

Problem statement 3:

Create a MySQL stored procedure that inserts a new record into an "Employees" table, ensuring that the employee's salary is within a specified range. Implement error handling to manage cases where the salary is outside the allowed range.

Employees Table

```
CREATE TABLE Employees (  
    employee_id INT PRIMARY KEY AUTO_INCREMENT,  
    name VARCHAR(100) NOT NULL,  
    position VARCHAR(100) NOT NULL,  
    salary DECIMAL(10,2) NOT NULL CHECK (salary BETWEEN 30000 AND 200000)  
);
```

Stored Procedure

```
DELIMITER $$
```

```
CREATE PROCEDURE InsertEmployee(  
    IN emp_name VARCHAR(100),  
    IN emp_position VARCHAR(100),  
    IN emp_salary DECIMAL(10,2)  
)  
BEGIN  
    DECLARE salary_min DECIMAL(10,2) DEFAULT 30000;  
    DECLARE salary_max DECIMAL(10,2) DEFAULT 200000;  
    DECLARE exit_handler FOR SQLEXCEPTION  
    BEGIN  
        -- Handle error: Rollback and display a message  
        ROLLBACK;  
        SIGNAL SQLSTATE '45000'  
        SET MESSAGE_TEXT = 'Salary is out of the allowed range (30,000 - 200,000)';  
    END;  
  
    -- Start transaction  
    START TRANSACTION;  
  
    -- Check salary range  
    IF emp_salary < salary_min OR emp_salary > salary_max THEN  
        SIGNAL SQLSTATE '45000'  
        SET MESSAGE_TEXT = 'Salary is out of the allowed range (30,000 - 200,000)';  
    ELSE  
        -- Insert employee if salary is valid  
        INSERT INTO Employees (name, position, salary)  
        VALUES (emp_name, emp_position, emp_salary);  
    END IF;  
  
    -- Commit transaction if everything is fine  
    COMMIT;
```

END \$\$

DELIMITER ;

Call the Stored Procedure

```
CALL InsertEmployee('John Doe', 'Software Engineer', 50000);  
CALL InsertEmployee('Jane Smith', 'Manager', 250000); -- This will trigger an error
```

How It Works

1. Checks if the salary is within range (30,000 - 200,000):
 - If not, raises an error using SIGNAL SQLSTATE '45000'.
2. Uses transactions (START TRANSACTION, COMMIT, ROLLBACK):
 - Ensures safe insertion of records.
3. Error Handling (DECLARE exit_handler FOR SQLEXCEPTION):
 - Catches exceptions and provides a clear message.