CEU 07502 Database Programming and Administration- 2024/2025
BENG 22 COE

4th December 2024

Assignment Submission Instructions

1. **Deadline and Submission Method**: Submit the assignment (on individual basis) through the Class Representative (CR) via email by <mark>**Friday, 20th December 2024, at 16:00 hrs**</mark>. *Late submissions Won't be accepted.*
2. **File Format**: Save file as PDF with your name and registration number, compress them into a single zipped folder, and submit this folder via the CR's email.
3. **Academic Integrity**: Copying from other students is strictly prohibited. Any instances of copying will result in a score of **0%** for the entire assignment.

Failure to follow these instructions will impact your grade

Assignment 02: Stored Objects & Database Security

Objective: These questions focus on both theoretical concepts and hands-on practice, ensuring students understand and apply stored objects and database security techniques effectively.

Question 1

a) Stored Objects

b) What are stored objects in a database, and why are they important?

c) Differentiate between a stored procedure and a function. Provide examples of when to use each.

d) Explain the syntax for creating a stored procedure in SQL. Provide an example.

e) How can parameters be passed into a stored procedure? Describe the differences between IN, OUT, and INOUT parameters.

f) Write a stored function to calculate the total price of items based on quantity and unit price.

g) What are triggers in SQL, and how do they differ from stored procedures?

h) Write a trigger to automatically update the stock quantity in a "Products" table after a sale is recorded in an "Orders" table.

i) Discuss the potential performance impact of using triggers in a database.

j) What are the advantages and limitations of using stored procedures for backend operations?

k) What is the role of user management in database security?

l) Explain the difference between a user and a role in database management.

m) Write SQL commands to create a new user and assign it specific roles.

n) How can privileges be granted and revoked in SQL? Provide examples.

o) What is the purpose of the GRANT and REVOKE commands? Explain with syntax and examples.

p) Discuss the significance of ROLE in managing database security for multiple users.

q) Explain how you can use the ALTER USER command to enforce a password policy for database users.

r) Describe how encryption can be implemented to protect sensitive data in a database.

***************Happy Holidays***************