

You have 70 minutes to complete this exam. Time begins after we have all read through the exam questions together and time ends promptly 70 minutes later. You may not read the exam questions before we read them together, and you may not write anything while we are reading those questions together.

Please record your answers in a Word file, in a text file, or on this exam. At the top of the first page of your answers, write your name and the date. If you answer the exam using Word, PDF, or as a text file you should submit the exam on ELMS and also email it to both oard@umd.edu and jyothikv@umd.edu. If you complete the exam on paper, turn in this exam.

During this exam you may use any information and software that existed before the start of the exam period. You may NOT communicate with any person other than the instructor for any purpose during the exam period (even if you finish the exam early), either in person or in any other way, and you may not post anything to any location for any purpose during the exam period.

Hand write and sign (or, if you type your answers, hand type – no cut and paste – followed by your name) the honor pledge on this exam. (For reference, the honor pledge as stated at <http://www.umd.edu/catalog/index.cfm/show/content.section/c/27/ss/1583/s/1604>, is: “I pledge on my honor that I have not given or received any unauthorized assistance on this exam.”)

As strategies for completing the exam, keep the following in mind:

- If you find a question to be ambiguous, you may come to the front of the room to ask about it, but please do so in a way that other students can not hear. If you don't get an answer that resolves your question, then please explain your confusion and any reasonable assumptions that you have made in order to answer the question and include those with your answer so that they can be considered during grading.
- You are more likely to get partial credit for an incorrect answer if you show your work.
- Be careful not to spend too much time on any one question. Plan ahead, and don't devote more time to a question than it is worth.

*** WRITE YOUR NAME ***

1. [20 points] Briefly explain why it possible for any two people who don't know each other and who live in very different communities to be able to reach each other by following just a few (e.g. six) links in a social network such as the Facebook "friends" network. A complete answer to this question will involve more than just naming the phenomenon – you should also explain what causes it.
2. [20 points] The Internet and the World Wide Web are different things, although they are often referred to interchangeably. What differentiates the two in their history and in their function?
3. [20 points] Identify at least two errors in the following HTML:

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<html> <head> </title> Hello World! </title> </head>  
<body> <h> Hello World! </h1> </body> </html>
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4. [25 points] Use some combination of Traceroute, Domain Name Service (DNS) lookup and Internet Protocol (IP) Address Geolocation to determine in which US State or in which other country the Web server for www.umd.edu is physically located.
5. [15 points] Consider the case when you click on a link in an existing Web page and your Web browser either does nothing or returns an error message. Identify at least three completely different things that could cause such an outcome and, for each, briefly explain which factor in the design of the Internet or the World Wide Web makes such an error possible.

*** WRITE AND SIGN THE HONOR PLEDGE ***