**Exercise 5: Triggers**

**Scenario 1:**

CREATE OR REPLACE TRIGGER UpdateCustomerLastModified

BEFORE UPDATE ON Customers

FOR EACH ROW

BEGIN

:NEW.LastModified := SYSDATE;

END;

**Scenario 2:**

**Creating the AuditLog table**

CREATE TABLE AuditLog (

LogID NUMBER GENERATED BY DEFAULT AS IDENTITY PRIMARY KEY,

TransactionID NUMBER,

LogTimestamp DATE,

Action VARCHAR2(50),

Details VARCHAR2(200)

);

CREATE OR REPLACE TRIGGER LogTransaction

AFTER INSERT ON Transactions

FOR EACH ROW

BEGIN

INSERT INTO AuditLog (TransactionID, LogTimestamp, Action, Details)

VALUES (:NEW.TransactionID, SYSDATE, 'INSERT', 'Transaction inserted with amount: ' || :NEW.Amount);

END;

**Scenario 3:**

CREATE OR REPLACE TRIGGER CheckTransactionRules

BEFORE INSERT ON Transactions

FOR EACH ROW

DECLARE

v\_balance NUMBER;

BEGIN

IF :NEW.TransactionType = 'Withdrawal' THEN

SELECT Balance INTO v\_balance

FROM Accounts

WHERE AccountID = :NEW.AccountID

FOR UPDATE;

IF :NEW.Amount > v\_balance THEN

RAISE\_APPLICATION\_ERROR(-20001, 'Insufficient funds for withdrawal.');

END IF;

ELSIF :NEW.TransactionType = 'Deposit' THEN

IF :NEW.Amount <= 0 THEN

RAISE\_APPLICATION\_ERROR(-20002, 'Deposit amount must be positive.');

END IF;

END IF;

END;