Exercise 5: Triggers

**Scenario 1: Automatically update the last modified date when a customer's record is updated.**

CREATE OR REPLACE TRIGGER UpdateCustomerLastModified

BEFORE UPDATE ON Customers

FOR EACH ROW

BEGIN

:NEW.LastModified := SYSDATE;

END UpdateCustomerLastModified;

**Scenario 2: Maintain an audit log for all transactions.**

CREATE OR REPLACE TRIGGER LogTransaction

AFTER INSERT ON Transactions

FOR EACH ROW

BEGIN

INSERT INTO AuditLog (TransactionID, AccountID, TransactionDate, Amount, TransactionType)

VALUES (:NEW.TransactionID, :NEW.AccountID, :NEW.TransactionDate, :NEW.Amount, :NEW.TransactionType);

END LogTransaction;

**Scenario 3: Enforce business rules on deposits and withdrawals.**

CREATE OR REPLACE TRIGGER CheckTransactionRules

BEFORE INSERT ON Transactions

FOR EACH ROW

BEGIN

IF :NEW.TransactionType = 'Withdrawal' AND :NEW.Amount > (SELECT Balance FROM Accounts WHERE AccountID = :NEW.AccountID) THEN

RAISE\_APPLICATION\_ERROR(-20003, 'Insufficient balance for withdrawal.');

ELSIF :NEW.TransactionType = 'Deposit' AND :NEW.Amount <= 0 THEN

RAISE\_APPLICATION\_ERROR(-20004, 'Deposit amount must be positive.');

END IF;

END CheckTransactionRules;