

# CPS 49S Google: The Computer Science Within and its Impact on Society - Spring 2007

## Homework 4

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- Due date: Wednesday, April 18, 2007, 11.59 PM. Late submissions will not be accepted (unless there are documented excuses from the dean).
  - Submission: In class or via Blackboard's digital dropbox.
  - Indicate your name on your submission.
  - Email questions to shivnath@cs.duke.edu and to asic@cs.duke.edu
  - Total points = 100.
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### Question 1

**Points 10**

"The advertising industry is now starting to grow out of the Wannamaker era." True or false. Justify your answer.

### Question 2

**Points 5**

Imagine that you have graduated from Duke, and you are now working at Google. Your boss says "Brand advertising is dead". Would you agree? Justify your answer.

### Question 3

**Points 10**

Google says that "asset management could transform the ad industry from beleaguered to being firmly in control of its destiny."

1. What is "asset management" in this context? Give one or more examples. **Points 4**
2. State in your own words how an advertiser can do "asset management". Explain the important steps involved, and use examples as needed to clarify your answer. **Points 6**

**Question 4****Points 10**

Explain briefly the impact that the rise of Google and Overture has had on traditional advertising agencies.

**Question 5****Points 25**

1. What are the three Internet advertising payment methods that the author describes in “The Lane’s Gifts v. Google Report”? **Points 3**
2. For each of these three payment methods, say whether the method can be used in keyword-based targeted advertising? **Points 3**
3. For each of these three payment methods, say whether the method can be used in content-based targeted advertising? **Points 3**
4. Which payment method(s) does AdWords use currently? Has AdWords used other payment methods in the past? **Points 4**
5. State the pros and cons of each payment method in terms of the ease of doing fraud in AdWords. **Points 4**
6. Which payment method(s) does AdSense use currently? Has AdSense used other payment methods in the past? **Points 4**
7. State the pros and cons of each payment method in terms of the ease of doing fraud in AdSense. **Points 4**

**Question 6****Points 5**

$\text{AdRank} = \text{CPC} \times \text{QualityScore}$ . What are the pros and cons of having “QualityScore” in the computation of AdRank?

**Question 7****Points 10**

Along with the cost that an advertiser is willing to pay per click on its AdWords ad, the advertiser has to specify a budget as well.

1. The “Lane’s Gifts v. Google Report” describes two ways—one straightforward way and one more complex way—in which this budget can be used. What are they? **Points 5**

2. Describe how the more complex way makes it harder to perform click fraud. **Points 5**

**Question 8**

**Points 5**

Google has a conflict of interest in detecting invalid clicks. True or false? Justify your answer.

**Question 9**

**Points 10**

The “Lane’s Gifts v. Google Report” introduces the term conversion pages? What are these pages? Do these pages help or hurt Google? Explain briefly.

**Question 10**

**Points 10**

Imagine that you are now working at Google. An advertiser complains to you saying that Google has refused to give her a detailed explanation of the various measures Google has in place for detecting click fraud.

1. How will you justify Google’s position? **Points 5**
2. How does this issue relate to the “fundamental problem with the definition of invalid clicks” as described in the “Lane’s Gifts v. Google Report”? **Points 5**