Review

CSC230 Database Technologies for Analytics

03 November 2016

1. Gordon Moore famously predicted what?

2. Gordon Moore was thinking about integrated circuits (computer chips) when he formulated what came to be known as "Moore's Law." Something very similar could have been said about which other technology that is important in work with databases?

3. How does a declarative programming language differ from a procedural programming language?

4. Is SQL a declarative programming language or a procedural programming language?

5. Emacs is a context-sensitive text editor. "Context-sensitive" means that the software recognizes the kind of file that is being edited (for example, a SQL file or a Java file) and contains a knowledge of the vocabulary and grammar of programming languages.

   What do you see when you use Emacs that suggests that it is context-sensitive?

6. Emacs is hard to learn. What might make the effort to learn it worthwhile?

7. CSV is a common format. It is often used when there is a need to transfer data from one kind of software to another. What is CSV?

8. In which kind of structure does a relational database store data?

   (a) comma separated values
   (b) lists
   (c) tables
   (d) trees

9. Are records in a relational database stored in columns or rows?

10. Are all values of a particular attribute found in the same column or in the same row?

11. Here is a SQL statement: **SELECT** −−− *FROM* −−− *WHERE* −−−*;*
    Will we specify the rows that we want to see. . .

    (a) between **SELECT** and **FROM**?
    (b) between **FROM** and **WHERE**?
    (c) after **WHERE**?

12. Here is a SQL statement: **SELECT** −−− *FROM* −−− *WHERE* −−−*;*
    Will we specify the columns that we want to see. . .

    (a) between **SELECT** and **FROM**?
    (b) between **FROM** and **WHERE**?
    (c) after **WHERE**?

13. Here is a SQL statement: **SELECT** −−− *FROM* −−− *WHERE* −−−*;*
    Will we specify the table(s) in which we are searching for data. . .

    (a) between **SELECT** and **FROM**?
    (b) between **FROM** and **WHERE**?
    (c) after **WHERE**?

14. How must we specify the date November 3, 2016 for SQL?

    (a) 11/3/2016?
    (b) 3/11/2016
    (c) nov-03-2016
    (d) 2016-11-3

15. In what sense are all computers and all programming languages equivalent?

16. The Halting Problem cannot be solved. What is the Halting Problem?

17. Although it is easy to write a program that solves the Traveling Salesman Problem, solutions to that problem are often beyond are reach. Solutions to many instances of this problem might remain forever beyond our reach. Why?