

CMSI 182

INTRODUCTION TO COMPUTER SCIENCE

Fall 2007

Assignment 1018

OK, back to the usual grind :) This is a selection of exercises meant to reinforce the network concepts that we have discussed so far.

Not for Submission

Read Chapter 4 in the Brookshear book.

For Submission

Submit all work on hardcopy at the beginning of our October 18 class.

1. Perform a “survey” of a network to which you have access (dormitory, workplace, home, public place, etc.). Figure out the following information on your device of choice:
 - a. IP address(es) of your device
 - b. IP address of the network’s router/gateway
 - c. IP address(es) of the domain name servers (DNS) for your device
 - d. MAC address(es) of your device
2. Perform a “traceroute” operation between your device and some address of your choice on the Internet. You can use either a built-in “traceroute” program or find one on the Internet that’s easier to use. List the path that your device takes to that address.

The built-in “traceroute” program in Windows is called *tracert*. To invoke it, you must first run the Command Prompt by choosing *Start > Run...* then typing *cmd*. On Mac OS X, you can either choose the *Network Utility* program located in the *Applications > Utilities* folder, or you can run the *Terminal* program (also in *Applications > Utilities*) then invoke the *traceroute* utility from the command line. For other platforms, look it up or ask me.
3. Figure out the IP addresses of the following host names:
 - a. *www.lmu.edu*
 - b. *developers.facebook.com*
 - c. *wikipedia.org*
 - d. *keck.cs.lmu.edu*

4. Time for a little more programming. Go back to the *JavaScript scratch page* on the course Web site, type the JavaScript program below into the JavaScript scratch page’s large text area, *in addition* to the default text that starts out there, such that the final, complete program looks like this:

```
/* This first block should already be
   in the scratch page. */
// Shortcuts to the input fields.
var form = document.getElementById("scratch");
var input1 = form.input1;
var input2 = form.input2;

/* The code to add starts here. */
var message = "You are currently viewing " +
    location;
alert(message);

var newLocation = input1.value;
message = "You will now visit " +
    newLocation + "."
alert(message);
window.location = newLocation;
```

To run this program, type a Web address (e.g., “*http://www.youtube.com?*”) into the *Input 1* entry field, then click on the *Run* program. What happens when you run this program?

5. And finally, just so that we don’t forget: do Chapter 4 Review Exercises 12 to 15 in the Brookshear book.