BIT 4514: Database Technology for Business
Practice questions for Midterm Exam 3 – Fall 2019
Zobel

(The following are examples of the types of questions you can expect to see on the third midterm exam – the actual exam will be worth 100 points total)

Part I (Matching: 2 points each)

Please indicate the letter of the appropriate description/definition for each term

1. ______ Database transaction
2. ______ Stored procedure
3. ______ Database trigger
4. ______ JavaScript Object Notation

A. A subroutine available to applications accessing a relational database system
B. A procedure that is automatically executed by a relational database management system when a given event occurs
C. Unsupervised grouping of data points based on "similar" attributes
D. Any (possibly multi-step) action that reads from and/or writes to a database
E. A data query and analysis tool
F. A human-readable text-based data exchange format that represents data objects in the context of attribute-value pairs

Part II (True/False: 2 points each)

5. ______ Data retrieval is slower with a data cube than with a standard relational database, but support for in-depth data analysis is much greater
6. ______ SQL Injection occurs when someone inserts malicious SQL code into a dynamic SQL statement
7. ______ A successful database transaction is one which results in a database being put into a consistent state
8. ______ The COMMIT SQL statement makes changes to RAM (temporary memory), but not to the database itself
9. ______ It is important to normalize the data in a NoSQL database
Part III (Multiple choice)

10. Which of the following directly supports the ability to restore a corrupted database?
   (Circle all that apply)
   a) A database transaction log
   b) The COMMIT statement
   c) The ROLLBACK statement
   d) SQL Injection
   e) A bound control

11. Which of the following would I use to run a parameterized query named testing that is stored in a MySQL database named exam, and which takes two parameters as inputs?
   a) `exam`.testing(x, y);
   b) SELECT testing(x, y) FROM `exam`;
   c) EXECUTE exam.testing(x, y);
   d) CALL `exam`.`testing`(x, y);
   e) `exam`.testing(x, y).run;

12. Which of the following characterizes pessimistic locking?
   a) it is necessary for applications with few update operations
   b) it assumes that no transaction conflicts will occur
   c) locks are issued before a transaction is processed so that no conflict can occur
   d) it always requires significant overhead to manage
   e) it results in inconsistent retrievals

13. Which of the following best describes the "lost update" problem?
   a) A successfully completed update is overwritten by another transaction
   b) One transaction updates the value that a second, completed, transaction has just committed to the database
   c) One of two transactions is rolled back after the other transaction has accessed information that it updated in the database
   d) A second transaction updates a value while the first transaction is in the midst of processing a series of values
   e) Two transactions simultaneously read the same value