## CPS 49S Google: The Computer Science Within and its Impact on Society (Spring 2007) Ouiz 1

- There are 5 questions. You have 30 minutes to complete the quiz.
- Total points = 25.
- Answers should be concise and concrete.
- Indicate your name on your submission.

Question 1 Points 6

Suppose the entire World Wide Web is as shown in Figure 1. There are 5 web pages. Each web page shows the words on the page. Each arrow shows a hyperlink, and the text on the arrow shows the anchor text associated with that link.

1. What is an inlink? If the five pages are ranked based on counting the inlinks per page (that is, more inlinks means higher rank), then which page will be ranked the highest?

Points 1

2. What is an outlink? If the five pages are ranked based on counting the outlinks per page (that is, more outlinks means higher rank), then which page will be ranked the highest?

Points 1

3. If we do the search query "computer" on a first-generation search engine that indexes the five pages in Figure 1, which pages will be returned in the query result?

Points 2

4. If we do the search query "computer" on a second-generation search engine that indexes the five pages in Figure 1, which pages will be returned in the query result?

Points 2

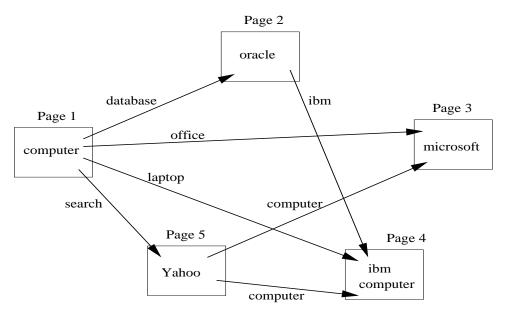


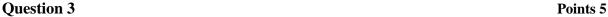
Figure 1. Pages and hyperlinks for Question 1

Question 2
One of the readings discussed "spamming" in the context of search engines.

1. What is spamming? Is spamming good or bad for the search engine? (1-3 sentences) **Points 2** 

2. Give two examples of spamming a search engine.

Points 3



What is the use of the lexicon in the Google architecture? Be concise and concrete. (1-2 sentences)

Question 4 Points 5

One of the readings states that the use of a semantic network in a search engine can "help with synonymy but can aggravate polysemy". Explain this statement with the help of a concrete example search query. No points will be awarded if your answer does not justify the statement clearly. (2-3 sentences.)

Question 5 Points 5

One of the readings says: "The predominant business model for commercial search engines is advertising. The goals of the advertising business model do not always correspond to providing quality search to users." Give one concrete example to justify this statement.