**Exercise 3: Stored Procedures**

**Scenario 3:**

**Code:**

**-- Creating Customers Table**

CREATE TABLE Customers (

CustomerID NUMBER PRIMARY KEY,

Name VARCHAR2(100),

DOB DATE,

Balance NUMBER,

LastModified DATE

);

***-- Inserting Values into Customers Table***

BEGIN

INSERT INTO Customers VALUES (1, 'Alice Reddy', TO\_DATE('1950-05-10', 'YYYY-MM-DD'), 12000, SYSDATE);

INSERT INTO Customers VALUES (2, 'Bob Singh', TO\_DATE('1990-08-21', 'YYYY-MM-DD'), 8000, SYSDATE);

INSERT INTO Customers VALUES (3, 'Carol Mehta', TO\_DATE('1962-01-15', 'YYYY-MM-DD'), 15000, SYSDATE );

INSERT INTO Customers VALUES (4, 'David Rao', TO\_DATE('1985-12-01', 'YYYY-MM-DD'), 9500, SYSDATE);

INSERT INTO Customers VALUES (5, 'Esha Iyer', TO\_DATE('1945-03-25', 'YYYY-MM-DD'), 20000, SYSDATE);

END;

***-- Creating Accounts table***

CREATE TABLE Accounts (

AccountID NUMBER PRIMARY KEY,

CustomerID NUMBER,

AccountType VARCHAR2(20),

Balance NUMBER,

LastModified DATE,

FOREIGN KEY (CustomerID) REFERENCES Customers(CustomerID)

);

***-- Inserting Values into Accounts table***

BEGIN

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (1, 1, 'Savings', 1200, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (2, 2, 'Checking', 800, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (3, 3, 'Savings', 15000, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (4, 4, 'Checking', 9500, SYSDATE);

INSERT INTO Accounts (AccountID, CustomerID, AccountType, Balance, LastModified) VALUES (5, 5, 'Savings', 20000, SYSDATE);

END;

***-- Creating stored procedure to transfer funds between two accounts***

CREATE OR REPLACE PROCEDURE TransferFunds(

FromAccountID NUMBER,

ToAccountID NUMBER,

Amount NUMBER

)

AS

fromBalance NUMBER;

BEGIN

SELECT Balance INTO fromBalance

FROM Accounts

WHERE AccountID=FromAccountID;

IF fromBalance>=Amount THEN

UPDATE Accounts

SET Balance=Balance-Amount,

LastModified=SYSDATE

WHERE AccountID=FromAccountID;

UPDATE Accounts

SET Balance=Balance+Amount,

LastModified=SYSDATE

WHERE AccountID=ToAccountID;

DBMS\_OUTPUT.PUT\_LINE('Transaction Successful: ' || Amount || ' transferred from Account ' || FromAccountID || ' to Account ' || ToAccountID || CHR(10));

ELSE

DBMS\_OUTPUT.PUT\_LINE('Cannot Transfer: Insufficient Balance in Account ' || FromAccountID ||CHR(10));

END IF;

END;

/

***-- Executing procedure with two transfer operations***

BEGIN

***-- Successful transfer from Account 3 to Account 1***

TransferFunds(3,1,2000);

***-- Fails due to insufficient balance in Account 2***

TransferFunds(2,5,1000);

END;

**OUTPUT:**

