

## INFO 330 Quiz 4



ID\_\_\_\_\_Lname\_\_\_\_\_Fname\_\_\_\_\_ExamNumber\_\_\_\_\_Score\_\_\_\_\_/7.5

### Part A (4 points):

*Convince me you know the material with at least four full paragraphs.*

- 1) Explain the purpose and steps to database maintenance as presented in lecture.
  - a) Provide context to maintenance in relation to data management.
  - b) Explain what the determining factors are in establishing a set of maintenance tasks.
  - c) Explain why and how maintenance and planning for any disaster is critical for business survival.
  - d) Provide an example of proper maintenance from lecture.

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- 2) Compare and contrast relational database systems with NoSQL systems as presented in lecture.
  - a) Provide context to these systems in relation to data management.
  - b) Explain what the determining factors are in deciding which design is preferred.
  - c) Explain why and how each system is valuable and essential to database operations.
  - d) Provide an example of a database in context of a business scenario that would be best implemented with each design

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### Part B (3.5 points):

Create the SQL queries based on the following questions and ERD:

1. Write the SQL code to create a stored procedure to INSERT one row into **SCHEDULE\_TRIP**.
  - Takes in 9 parameters of non-ID values
  - Uses variables to look-up required FK values

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2. Write the single query to determine which customers meet all the following conditions:
  - a. Boarded more than 44 trips on 'Route 305' from stops in the neighborhood of 'U-District' between March 17, 2016 and July 8, 2019
  - b. Spent more than \$235 with a payment type 'ORCA' for trips on vehicles that had Jimi Hendrix assigned as 'Coach Operator' during October 2019
  - c. Boarded fewer than 12 trips with destination 'Northgate' in the past 3 years.

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3. Write the SQL code to enforce the following business rule:  
“No vehicle of type ‘articulated double-length’ older than 12 years old may be assigned a trip through the neighborhood of ‘Capitol Hill’ in the months of December, January, or February”

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