**Employee Management System - SQL Exercises**

**Database Schema**

The Employee Management System database schema consists of the following tables:

1. Departments

| Column | Data Type | Description |

|---------------|---------------|------------------------------|

| DepartmentID | INT (PK) | Unique department ID |

| DepartmentName| VARCHAR(100) | Name of the department |

2. Employees

| Column | Data Type | Description |

|---------------|---------------|------------------------------|

| EmployeeID | INT (PK) | Unique employee ID |

| FirstName | VARCHAR(50) | Employee's first name |

| LastName | VARCHAR(50) | Employee's last name |

| DepartmentID | INT (FK) | Linked to Departments |

| Salary | DECIMAL(10,2) | Monthly salary |

| JoinDate | DATE | Date of joining |

**Sample Data**

Sample data for testing:

Departments:

| DepartmentID | DepartmentName |

|--------------|----------------|

| 1 | HR |

| 2 | IT |

| 3 | Finance |

Employees:

| EmployeeID | FirstName | LastName | DepartmentID | Salary | JoinDate |

|------------|-----------|----------|--------------|---------|------------|

| 1 | John | Doe | 1 | 5000.00 | 2020-01-15 |

| 2 | Jane | Smith | 2 | 6000.00 | 2019-03-22 |

| 3 | Bob | Johnson | 3 | 5500.00 | 2021-07-01 |

**Exercise 7: Return Data from a Scalar Function**

Goal: Return the annual salary for a specific employee using `fn\_CalculateAnnualSalary`.

Steps:

1. Execute the `fn\_CalculateAnnualSalary` function for an employee with `EmployeeID = 1`.

2. Verify the result.

**CODE:**

-- Step 1: Create Departments Table

CREATE TABLE Departments (

    DepartmentID INT PRIMARY KEY,

    DepartmentName VARCHAR(100)

);

GO

-- Step 2: Create Employees Table

CREATE TABLE Employees (

    EmployeeID INT PRIMARY KEY,

    FirstName VARCHAR(50),

    LastName VARCHAR(50),

    DepartmentID INT,

    Salary DECIMAL(10,2),

    JoinDate DATE,

    FOREIGN KEY (DepartmentID) REFERENCES Departments(DepartmentID)

);

GO

-- Step 3: Insert Sample Data into Departments

INSERT INTO Departments (DepartmentID, DepartmentName) VALUES

(1, 'HR'),

(2, 'IT'),

(3, 'Finance');

GO

-- Step 4: Insert Sample Data into Employees

INSERT INTO Employees (EmployeeID, FirstName, LastName, DepartmentID, Salary, JoinDate) VALUES

(1, 'John', 'Doe', 1, 5000.00, '2020-01-15'),

(2, 'Jane', 'Smith', 2, 6000.00, '2019-03-22'),

(3, 'Bob', 'Johnson', 3, 5500.00, '2021-07-01');

GO

-- Step 5: Create Scalar Function (must be first in a batch)

CREATE FUNCTION fn\_CalculateAnnualSalary (

    @EmpID INT

)

RETURNS DECIMAL(10,2)

AS

BEGIN

    DECLARE @AnnualSalary DECIMAL(10,2);

    SELECT @AnnualSalary = Salary \* 12

    FROM Employees

    WHERE EmployeeID = @EmpID;

    RETURN @AnnualSalary;

END;

GO

-- Step 6: Execute the Function for EmployeeID = 1

SELECT dbo.fn\_CalculateAnnualSalary(1) AS AnnualSalary;

GO

**OUTPUT:**

