📘 CASE STUDY 1: Employee Management System

Background

A company is building an internal **Employee Management System**.
The system must store employee details, department information, and allow controlled access for different users.

◆ DDL Exercises

1. Create a database named **EmpMgmtDB**.

2. Create a table **Departments** with appropriate columns and constraints.

3. Create a table **Employees** with:

   - Auto-generated primary key
   - Name, email, salary, join date
   - Department reference

4. Modify the Employees table to add a **Status** column.

5. Change the length of the employee name column to support longer names.

6. Remove the email column from Employees.

7. Drop the Departments table.

◆ Index Exercises

8. Create an index to improve search by employee name.
9. Create an index to improve filtering by department.
10. Write a query that benefits from the department index.

📘 CASE STUDY 2: Online Order Processing System

Background

An e-commerce platform stores customer orders.
Orders are frequently searched by customer and amount.

◆ DDL Exercises

16. Create a database **OrderDB**.
17. Create a table **Customers**.
18. Create a table **Orders** with nullable foreign keys.
19. Modify Orders table to add an order status column.
20. Drop and recreate the Orders table with improved data types.

◆ Index Exercises

21. Create an index on customer ID in Orders.
22. Create an index on order amount.search.