the “eecs.berkeley.edu.” domain are ns.eecs.berkeley.edu, ns.CS.berkeley.edu, adns1.berkeley.edu, adns2.berkeley.edu and adns3.berkeley.edu and their IP addresses are 169.229.60.61, 169.229.60.153, 128.32.136.3, 2607:f140:ffff:ffe::3 128.32.136.14, 2607:f140:ffff:ffe::e, 192.107.102.142, 2607:f140:a000:d::abc. The type of query is NS.

Question 6:

```
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig -x 111.68.101.54

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> -x 111.68.101.54
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 26347
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;54.101.68.111.in-addr.arpa.      IN      PTR

;; ANSWER SECTION:
54.101.68.111.in-addr.arpa. 1455 IN      PTR      webserver.seecs.nust.edu.pk.

;; AUTHORITY SECTION:
101.68.111.in-addr.arpa. 61849 IN      NS       ns2.hec.gov.pk.
101.68.111.in-addr.arpa. 61849 IN      NS       ns1.hec.gov.pk.

;; ADDITIONAL SECTION:
ns1.hec.gov.pk.             859      IN      A        103.4.93.5
ns2.hec.gov.pk.             444      IN      A        103.4.93.6

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Sat Oct 10 23:08:45 AEDT 2020
;; MSG SIZE rcvd: 172

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$
```

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

### Question 7:

```
Terminal
File Edit View Search Terminal Help
z5274414@vx3:/tmp_amd/adams/export/adams/5/z5274414$ dig yahoo.com @129.94.242.33
3 MX

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> yahoo.com @129.94.242.33 MX
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 13756
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 5, ADDITIONAL: 10

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags::; udp: 4096
;; QUESTION SECTION:
;yahoo.com.                IN      MX

;; ANSWER SECTION:
yahoo.com.                1065    IN      MX      1 mta6.am0.yahoodns.net.
yahoo.com.                1065    IN      MX      1 mta7.am0.yahoodns.net.
yahoo.com.                1065    IN      MX      1 mta5.am0.yahoodns.net.

;; AUTHORITY SECTION:
yahoo.com.                35      IN      NS      ns1.yahoo.com.
yahoo.com.                35      IN      NS      ns5.yahoo.com.
yahoo.com.                35      IN      NS      ns2.yahoo.com.
yahoo.com.                35      IN      NS      ns3.yahoo.com.
yahoo.com.                35      IN      NS      ns4.yahoo.com.

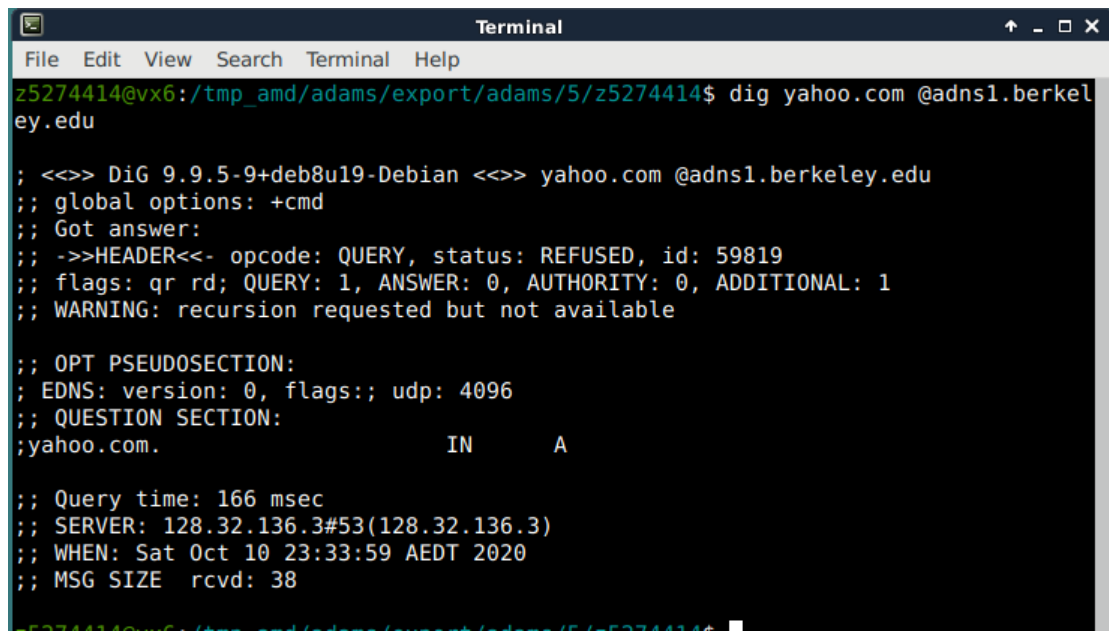
;; ADDITIONAL SECTION:
ns1.yahoo.com.            167275  IN      A        68.180.131.16
ns1.yahoo.com.            7512    IN      AAAA     2001:4998:130::1001
ns2.yahoo.com.            184702  IN      A        68.142.255.16
ns2.yahoo.com.            17300   IN      AAAA     2001:4998:140::1002
ns3.yahoo.com.            1456    IN      A        27.123.42.42
ns3.yahoo.com.            1065    IN      AAAA     2406:8600:f03f:1f8::1003
ns4.yahoo.com.            179137  IN      A        98.138.11.157
ns5.yahoo.com.            43766   IN      A        202.165.97.53
ns5.yahoo.com.            43766   IN      AAAA     2406:2000:ff60::53

;; Query time: 6 msec
;; SERVER: 129.94.242.33#53(129.94.242.33)
;; WHEN: Sun Oct 11 11:22:39 AEDT 2020
;; MSG SIZE rcvd: 399

z5274414@vx3:/tmp_amd/adams/export/adams/5/z5274414$
```

No authoritative answer because the flag doesn't contain aa and it has authority for the cse.unsw.edu.au domain and not for the Yahoo domain.

## Question 8:



```
Terminal
File Edit View Search Terminal Help
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig yahoo.com @adns1.berkeley.edu

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> yahoo.com @adns1.berkeley.edu
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: REFUSED, id: 59819
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 0, ADDITIONAL: 1
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags::; udp: 4096
;; QUESTION SECTION:
;yahoo.com.                IN      A

;; Query time: 166 msec
;; SERVER: 128.32.136.3#53(128.32.136.3)
;; WHEN: Sat Oct 10 23:33:59 AEDT 2020
;; MSG SIZE rcvd: 38
```

No response.

## Question 9:

```
Terminal
File Edit View Search Terminal Help

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig @ns1.yahoo.com yahoo.com MX

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> @ns1.yahoo.com yahoo.com MX
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 63728
;; flags: qr aa rd; QUERY: 1, ANSWER: 3, AUTHORITY: 5, ADDITIONAL: 10
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1272
;; QUESTION SECTION:
;yahoo.com.                IN      MX

;; ANSWER SECTION:
yahoo.com.                1800    IN      MX      1 mta7.am0.yahoodns.net.
yahoo.com.                1800    IN      MX      1 mta6.am0.yahoodns.net.
yahoo.com.                1800    IN      MX      1 mta5.am0.yahoodns.net.

;; AUTHORITY SECTION:
yahoo.com.                172800  IN      NS      ns3.yahoo.com.
yahoo.com.                172800  IN      NS      ns2.yahoo.com.
yahoo.com.                172800  IN      NS      ns1.yahoo.com.
yahoo.com.                172800  IN      NS      ns4.yahoo.com.
yahoo.com.                172800  IN      NS      ns5.yahoo.com.

;; ADDITIONAL SECTION:
ns1.yahoo.com.            1209600 IN      A       68.180.131.16
ns2.yahoo.com.            1209600 IN      A       68.142.255.16
ns3.yahoo.com.            1800    IN      A       27.123.42.42
ns4.yahoo.com.            1209600 IN      A       98.138.11.157
ns5.yahoo.com.            86400   IN      A       202.165.97.53
ns1.yahoo.com.            86400   IN      AAAA    2001:4998:130::1001
ns2.yahoo.com.            86400   IN      AAAA    2001:4998:140::1002
ns3.yahoo.com.            1800    IN      AAAA    2406:8600:f03f:1f8::1003
ns5.yahoo.com.            86400   IN      AAAA    2406:2000:ff60::53

;; Query time: 145 msec
;; SERVER: 68.180.131.16#53(68.180.131.16)
;; WHEN: Sat Oct 10 23:38:00 AEDT 2020
;; MSG SIZE rcvd: 399

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$
```

The type is MX.

Question 10:

Find the name server

```
Terminal
File Edit View Search Terminal Help
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig . NS

;<<>> DiG 9.9.5-9+deb8u19-Debian <<>> . NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 32179
;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 27

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
.                IN      NS

;; ANSWER SECTION:
                41649    IN      NS      m.root-servers.net.
                41649    IN      NS      k.root-servers.net.
                41649    IN      NS      j.root-servers.net.
                41649    IN      NS      c.root-servers.net.
                41649    IN      NS      l.root-servers.net.
                41649    IN      NS      a.root-servers.net.
                41649    IN      NS      g.root-servers.net.
                41649    IN      NS      i.root-servers.net.
                41649    IN      NS      b.root-servers.net.
                41649    IN      NS      d.root-servers.net.
                41649    IN      NS      h.root-servers.net.
                41649    IN      NS      f.root-servers.net.
                41649    IN      NS      e.root-servers.net.

;; ADDITIONAL SECTION:
a.root-servers.net. 218081 IN      A       198.41.0.4
a.root-servers.net. 322880 IN      AAAA    2001:503:ba3e::2:30
b.root-servers.net. 331995 IN      A       199.9.14.201
b.root-servers.net. 53470  IN      AAAA    2001:500:200::b
c.root-servers.net. 168010 IN      A       192.33.4.12
c.root-servers.net. 168010 IN      AAAA    2001:500:2::c
d.root-servers.net. 168010 IN      A       199.7.91.13
d.root-servers.net. 168010 IN      AAAA    2001:500:2d::d
e.root-servers.net. 423187 IN      A       192.203.230.10
e.root-servers.net. 314466 IN      AAAA    2001:500:a8::e
f.root-servers.net. 385628 IN      A       192.5.5.241
f.root-servers.net. 53470  IN      AAAA    2001:500:2f::f
g.root-servers.net. 250395 IN      A       192.112.36.4
g.root-servers.net. 53470  IN      AAAA    2001:500:12::d0d
h.root-servers.net. 259889 IN      A       198.97.190.53
h.root-servers.net. 53469  IN      AAAA    2001:500:1::53
i.root-servers.net. 233648 IN      A       192.36.148.17
i.root-servers.net. 233648 IN      AAAA    2001:7fe::53
j.root-servers.net. 235514 IN      A       192.58.128.30
j.root-servers.net. 53470  IN      AAAA    2001:503:c27::2:30
root-servers.net. 234816 IN      A       193.0.14.129
root-servers.net. 404416 IN      AAAA    2001:7fd::1
```



Find “au.” domain

```
Terminal
File Edit View Search Terminal Help

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig drum01.cse.unsw.edu.au
@198.41.0.4 NS

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> drum01.cse.unsw.edu.au @198.41.0.4 NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 41368
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 9, ADDITIONAL: 19
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;drum01.cse.unsw.edu.au.          IN      NS

;; AUTHORITY SECTION:
au.          172800 IN      NS      m.au.
au.          172800 IN      NS      d.au.
au.          172800 IN      NS      q.au.
au.          172800 IN      NS      t.au.
au.          172800 IN      NS      s.au.
au.          172800 IN      NS      r.au.
au.          172800 IN      NS      n.au.
au.          172800 IN      NS      a.au.
au.          172800 IN      NS      c.au.

;; ADDITIONAL SECTION:
m.au.        172800 IN      A        156.154.100.24
m.au.        172800 IN      AAAA     2001:502:2eda::24
d.au.        172800 IN      A        162.159.25.38
d.au.        172800 IN      AAAA     2400:cb00:2049:1::a29f:1926
q.au.        172800 IN      A        65.22.196.1
q.au.        172800 IN      AAAA     2a01:8840:be::1
t.au.        172800 IN      A        65.22.199.1
t.au.        172800 IN      AAAA     2a01:8840:c1::1
s.au.        172800 IN      A        65.22.198.1
s.au.        172800 IN      AAAA     2a01:8840:c0::1
r.au.        172800 IN      A        65.22.197.1
r.au.        172800 IN      AAAA     2a01:8840:bf::1
n.au.        172800 IN      A        156.154.101.24
n.au.        172800 IN      AAAA     2001:502:ad09::24
a.au.        172800 IN      A        58.65.254.73
a.au.        172800 IN      AAAA     2407:6e00:254:306::73
c.au.        172800 IN      A        162.159.24.179
c.au.        172800 IN      AAAA     2400:cb00:2049:1::a29f:18b3

;; Query time: 117 msec
;; SERVER: 198.41.0.4#53(198.41.0.4)
;; WHEN: Sat Oct 10 23:58:54 AEDT 2020
;; MSG SIZE rcvd: 591
```



Find “edu.au.” domain

```
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig drum01.cse.unsw.edu.au @58.65.254.73 NS

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> drum01.cse.unsw.edu.au @58.65.254.73 NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 18361
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 4, ADDITIONAL: 9
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;drum01.cse.unsw.edu.au.                IN      NS

;; AUTHORITY SECTION:
edu.au.                86400   IN      NS      s.au.
edu.au.                86400   IN      NS      q.au.
edu.au.                86400   IN      NS      t.au.
edu.au.                86400   IN      NS      r.au.

;; ADDITIONAL SECTION:
q.au.                  86400   IN      A        65.22.196.1
r.au.                  86400   IN      A        65.22.197.1
s.au.                  86400   IN      A        65.22.198.1
t.au.                  86400   IN      A        65.22.199.1
q.au.                  86400   IN      AAAA     2a01:8840:be::1
r.au.                  86400   IN      AAAA     2a01:8840:bf::1
s.au.                  86400   IN      AAAA     2a01:8840:c0::1
t.au.                  86400   IN      AAAA     2a01:8840:c1::1

;; Query time: 158 msec
;; SERVER: 58.65.254.73#53(58.65.254.73)
;; WHEN: Sun Oct 11 00:01:24 AEDT 2020
;; MSG SIZE rcvd: 291

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$
```

## Find “unsw.edu.au.” domain

```
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig drum01.cse.unsw.edu.au
@65.22.198.1 NS

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> drum01.cse.unsw.edu.au @65.22.198.1 NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 14571
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 3, ADDITIONAL: 6
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;drum01.cse.unsw.edu.au.                IN      NS

;; AUTHORITY SECTION:
unsw.edu.au.                900      IN      NS      ns1.unsw.edu.au.
unsw.edu.au.                900      IN      NS      ns2.unsw.edu.au.
unsw.edu.au.                900      IN      NS      ns3.unsw.edu.au.

;; ADDITIONAL SECTION:
ns1.unsw.edu.au.            900      IN      A        129.94.0.192
ns2.unsw.edu.au.            900      IN      A        129.94.0.193
ns3.unsw.edu.au.            900      IN      A        192.155.82.178
ns1.unsw.edu.au.            900      IN      AAAA     2001:388:c:35::1
ns2.unsw.edu.au.            900      IN      AAAA     2001:388:c:35::2

;; Query time: 24 msec
;; SERVER: 65.22.198.1#53(65.22.198.1)
;; WHEN: Sun Oct 11 00:03:05 AEDT 2020
;; MSG SIZE rcvd: 209

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$
```

## Find “cse.unsw.edu.au.” domain

```
z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig drum01.cse.unsw.edu.au
@129.94.0.192 NS

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> drum01.cse.unsw.edu.au @129.94.0.192 NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 40571
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 2, ADDITIONAL: 5
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;drum01.cse.unsw.edu.au.                IN      NS

;; AUTHORITY SECTION:
cse.unsw.edu.au.                10800    IN      NS      maestro.orchestra.cse.unsw.edu.a
u.
cse.unsw.edu.au.                10800    IN      NS      beethoven.orchestra.cse.unsw.edu
.au.

;; ADDITIONAL SECTION:
beethoven.orchestra.cse.unsw.edu.au. 10800    IN      A        129.94.172.11
beethoven.orchestra.cse.unsw.edu.au. 10800    IN      A        129.94.208.3
beethoven.orchestra.cse.unsw.edu.au. 10800    IN      A        129.94.242.2
maestro.orchestra.cse.unsw.edu.au. 10800    IN      A        129.94.242.33

;; Query time: 3 msec
;; SERVER: 129.94.0.192#53(129.94.0.192)
;; WHEN: Sun Oct 11 00:04:55 AEDT 2020
;; MSG SIZE rcvd: 171
```

```

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$ dig drum01.cse.unsw.edu.au
@129.94.242.2 A

; <<>> DiG 9.9.5-9+deb8u19-Debian <<>> drum01.cse.unsw.edu.au @129.94.242.2 A
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 50155
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3

;; OPT PSEUDOSECTION:
;; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;drum01.cse.unsw.edu.au.          IN      A

;; ANSWER SECTION:
drum01.cse.unsw.edu.au. 3600    IN      A      129.94.209.31

;; AUTHORITY SECTION:
cse.unsw.edu.au.        3600    IN      NS      beethoven.orchestra.cse.unsw.edu
.au.
cse.unsw.edu.au.        3600    IN      NS      maestro.orchestra.cse.unsw.edu.a
u.

;; ADDITIONAL SECTION:
maestro.orchestra.cse.unsw.edu.au. 3600 IN A      129.94.242.33
beethoven.orchestra.cse.unsw.edu.au. 3600 IN A      129.94.242.2

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Sun Oct 11 00:06:47 AEDT 2020
;; MSG SIZE rcvd: 155

z5274414@vx6:/tmp_amd/adams/export/adams/5/z5274414$

```

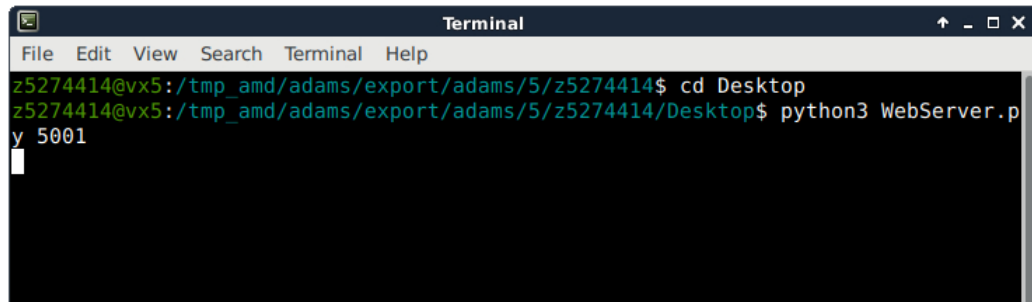
The IP address of your host is 129.94.209.31. I have to query 5 DNS servers to get the authoritative answer.

Question 11:

Yes, one physical machine can have several names and/or IP addresses associated with it. One machine may have several interfaces which may have different IP addresses and each address may have been connected to several aliases.

## Exercise 4:

run

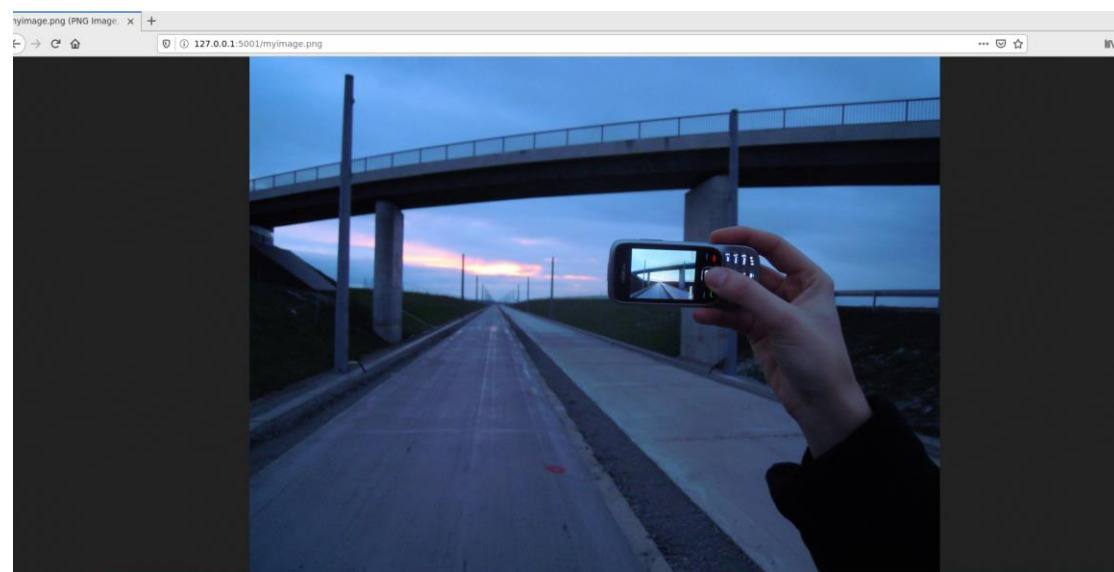


```
Terminal
File Edit View Search Terminal Help
z5274414@vx5:/tmp_amd/adams/export/adams/5/z5274414$ cd Desktop
z5274414@vx5:/tmp_amd/adams/export/adams/5/z5274414/Desktop$ python3 WebServer.py 5001
```

<http://127.0.0.1:port/index.html>



<http://127.0.0.1:port/myimage.png>



http://127.0.0.1:port/bio.html

