# PROG8850- Database Automation

## Assignment 1 (Total: 20 Points)

**Assignment 1: Database Automation and Scripting**

This assignment assesses your understanding of database automation concepts and your ability to create Python scripts for automating database management tasks.

**Question 1: Understanding Database Automation (10 Points)**

1.1) Explain database automation and its significance in modern data management. Highlight the role of automation in handling large volumes of data efficiently and securely.

1.2) Analyze the benefits of automating database tasks, including reduced errors, increased reliability, faster deployments, and cost efficiency. Support your analysis with real-world examples or case studies where possible.

**Question 2: Scripting for Database Automation (10 points)**

2.1) **Python Scripting for Database Backup Automation** (5 points)

Write a Python script to automate the process of creating backups for MySQL databases. Explain the script's logic, focusing on how it connects to the MySQL database and ensures a unique filename for each backup.

2.2) **Python Scripting for Database Change Deployment** (5 points)

Write a Python script to automate the deployment of database changes, such as adding a new table or column. Describe the script's functionality and how it handles the deployment process.

**Submission Instructions:**
- Submit a single ZIP file containing:
  - A word/ PDF file with your answers.
  - Python scripts named 'backup_script.py' and 'deploy_changes_script.py'
- Ensure all answers are clear and well-organized
- Cite any references used.