

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 a piece of paper (which could be the last page of this exam or any other paper). You can answer some questions one way (e.g., as Word) and others the other way (e.g., by writing on paper). At the top of the first page of your answers, write your name and the date. If you answer any questions using a file, submit that file on ELMS and also email it to both oard@umd.edu and jyothikv@umd.edu. If you answer any questions on paper, turn in that paper. Make sure your name is on everything that you turn in! And if you use both paper and a file, make a note on each about what can be found in the other so that we don't miss any of your answers.

You may use any information and software that existed before the start of this exam. This means (among other things) that you may search the Web. You may NOT communicate with any other person other than the instructor for any purpose during the exam period, either in person or in any other way, and you may not post anything to any location for any purpose during the exam period. Note that this means you may not have skype or any instant messaging application active on any device that you use during the exam, and that that even if you leave the exam room early you may not talk with anyone about anything, you may not send or receive any email, etc. until the exam period ends at 3:15 PM.

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't 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. [50 points total] Create a two-table database using Access or Base to keep track of iPads that are checked out to students. A student may check out any number of iPads at a time, but no iPad may be scheduled out to more than one student. You should have one table for iPads and one table for students. In the table for students, your table should record at least the name of each student who could check out an iPad, regardless of whether they have any iPads actually checked out. Two of your students must have the same name. Your iPads table should record, for each iPad, at least its serial number and which model iPad it is (iPad 1, iPad 2, iPad Air, iPad Mini, ...). Enter data for 5 students and 7 iPads so that one student has two iPads checked out, another student has one iPad checked out, and no other student has any iPads checked out. Create a single query using a join between the two tables that shows all available information from the database about which students have which iPads checked out (but which does not list the students who have no iPads checked out, and which does not list the iPads that are not checked out). For partial credit, you can show your table design and data on paper or in a Word file or a spreadsheet, but for full credit you must submit a database with the tables, the data, and the query as an .odb or .mdb file.
2. (20 points) The professor in this course teaches about Web content management systems, but he maintains his own Web sites by hand-typing HTML using a text editor.
 - a. (10 points) Explain several (three or more) benefits that he could obtain by starting to use a content management system for future Web pages that he creates.
 - b. (10 points) Then explain several (three or more) rational reasons why he might choose not to do so.
 - c. (0 points) Finally, offer your opinion on whether he should do give up on hand-typing HTML and start using a content management system.
3. [10 points] Explain why performing entity-relationship modeling before actually building tables can lead to better database designs.
4. [20 points] One way to think of an organization is as if it were described by the organization chart (i.e., who works for who). This is at best an incomplete view of an organization. Describe two other different perspectives on an organization, and for each of those two perspectives state at least one purpose for which that perspective would be more useful. If you state more than two perspectives, only the first two will be graded.

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