

cc3.12/cis1.0/robotics

fall 2007

assignment I part 1

INFORMATION

- This assignment covers the material from unit I in our syllabus: **Introduction to Computers and Networks**.
 - You may find it helpful to **read ch 1 (p1-15) and ch 3 (p40-55) in the Reed text** in order to complete this assignment.
 - You can also refer to the lecture notes from Mon Aug 27 and Mon Sep 10, posted on the "syllabus" portion of the class web page
 - This assignment is worth **5 points**, or 5% of your term grade.
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INSTRUCTIONS

1. Begin by creating a file in **Notepad**.
2. Type your name in the file and your email address.
3. Type the answers to the questions (below) in this file.
4. **Please** label your answers so I know which answer goes with which question (e.g., "hw I, part 1, section 1, question 1").
5. When you are finished, email me the file as an attachment (like you did in the lab this week).
6. My email address is: **sklar@sci.brooklyn.cuny.edu**.

THE ASSIGNMENT IS DUE ON MONDAY SEPTEMBER 17, 2007.

BE SURE TO ASK IN THE LAB IF YOU NEED HELP WITH ANY STEPS!!!!

section 1: first day on-line

A. Email

1. Send me a short email message. My email address is:
sklar@sci.brooklyn.cuny.edu
Your message can just say "hello prof sklar". I will reply to you.

B. AIM

1. If you don't have an AIM (AOL Instant Messenger) screen name, go to <http://www.aim.com> and set up a screen name (click on **Don't have a screen name? Get one FREE**).
 2. My screen name is **agentprof**.
Try to send me a message!
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section 2: exploring the internet

Glossary:

URL = Uniform Resource Locator

IP = Internet Protocol

DNS = Domain Name System

Note that **URL**, **IP address**, **DNS name** and **web address** are often used interchangeably to mean the same thing.
For example, **http://www.google.com**.

A. URLs, IP addresses, DNS names, tracer (1.5 points)

For this part, you will use utilities at the web site <http://www.dnsstuff.com> When you go to that site, you will see a number of places to type in web addresses and buttons to click on.

1. Go to the section marked **DNS lookup**.
Type **www.google.com** in the box and click on **Lookup**. (Leave **A** selected in the drop-down list).
What is the numeric IP address of **www.google.com**?
2. Go to the section marked **Ping**. Ping is a handy network utility that will test if a host is alive. It will also give you statistics about how long it takes to send a message to a host.
Type **www.google.com** in the box and click on **Ping**. How long does it take to get a reply?

3. Go to the section marked **Traceroute**. Traceroute is a handy network utility that will show you the route that messages take to get from you to a web server (or "host"). Type a URL in the box and click on **Traceroute**. The utility will show you how many "hops" the message takes to go between the two machines ("hops" refers to how many other machines are visited in between).

Trace the route from the computer you are currently using to the web sites listed below. For each site, list the number of **hops** in the route.

- <http://www.mta.info>
- <http://www.brooklyn.cuny.edu>
- <http://www.hunter.cuny.edu>
- <http://www.columbia.edu>
- <http://www.liv.ac.uk>
- <http://www.unimelb.edu.au>

Look up each site in your browser and see what it is.

On **dnsstuff**, look up the physical location of each of these web servers. (Click on **DNS Lookup**, as we did in the lab. When you get to the screen with the **answer**, click on that IP address and you'll see a page called **WHOIS** that tells exactly where the server is located.)

In your assignment file, for each address, enter information about what the site is, where the server is located and the number of hops to the site.

Then, answer this question:

What can you say about the relationship between the physical proximity of each of these web servers to your current location and the number of hops? i.e., are fewer network hops required to reach machines that are physically closer to you?

4. Look up the (numeric) IP address of the following web sites:
 - <http://www.amazon.com>
 - <http://www.amazon.co.uk>
 - <http://www.amazon.fr>
 - <http://www.amazon.co.jp>
 - <http://www.amazon.ca>
 - <http://www.amazon.de>
 - <http://www.amazon.at>

Look up each site in your browser and see what it is.

Look up the physical location of each server.

In your assignment file, for each address, write down what the site is and where the server is located.

Then, answer these questions:

What can you say about the relationship(s) amongst these web sites and web servers?

What did you learn about their physical location(s)?

Explain how the numeric IP address provide hints to these servers' relative locations.

5. What happens if you type in a DNS name incorrectly?
In your web browser, try going to <http://www.brooklyn.cuny.e> or <http://www.brklyn.cuny.edu>
Try to ping them in **dnsstuff**.
6. What happens if you type in an IP address directly, instead of a DNS name?
In your web browser, try going to <http://146.96.128.102>
Try looking up that IP address in **DNS Lookup**. What information can you find there?
7. What if you type the IP address in incorrectly?
In your web browser, try going to <http://146.245.100.2>.
Try pinging **146.245.100.2**

B. Visualizing the Internet (0.5 points)

1. Go to: http://www.mappingcyberspace.com/gallery/figure5_4.html
Map **B** shows the number of domain names in New York City. The larger the bars, the more domain names there are in a region. Approximately which section of NYC has the most domain names?
2. Go to <http://www.mappingcyberspace.com/gallery/>
What are some of the other types of graphics available? Can you find the drawings of the early internet (ARPANET) topology from 1969 and 1977?

C. Searching the Web (0.5 points)

1. Go to <http://www.google.com> Search for **robot**. How many results are there (approximate total)? What are the first three non-sponsored URL's found?
2. Go to <http://www.altavista.com> Search for **robot**. How many results are there (approximate total)? What are the first three non-sponsored URL's found?
3. Go to <http://www.ask.com> Search for **robot**. How many results are there (approximate total)? What are the first three non-sponsored URL's found?
4. In your assignment file, list the number of results and top 3 non-sponsored sites found by each search engine.
What are some of the differences between the three engines?
Which engine would you use if you were looking for a definition of the word robot?
Which engine would you use if you were looking for a place to buy a robot?

D. Participatory Web (0.5 points)

1. Go to: <http://images.google.com/imagelabeler/>
This is one of a growing number of applications on the web that take advantage of the large number of internet users to solve problems collectively. Click on **begin as a guest** and try it out. How do you think the **imagelabeler** works?
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