Assignment 8

The due date for submitting this assignment has passed.

At our current records you have not submitted this assignment.

Course Outline

1. **Course Details**
   - **Course Code**: INF501
   - **Title**: Advanced Database Systems
   - **Instructor**: Dr. John Doe

2. **Course Objectives**
   - Understand the fundamental concepts of database management systems.
   - Learn how to design and implement database systems.
   - Gain experience with popular database management systems.

3. **Course Outline**
   - **Week 1**: Introduction to Database Systems
     - Database Systems Overview
     - Relational Database Model
   - **Week 2**: SQL Fundamentals
     - SQL Query Language
     - Advanced SQL Features
   - **Week 3**: Database Design
     - Entity-Relationship Model
     - Normalization
   - **Week 4**: Database Security
     - Access Control
     - Data Encryption
   - **Week 5**: Advanced Topics
     - Database Administration
     - Performance Tuning

4. **Assessment**
   - **Quizzes (10%)**
   - **Midterm Exam (30%)**
   - **Final Exam (60%)**

5. **Resources**
   - **Online Resources**: Course website, discussion forums, and study materials

6. **Grading Policy**
   - Quizzes: 100 points each
   - Midterm Exam: 300 points
   - Final Exam: 600 points

7. **Attendance**
   - Full attendance is mandatory for all courses.

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**Assignment 5**

Due on: 2023-02-17, 23:59:59 UTC

1. **Week 1**
   - **Task 1**: Discuss the importance of database systems in today's world.
     - **Instructions**: Provide a detailed explanation of the role of database systems in various industries.

2. **Week 2**
   - **Task 2**: Explain the basic components of a database system.
     - **Instructions**: Identify and discuss the key components of a database system and their roles.

3. **Week 3**
   - **Task 3**: Design a database schema for a small bookstore.
     - **Instructions**: Create a relational schema that includes tables for books, authors, publishers, and customers.

4. **Week 4**
   - **Task 4**: Implement a basic query to retrieve data from a database.
     - **Instructions**: Write an SQL query to select specific data from a database table.

5. **Week 5**
   - **Task 5**: Discuss the challenges and benefits of using cloud-based database solutions.
     - **Instructions**: Analyze the pros and cons of cloud databases compared to traditional on-premises systems.

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**Recommended Reading**

- *Database Management Systems*, 10th Edition

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**Additional Resources**

- **Discussion Forum**: For peer interaction and support
- **Lecture Notes**: Updated regularly with additional materials

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**Contact Information**

- **Instructor**: Dr. John Doe
- **Office Hours**: Monday, 10:00 AM - 12:00 PM
- **Email**: john.doe@university.edu

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**Course Policies**

- **Late submissions**: Will not be accepted.
- **Collaboration**: Group work is allowed, but each student must submit their own work.
- **Academic Integrity**: Any form of plagiarism will result in a failing grade.

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**Final Thoughts**

This assignment is designed to assess your understanding of the course material covered in the first half of the semester.

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**Submission Guidelines**

- **File Format**: PDF
- **Submission Deadline**: Due by the end of the week

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**Grading Criteria**

- **Criteria 1**: Understanding of database concepts
  - **Points**: 10
- **Criteria 2**: Ability to design a database schema
  - **Points**: 20
- **Criteria 3**: Implementation of SQL queries
  - **Points**: 30
- **Criteria 4**: Analysis of cloud database solutions
  - **Points**: 40

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**Examples**

- **Example 1**: SQL query for selecting all books by a specific author.
- **Example 2**: Designing a database schema for a restaurant management system.
- **Example 3**: Comparison of traditional and cloud-based database systems.

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**Tips for Success**

- **Review regularly**: Read and review your lecture notes and readings frequently.
- **Practice**: Work on practice problems to reinforce your understanding.
- **Seek help**: If you're struggling, don't hesitate to ask for help from your instructor or peers.

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**Reference**

[Insert any relevant reference material here]