INFO 430 Midterm Study Guide

UNIVERSITY OF WASHINGTON

Name_____ Student#_____ #_____ Score_____/15

Part A: Short-Answer in 40 minutes (3 questions for 5 points)

1. Explain the characteristics of proper error-handling as defined by the instructor; how and when might error-handling best be coded?
2. Explain the difference between OLTP and OLAP data; when is each preferred?
3. Explain the difference between RAISERROR and THROW in terms of how they are used, benefits, when and/why a developer would choose one over the other.
4. Describe 5 different SQL commands that are considered 'control of flow' language.
5. Describe the use and benefits of an output parameter; how do these allow for more efficient processing?
6. Explain the purpose and structure of a synthetic transaction; when are they used? What are the benefits?
7. Describe the functionality of a CASE statement and explain how one improves flexibility in reporting.
8. Describe the characteristics of a systematic process; what are the benefits for a development team that follows one?
9. Describe what a 'nested' transaction is, why we need them and how they are implemented and managed.

Part B: Coding in 70 minutes (4 questions for 10 points)

- Create one stored procedure that takes in several parameters of friendly names and INSERTs into multiple tables in an explicit transaction with proper error-handling.
    - Example: You have been hired as a database developer at the University of Washington. They have purchased a collection of buildings in Everett and need you to create a stored procedure to populate a new row into LOCATION and BUILDING tables in a single explicit transaction. Parameters include LocationName, LocationDescription, BuildingTypeName, BuildingName, BuildingDescription and YearOpened. Hint: fail the transaction if any variable or parameter is NULL.

- Create business rule or computed column leveraging a function
    - Example: Write the SQL to create a user-defined function to enforce the business rule that no student who has been put on academic probation within the past year may register for INFO430.

- Create a base stored procedure that calls multiple nested stored procedures to insert a row into a transactional table in an explicit transaction

- Write SQL code to return data through the use of a CASE statement.
    - Example: Write the SQL query to return the number of buildings owned by UW under the following labels:
        - If the building was opened before 1900, place it under 'Classic'
        - If the building was opened between 1900 and 1950, place it under 'Kind of old'
        - If the building was opened between 1951 and 2000, place it under 'Modern'
        - Everything else place under 'New'

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