

FIT100 Review Questions

In general the answers to these questions can be found in the textbook and/or the lecture notes.

1. List the five fundamental operations on database tables.
2. Give a database schema (table declaration) for the following table instance

Example : Table				
ID	Last	First	Hire	Addr
1	Davolino	Nancy	01 May 1992	507 20th Ave E
2	Fuller	Andrew	14 Aug 1992	908 W. Capital Way
3	Wooster	Berton	01 Apr 1993	722 Moss Bay Blvd
4	Peacock	Margaret	03 May 1993	4110 Old Redmond Rd
5	Buchanan	Steven	17 Oct 1994	13 Garrett Hill
6	Sullimani	Okan	12 Dec 1994	Coventry House

3. Every column of the DB in (2) is unique; why is ID the best choice for a key?
4. For the DB in (2) write a select command to pick out the row for Wooster.
5. For the DB in (2) write a project command for a 2 column table of last name and first day on the job.
6. What condition must be fulfilled before two tables can be unioned together.
7. Is the condition of (6) also required for (a) difference? (b) product? and (c) join?
8. Suppose A has 4 columns and 70 rows, and B has 6 columns and 100 rows. How many columns and rows does AxB have?
9. Using the five fundamental operations write the join of A and B when fields A.name and B.team are the same. [Hint, you need to use product, select and project.]
10. What is "redundancy" in a database and why is it bad?
11. Explain the difference between the physical and logical databases.
12. What kind of relationship (e.g. 1-1) is the relationship of hometowns to people?
13. What kind of relationship is the relationship of eye color to FIT100 students?
14. Rewrite (4) in SQL.
15. Rewrite (5) in SQL.
16. What is the purpose of the "needs analysis" task used in designing databases?
17. List the tables in your SLAMA database and say which are physical tables and which are logical tables. [Remember, your forms use tables.]
18. In the SLAMA DB what was the purpose of the tracking number?
19. In the SLAMA DB there are addresses in the Suspects table and addresses in the Officer table. Since it is possible for a police officer to be arrested, is this an example of redundancy? Explain.
20. T/F: Virus protection software is useless because viruses are always new. Explain.
21. Using the "password guidelines" of Chapter 12, develop a good password, explaining the steps you go through.
22. Give two rules of "netiquette" and explain why they are good rules to follow.
23. What is risky about opening email attachments you receive from unknown senders?
24. T/F: Even though all of the materials on the FIT100 web site are copyrighted, it is OK for you to have a personal copy of them. Explain.
25. What is "Fair Use" in copyright, and does it allow you to use copyrighted material as long as you don't try to sell it?
26. Define privacy.
27. What are "Fair Information Practices?" (You don't have to list them.)
28. Explain what Opt-In/Opt-Out mean in the context of privacy.
29. What does it mean to say "clients and servers have only a brief relationship"?
30. What is a cookie?
31. Besides www.girlscouts.org, what kind of Web site might you accept a cookie from?
32. Give the three steps for animating GIFs and explain what each does.
33. Explain the sentence, "Once a page is loaded, nothing happens until an event occurs."

34. Describe the series of tasks required to create the Orange Concentrate application.
35. What decimal number corresponds to the binary number: 1 0011 0111
36. Add together the binary numbers: 0010 1100 + 1010 0100
37. In RGB representation when all of the intensities are the same, e.g. (128,128,128), what color is produced?
38. What is the binary representation of the decimal number 99?
39. What is the Bias-free Universal Medium principle?
40. What are two advantages key advantages of digital encodings? [Not given in lecture.]
41. Give an example of "computing on a representation".
42. Use a Caesar Cipher to encode the phrase, "And you too Brutus"
43. Describe the set-up for a Turing Test.
44. Explain the sentence, "It's intelligent behavior, until it's known to be algorithmic."
45. Give the guidelines for debugging.
46. Write the HTML to link to a file `turn.html` on the phrase "submit your homework".
47. For an HTML file called `page.html`, show the image tag to place a picture `photo.jpg` if the photo is in the directory "above" the directory containing `page.html`.
48. Name and identify the three main parts of the URL,
`http://www.cs.washington.edu/homes/snyder/index.html`
49. Show a world famous iteration to loop ten times.
50. Give the HTML for a one row, three column table containing the information, Time, Life, Fortune.
51. What does a program counter (PC) do in a computer?
52. Write an assignment statement to add one to a variable, but if doing so makes it greater than 9 it should be 0. That is, the variable should only be a one-digit number.
53. Show a declaration for an array with 3 elements, and assign each element an initial value of, in order, "alpha", "bravo", "charlie".
54. What is the name for the point where indexing begins?
55. Write a query to find Web pages containing at least two of the last three letters NATO alphabet (X-ray, Yankee, Zulu).
56. Write a function that has one parameter, a distance in miles, and computes that distance in many yards, i.e. it multiplies by 5,280 and divides the result by 3.
57. Write a function that has one parameter that is a year, and returns "Leap Year" or "Normal Year". We will define a year to be a leap year if it is divisible by 4, but not divisible by 100.
58. Write an `if`-statement that assigns the Boolean variable `Octogenarian` the value "yes" if the variable `Age` is in the interval 80-89, and "no" otherwise.
59. What is your favorite music group?
60. Draw a diagram of the structure of a public key cryptosystem.