**Exercise 1: Ranking and Window Functions**

-- Create a sample table

DROP TABLE IF EXISTS Employees;

CREATE TABLE Employees (

EmpID INT PRIMARY KEY,

Name VARCHAR(50),

Department VARCHAR(50),

Salary INT

);

-- Insert sample data

INSERT INTO Employees (EmpID, Name, Department, Salary) VALUES

(1, 'Alice', 'HR', 50000),

(2, 'Bob', 'IT', 70000),

(3, 'Charlie', 'IT', 70000),

(4, 'David', 'HR', 45000),

(5, 'Eva', 'IT', 60000),

(6, 'Frank', 'Finance', 75000),

(7, 'Grace', 'Finance', 75000),

(8, 'Hannah', 'HR', 50000);

-- Display with Ranking and Window Functions

SELECT

EmpID,

Name,

Department,

Salary,

RANK() OVER (PARTITION BY Department ORDER BY Salary DESC) AS Salary\_Rank,

DENSE\_RANK() OVER (PARTITION BY Department ORDER BY Salary DESC) AS Dense\_Salary\_Rank,

ROW\_NUMBER() OVER (PARTITION BY Department ORDER BY Salary DESC) AS Row\_Num,

NTILE(2) OVER (PARTITION BY Department ORDER BY Salary DESC) AS Salary\_Tile,

SUM(Salary) OVER (PARTITION BY Department) AS Dept\_Total\_Salary,

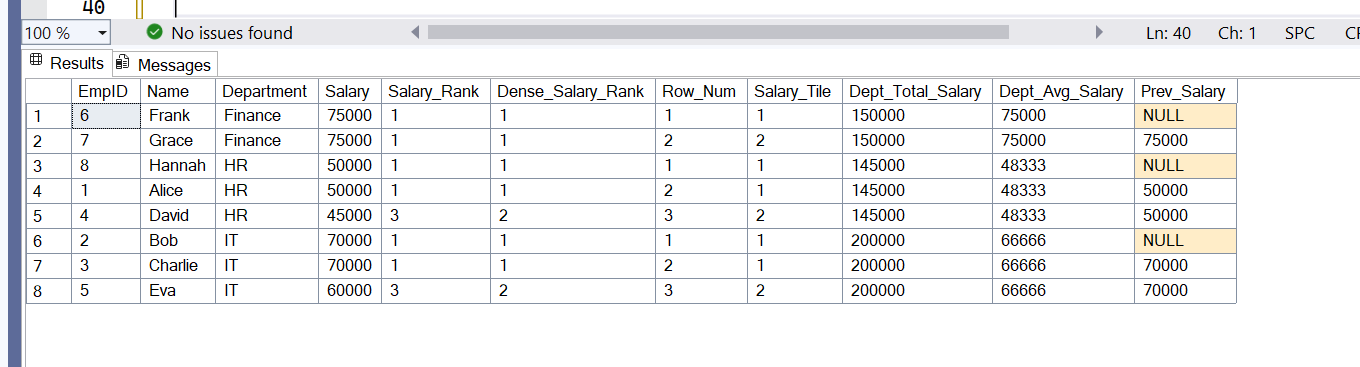
AVG(Salary) OVER (PARTITION BY Department) AS Dept\_Avg\_Salary,

LAG(Salary, 1, NULL) OVER (PARTITION BY Department ORDER BY Salary DESC) AS Prev\_Salary

FROM Employees

ORDER BY Department, Salary DESC;

**Output**

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