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### **Lab 3**

Lab Report: I had a little trouble with my MacBook air, getting the information I need. However, I figured out the terminal commands specific to Mac. I completed this lab 100% independently with minimal help from outside resources (googling the mac terminal commands for ifconfig). All screenshots and Wireshark information are attached.

#### **Part 1:**

- 1) zhihu.com IP: 103.41.167.234
- 2) kcl.ac.uk One authoritative DNS server: ns3.ja.net
- 3) Address of ns3.ja.net: 193.63.106.103#53

#### **Part 3:**

- 4) Sent over UDP
- 5) Both are 53
- 6) 208.67.222.222 No, they are different
- 7) It is a standard query. There are no answers
- 8) One answer is provided. Contains a name, type, class, time to live, data length, and address.
- 9) No different addresses are used.
- 10) No, only two queries are seen.
- 11) Both are 53
- 12) 208.67.222.222 No, they are different

13) Standard query, no answers

14) 3 answers (2 CNAME types and one A type) They all have name, type, class, time to live, and data length, however, differ in having a CNAME (CNAME types) and an address (A type).

16) 208.67.222.222 No, they are different

17) Standard, no answers

18:

mit.edu	nameserver = eur5.akam.net
mit.edu	nameserver = use2.akam.net
mit.edu	nameserver = use5.akam.net
mit.edu	nameserver = usw2.akam.net
mit.edu	nameserver = asia1.akam.net
mit.edu	nameserver = asia2.akam.net
mit.edu	nameserver = ns1-37.akam.net
mit.edu	nameserver = ns1-173.akam.net

No, it does not provide the IP addresses

20) 96.7.49.64 which corresponds to use2.akam.net

21) Standard, no answers (for the first or second)

22) It contains no answer in the second query response message. The first responds with  
use2.akam.net