# **High Impact Skills Development Program** **AI & Data Science**

**Hands-On SQL Evaluation for Students**

**Objective:**

This task is designed to evaluate students' understanding of SQL queries, including data retrieval, manipulation, aggregation, and joining of tables. It will test their ability to apply SQL concepts in a practical scenario using the Departments and Employees tables.

**Task Instructions:**

1. **Data Insertion and Initial Setup**

* **Task 1.1:** Insert additional records into the Departments and Employees tables.
  + **Task:** Insert the following new departments:
    - Finance
    - IT
    - Operations

**Task 1.2:** Insert at least five new employees across the new departments.

* **Task:** Insert employees with the following details:
  + Employee 1: Alice, Williams, 2023-02-10, Finance
  + Employee 2: Bob, Smith, 2023-03-15, IT
  + Employee 3: Charlie, Johnson, 2023-04-20, Operations
  + Employee 4: David, Brown, 2023-05-25, Finance
  + Employee 5: Eva, Jones, 2023-06-30, IT

1. **Data Retrieval and Analysis**

**Task 2.1:** Retrieve the names of all employees who work in the Finance department.

* + **Task:** Write a query to find all employees in the Finance department.

**Task 2.2:** List all employees hired in the year 2023.

* **Task:** Write a query to find all employees hired in 2023.

**Task 2.3:** Find the number of employees in each department and sort the results by the number of employees in descending order.

* **Task:** Write a query to count employees per department, sorted by the number of employees.

#### ****Advanced Data Manipulation****

**Task 3.1:** Update the department name "Operations" to "Operations and Logistics".

* + **Task:** Write a query to update the department name.

**Task 3.2:** Delete an employee from the IT department who was hired most recently.

* **Task:** Write a query to delete the most recently hired employee in the IT department.

#### ****Complex Queries****

**Task 4.1:** Identify departments that have more than two employees, and list the names of those employees.

* + **Task:** Write a query to find departments with more than two employees and list their employees.