**Exercise 1: Create a Stored Procedure**

Goal: Create a stored procedure to retrieve employee details by department.

Steps:

1. Define the stored procedure with a parameter for DepartmentID.

2. Write the SQL query to select employee details based on the DepartmentID.

3. Create a stored procedure named `sp\_InsertEmployee` with the following code:

CREATE PROCEDURE sp\_InsertEmployee

@FirstName VARCHAR(50),

@LastName VARCHAR(50),

@DepartmentID INT,

@Salary DECIMAL(10,2),

@JoinDate DATE

AS

BEGIN

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

VALUES (@FirstName, @LastName, @DepartmentID, @Salary, @JoinDate);

END

**CODE:**

-- Use the correct database

USE sampledb;

GO

-- Drop existing procedures if they exist

IF OBJECT\_ID('sp\_GetEmployeesByDepartment', 'P') IS NOT NULL

DROP PROCEDURE sp\_GetEmployeesByDepartment;

IF OBJECT\_ID('sp\_InsertEmployee', 'P') IS NOT NULL

DROP PROCEDURE sp\_InsertEmployee;

GO

-- Drop tables if they exist

IF OBJECT\_ID('Employees', 'U') IS NOT NULL

DROP TABLE Employees;

IF OBJECT\_ID('Departments', 'U') IS NOT NULL

DROP TABLE Departments;

GO

-- Create Departments table

CREATE TABLE Departments (

DepartmentID INT PRIMARY KEY,

DepartmentName VARCHAR(100)

);

GO

-- Create Employees table with auto-increment EmployeeID

CREATE TABLE Employees (

EmployeeID INT IDENTITY(1,1) PRIMARY KEY,

FirstName VARCHAR(50),

LastName VARCHAR(50),

DepartmentID INT FOREIGN KEY REFERENCES Departments(DepartmentID),

Salary DECIMAL(10,2),

JoinDate DATE

);

GO

-- Insert sample departments

INSERT INTO Departments (DepartmentID, DepartmentName) VALUES

(1, 'HR'),

(2, 'Finance'),

(3, 'IT'),

(4, 'Marketing');

GO

-- Insert sample employees

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

('Suhana', 'Sharma', 1, 5000.00, '2020-01-15'),

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

('Rohit', 'Gaikwad', 3, 7000.00, '2018-07-30'),

('Shreyas', 'Shinde', 4, 5500.00, '2021-11-05');

GO

-- Create procedure to retrieve employees by department

CREATE PROCEDURE sp\_GetEmployeesByDepartment

@DeptID INT

AS

BEGIN

SELECT EmployeeID, FirstName, LastName, DepartmentID, Salary, JoinDate

FROM Employees

WHERE DepartmentID = @DeptID;

END;

GO

-- Create procedure to insert a new employee (auto-generates EmployeeID)

CREATE PROCEDURE sp\_InsertEmployee

@FirstName VARCHAR(50),

@LastName VARCHAR(50),

@DepartmentID INT,

@Salary DECIMAL(10,2),

@JoinDate DATE

AS

BEGIN

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

VALUES (@FirstName, @LastName, @DepartmentID, @Salary, @JoinDate);

END;

GO

--TEST: Insert a new employee using the procedure

EXEC sp\_InsertEmployee

@FirstName = 'Alice',

@LastName = 'Williams',

@DepartmentID = 3,

@Salary = 7200.00,

@JoinDate = '2022-06-01';

GO

-- TEST: Retrieve all employees in the Finance department (DepartmentID = 2)

EXEC sp\_GetEmployeesByDepartment @DeptID = 2;

GO

**OUTPUT:**



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

Goal: Create a stored procedure that returns the total number of employees in a

department.

Steps:

1. Define the stored procedure with a parameter for DepartmentID.

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.

**CODE:**

use sampledb;

CREATE TABLE Departments (

DepartmentID INT PRIMARY KEY,

DepartmentName VARCHAR(100)

);

CREATE TABLE Employees (

EmployeeID INT PRIMARY KEY,

FirstName VARCHAR(50),

LastName VARCHAR(50),

DepartmentID INT FOREIGN KEY REFERENCES Departments(DepartmentID),

Salary DECIMAL(10,2),

JoinDate DATE

);

INSERT INTO Departments (DepartmentID, DepartmentName) VALUES

(1, 'HR'),

(2, 'Finance'),

(3, 'IT'),

(4, 'Marketing');

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

('Suhana', 'Sharma', 1, 5000.00, '2020-01-15'),

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

('Rohit', 'Gaikwad', 3, 7000.00, '2018-07-30'),

('Shreyas', 'Shinde', 4, 5500.00, '2021-11-05');

CREATE PROCEDURE GetEmployeeCountByDepartment

@DeptID INT

AS

BEGIN

SELECT COUNT(\*) AS TotalEmployees

FROM Employees

WHERE DepartmentID = @DeptID;

END;

EXEC GetEmployeeCountByDepartment @DeptID = 3; -- Example for IT department

**OUTPUT**

