

**PLEASE SUBMIT YOUR WORK ON E-Mail (Also keep a copy on sent items for just in case).**

The assignment is individual, so please do not make any information exchange or do not discuss about the answers or ask anybody for help except the instructor. You can use any Internet resources for reading, you can search for the answers on any search engine (like Google) or you can use any textbooks.

### Part One: Question (20%)

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Answer Questions below:

Who is the chair of IETF?

Name 3 domain name registrar

What is the 2015 Revenue of the non-profit organization ICANN and where is its headquarters?

What is the IP address of cs.smith.edu?

Check if your name (first name) .com is already registered or not? If registered, can you find who registered it?

### Part Two: Ping (25%)

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Using ping, compare the following to see which is faster to reach on the Internet:

a.) `www.sadievreenseker.com` (alternate in case that is unreachable: `www.shedai.net`)

b.) `sydney.edu.au` (alternate in case that is unreachable: `www.griffith.edu.au`)

Please report on the average packet round trip times to the two hosts. Offer possible explanations of any difference or sameness in the round-trip times you observe. Include in your speculations where in the world these two hosts are.

### Part Two: Traceroute (25%)

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Get a web page address, which is starting with the first letter of your first name (which really exists (so first connect it with a web browser) ), use the traceroute (or tracert) command and list all the nodes its passing from. If you cannot connect to the web page by traceroute, try another web page (again starting with the first letter of your first name).

### Part Four: Music CD (30%)

*[This question appeared in the 2nd edition of Web 101.]*

When music is recorded on a CD, a digital recording device samples the sound 44,100 times per second. Each sample is 2 bytes (16 bits) long, and a separate sample is taken for each of the two speakers in a stereo system. Therefore each second of sound on the CD requires  $44,100 \times 2 \times 2 = 176,400$  bytes of memory. How much memory is this **in bits**? Using these figures, determine how many megabytes of memory are needed to store a 3-minute song. If you could attain the maximal MP3 file reduction of 93%, how much memory would this 3-minute song consume as an MP3 file? This really consists of three sub-questions:

- How much memory for one second in bits? [Answer in Kb; round to the nearest 0.1 of a Kb, i.e., 1 decimal place. Don't forget the distinction between Kb and Kib; make sure you get it right.]
- MB for a 3-min song? [Answer in MB; round to the nearest 0.1 of a MB, i.e., 1 decimal place]
- If maximally compressed, in MB? (93% reduction means it is reduced to 7% of its original size, i.e., 93% is 'gone.')

Show me enough of your calculations so that I can see that you know what you are doing (and can assign appropriate partial credit if necessary)(also, for simplicity, you can use  $10^3$  multiplier instead of  $2^{10}$ , while converting units).