**WEEK 2 – Advanced SQL**

**1. SQL Exercise - Advanced concepts**

**Exercises for Online Retail Store**

Exercise 1: Ranking and Window Functions

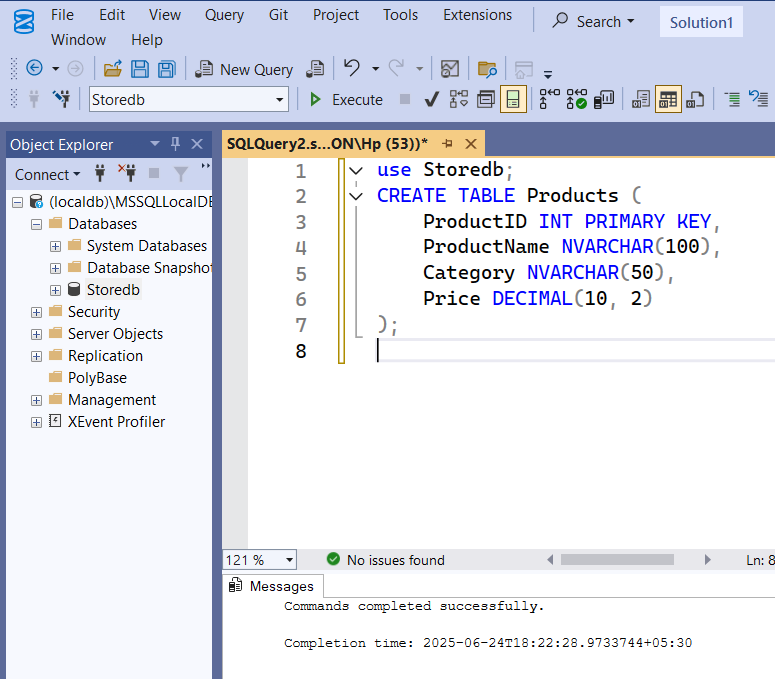
Goal: Use ROW\_NUMBER(), RANK(), DENSE\_RANK(), OVER(), and PARTITION BY.

Scenario:

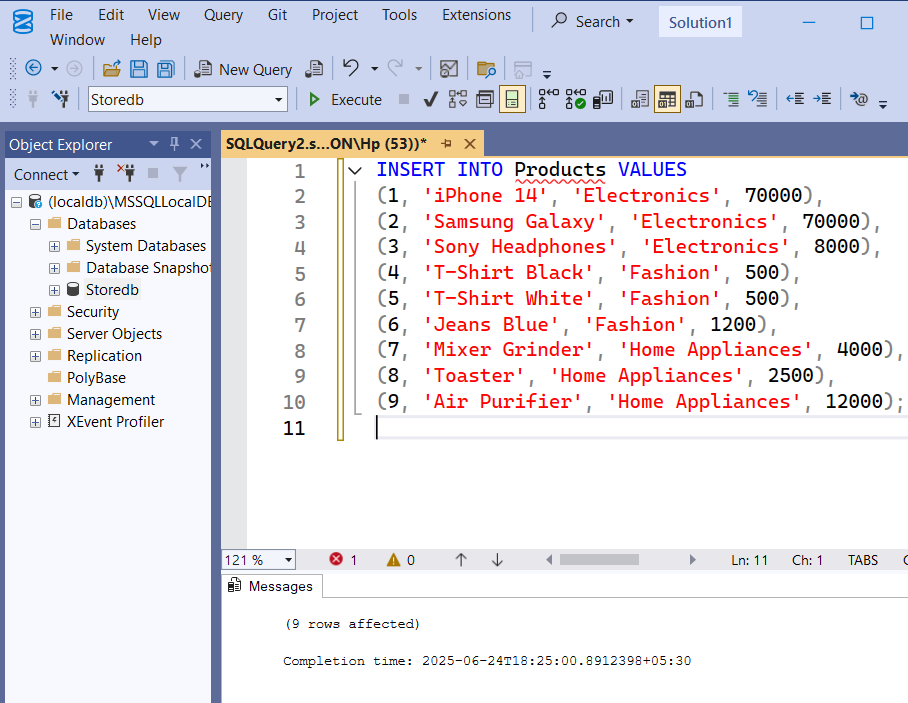
Find the top 3 most expensive products in each category using different ranking functions.

Steps:

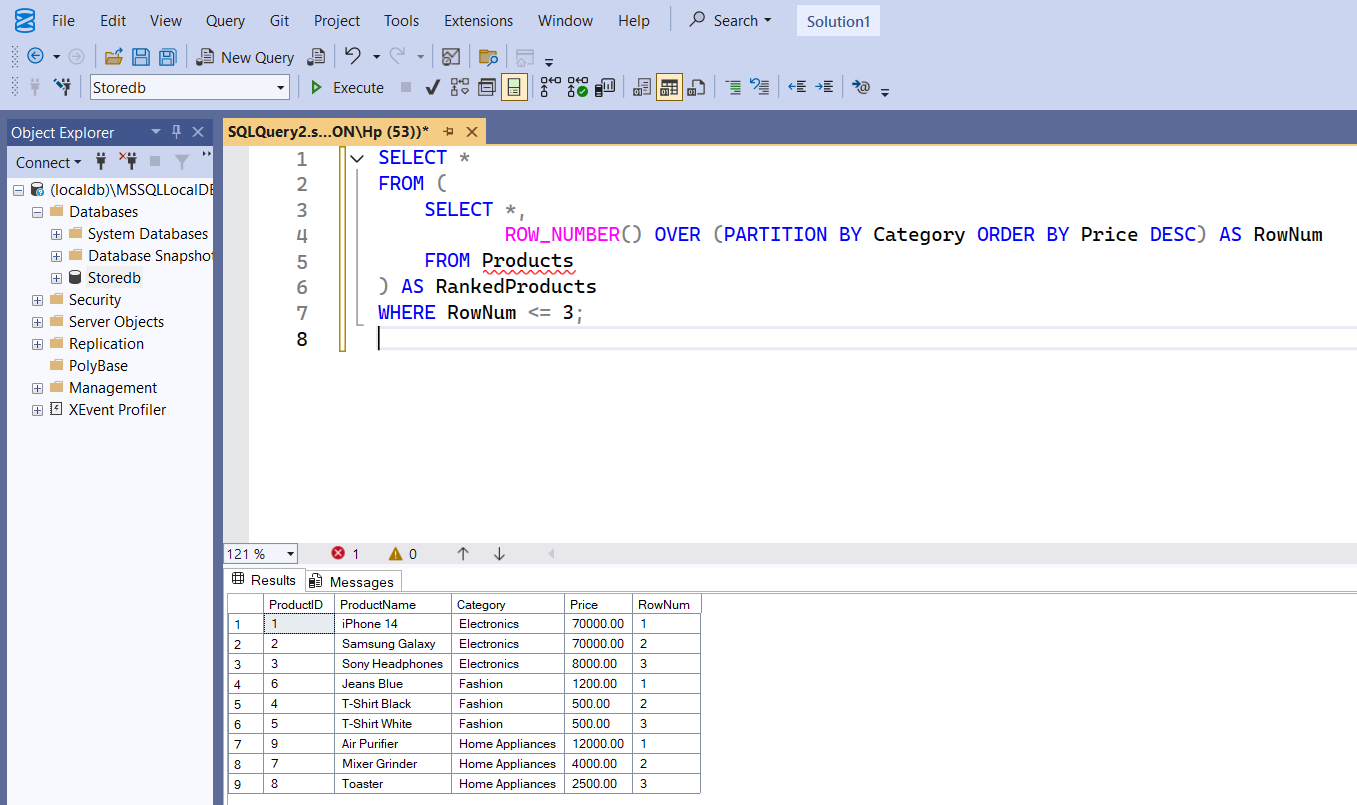
1. Create a database “ Storedb ”.



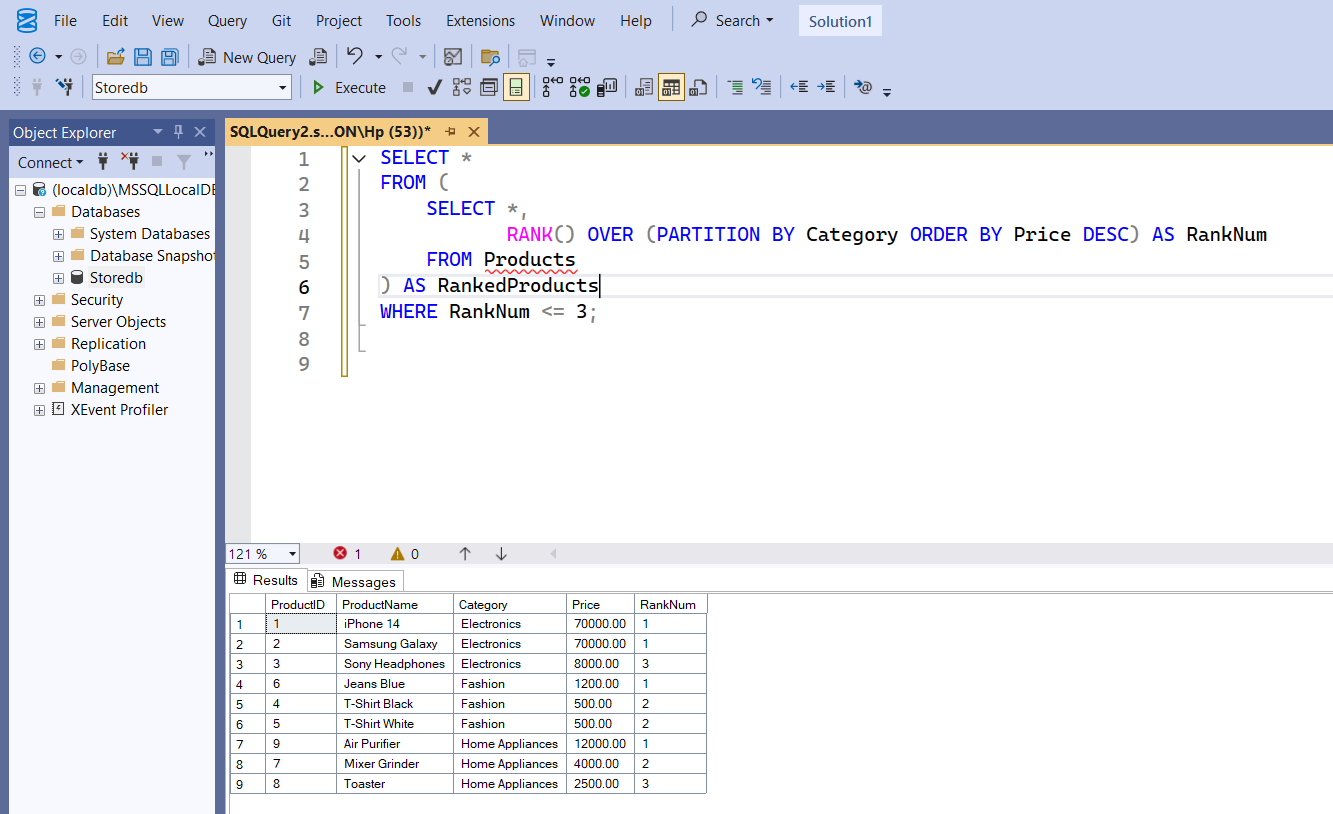
1. Insert Data in the database Storedb.

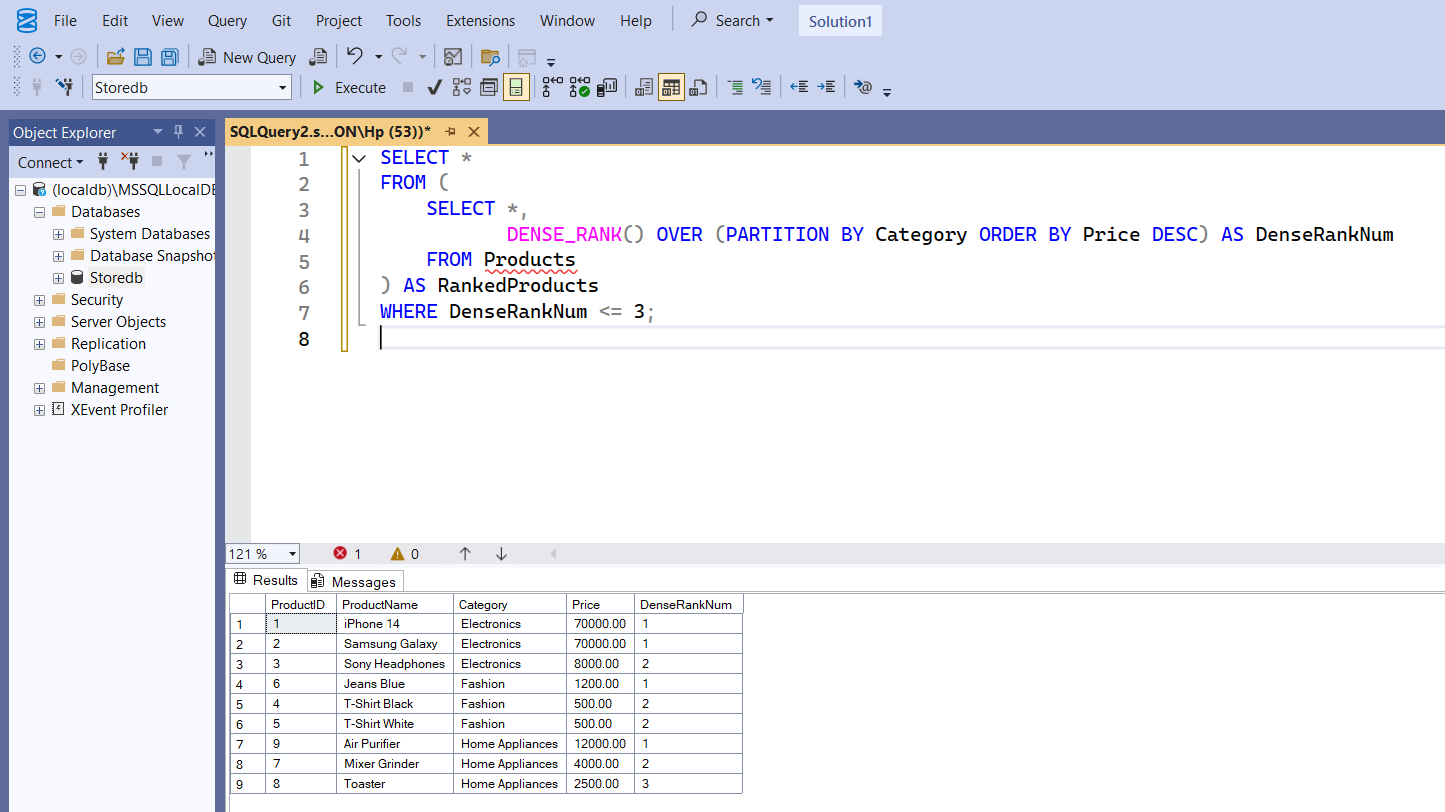


1. Use ROW\_NUMBER() to assign a unique rank within each category and also PARTITION BY Category and ORDER BY Price DESC



1. Use RANK() and DENSE\_RANK() to compare how ties are handled with PARTITION BY Category and ORDER BY Price DESC





**WEEK 2 – Advanced SQL Exercises for Online Retail Store**

4. SQL Exercise - Stored procedure

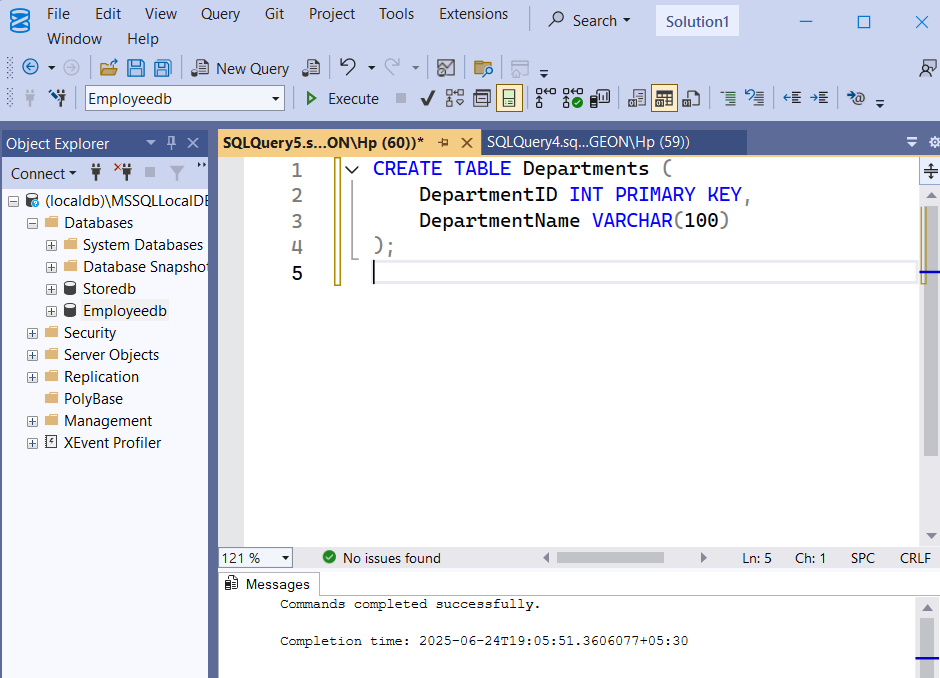
**Exercise 1: Create a Stored Procedure**

**Goal:**

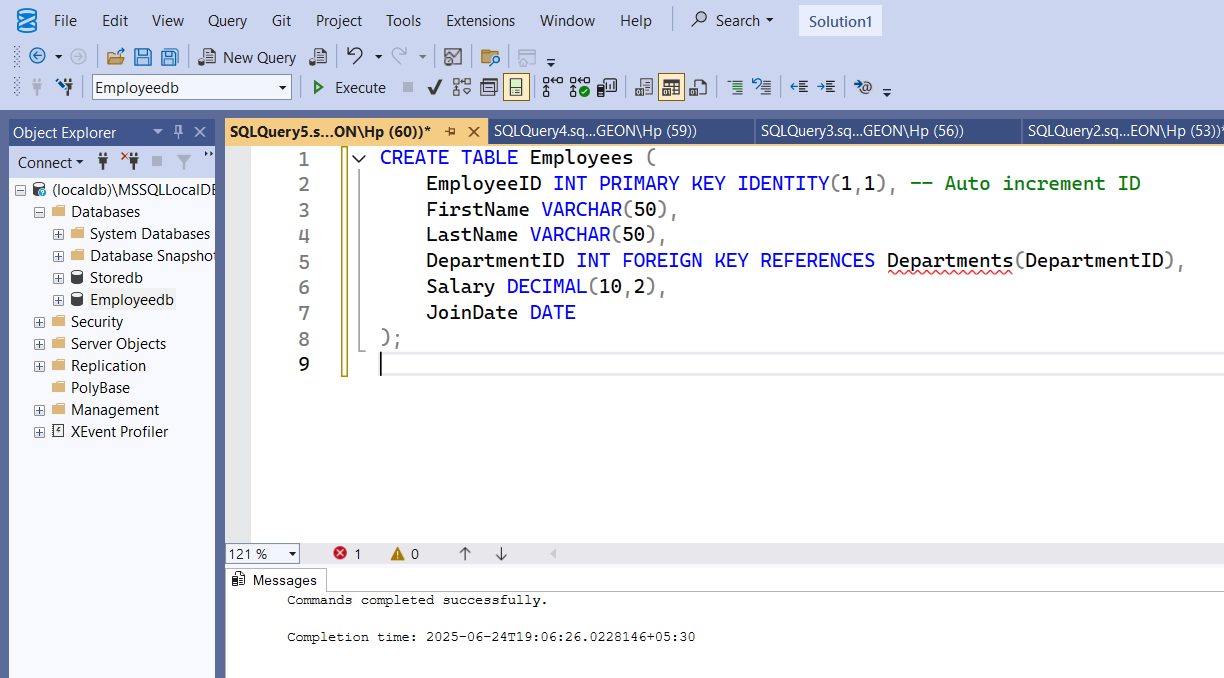
Create a stored procedure to retrieve employee details by department

**STEPS:**

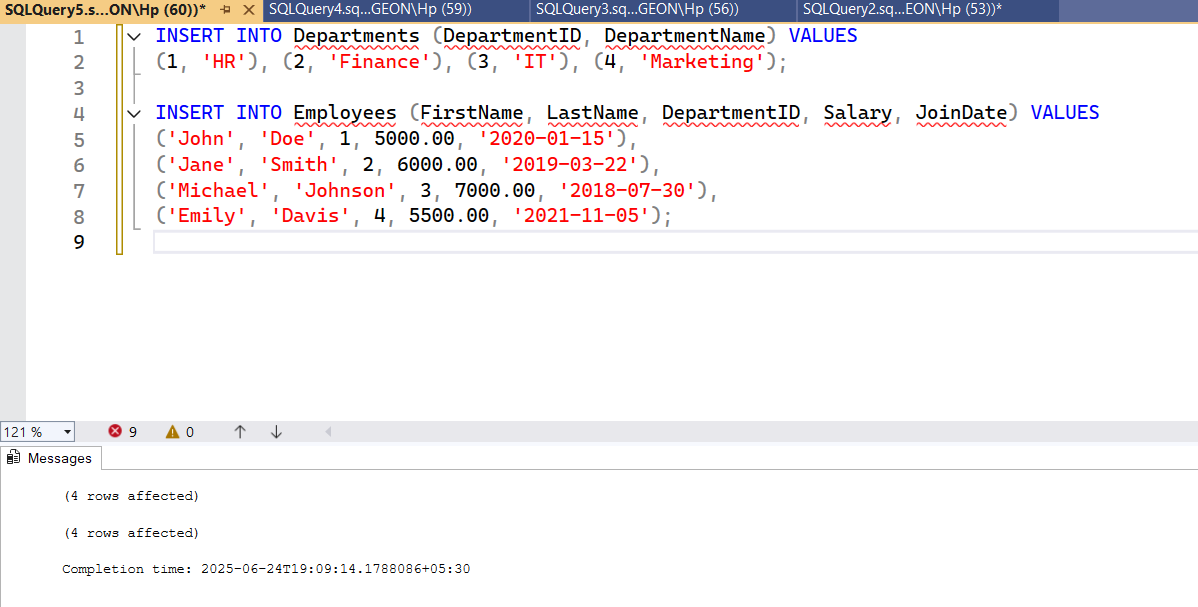
Step 1: Create Departments Table



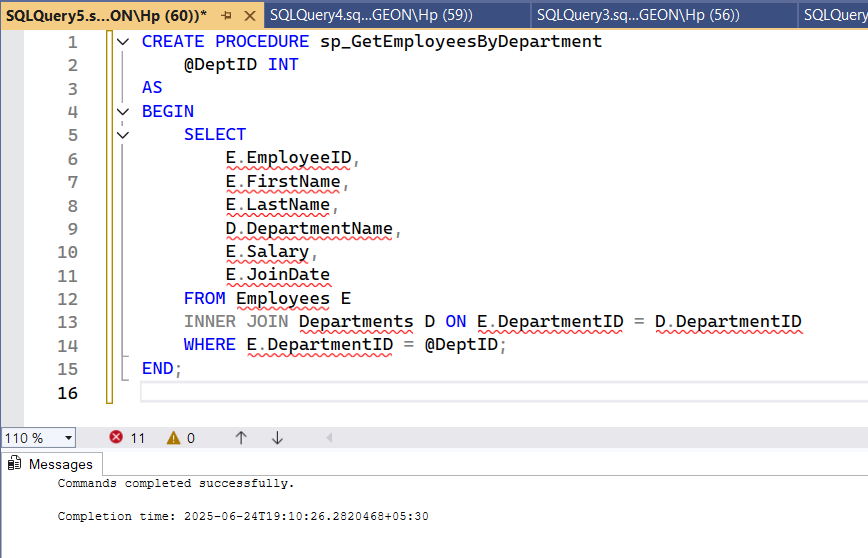
**Step 2: Create Employees Table**



Step 3: Insert Sample Data into Departments and Employees table

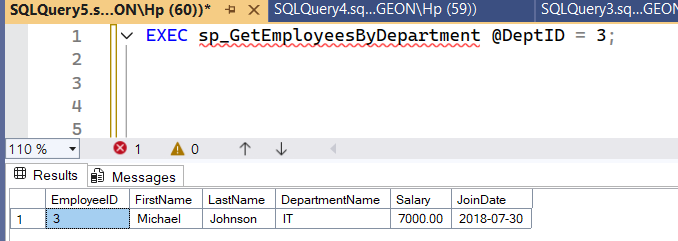


Step 4: Create sp\_GetEmployeesByDepartment



**OUTPUT:**

Returns a list of employees with their ID, name, department name, salary, and joining date.

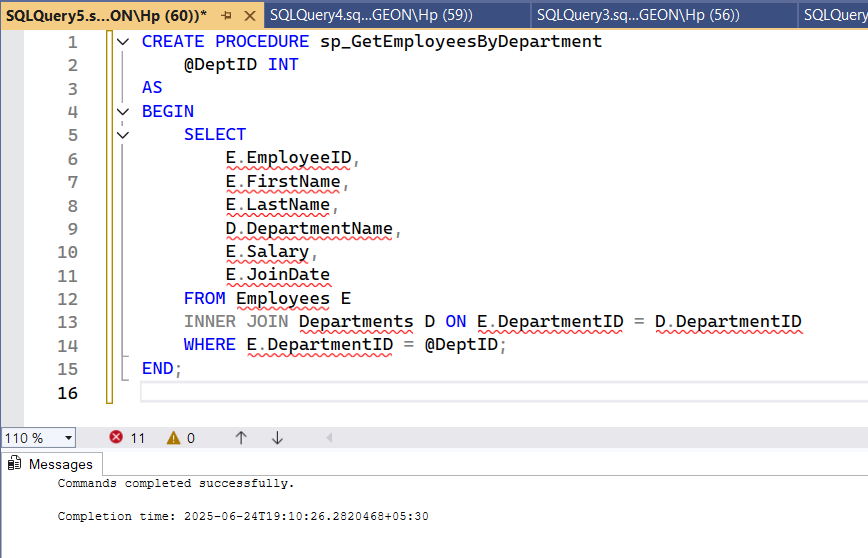


**Exercise 4: Execute a Stored Procedure**

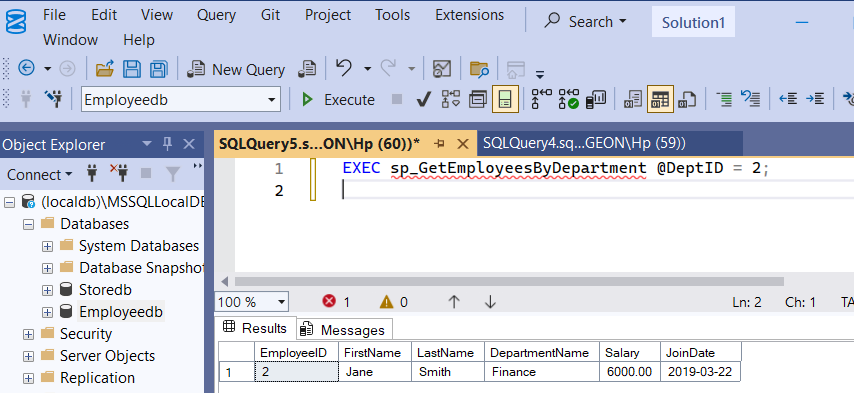
**Goal:** Execute the stored procedure to retrieve employee details for a specific department.

**Steps**:

1. Write the SQL command to execute the stored procedure with a DeptID parameter.



2. Execute the command and review the results.

****

After executing the stored procedure sp\_GetEmployeesByDepartment with @DeptID = 2, the results grid in SSMS displayed employee data for the Finance department. This validated the correct filtering of employee records by department ID.

**Exercise 5: Return Data from a Stored Procedure**

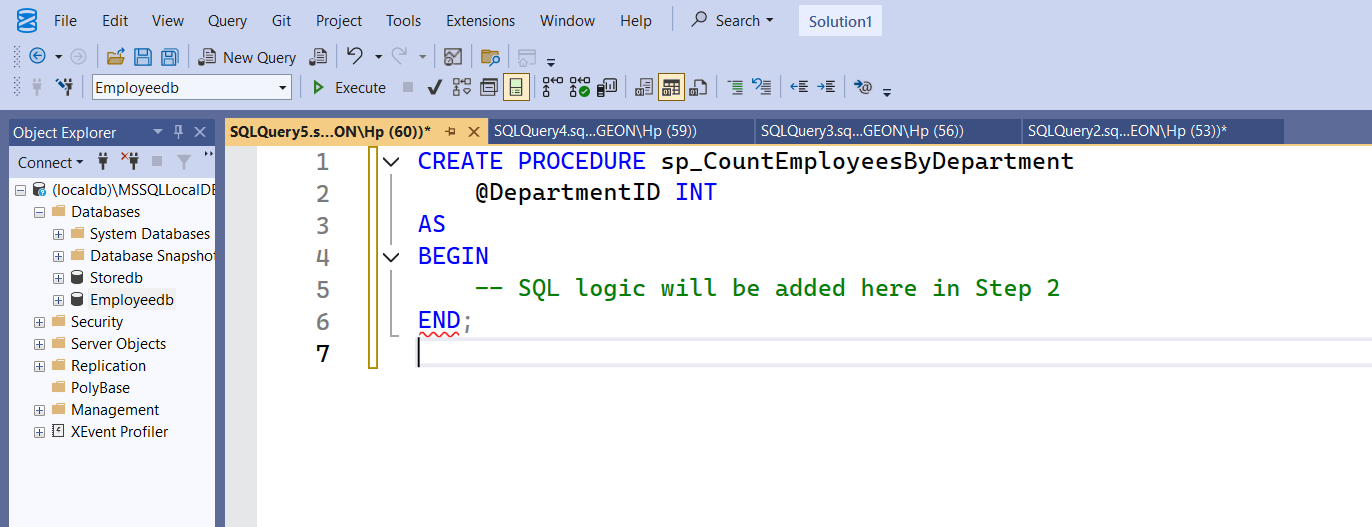
**Goal:**

Create a stored procedure that returns the total number of employees in a given department.

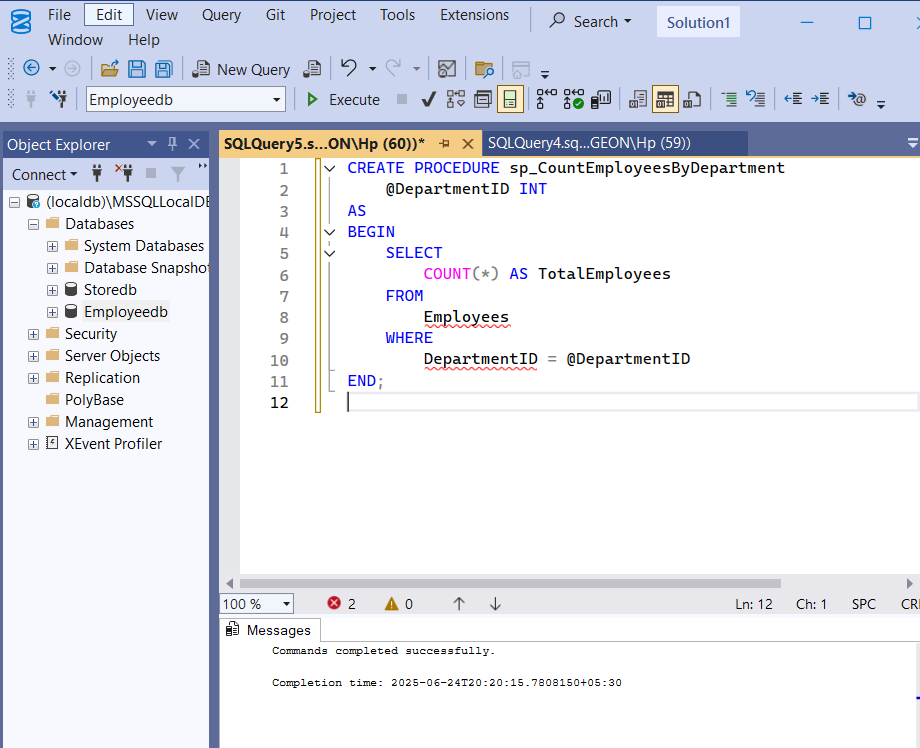
**STEPS:**

Step 1: Define the stored procedure with a parameter for DepartmentID

We need to accept a department ID to filter the count.

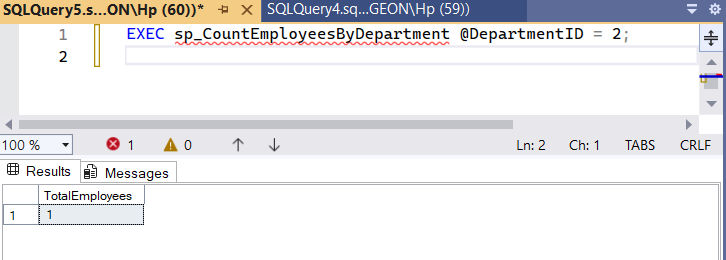


Step 2: Write the SQL query to count the number of employees in the specified department

****

3. Save the stored procedure by executing the Stored procedure content.

It was saved by executing the complete procedure definition in SSMS

****