

CS120-01

Assignment 1

1. Network Transmission

1. Consider an image that is 60 pixels wide and 40 pixels high. If this is an 8-bit image (i.e. each pixel is represented by 8 bits), how much *bandwidth* (space) does this image take?
2. How long will it take to transmit the above image over a 56K modem? (Hint: a 56K modem transmits 56,000 *bits* per second)
3. Approximately how much faster would this transmission be over a T-1 line? (Hint: p. 10-11 & p. 20-21)

2. Searching

For each of the following questions, identify the URL where you found the information, the search site (engine) you used, and how many different searches did you try before you found your answer.

1. Where would you find Thurgood Marshall (the Supreme Court's first black justice) buried?
2. Who won the Wimbledon Mixed Doubles title this year?
3. What are the geographic coordinates (ex. 10 30 S, 47 39 W) of Aruba?
4. What is special about Canada Post's Literacy stamp?

3. Trace Route

Use *traceroute* from the *terminal* application on the Macs, and *tracert* from the Windows command prompt (Start->Programs->Accessories->Command Prompt) on the PCs to trace the route from your host machine to the following sites. In each case, note the IP address of the destination, and the number of hops it took to reach the destination. Compare the results from BOTH machines -- did you get the same routes? Can you say anything about the setup of the Pacific University LAN?

1. www.yahoo.com
2. www.cuny.edu
3. home.netscape.com
4. hoohoo.ncsa.uiuc.edu
5. aol.com

The next few sites are foreign - can you tell which countries they are in?

6. www.insee.fr
7. www.vniis.ru
8. www.samara.co.zw