**MANDATOTARY EXERCISE:’**

**Exercise 1: Control Structures**

**Scenario 1:**

DECLARE

CURSOR cur\_eligible\_loans IS

SELECT l.loanID, l.interestRate

FROM loans l

JOIN customers c ON c.customerID = l.customerID

WHERE TRUNC(MONTHS\_BETWEEN(SYSDATE, c.DOB) / 12) > 60;

BEGIN

FOR rec IN cur\_eligible\_loans LOOP

UPDATE loans

SET interestRate = rec.interestRate \* 0.99 -- 1 % drop

WHERE loanID = rec.loanID;

END LOOP;

COMMIT;

EXCEPTION

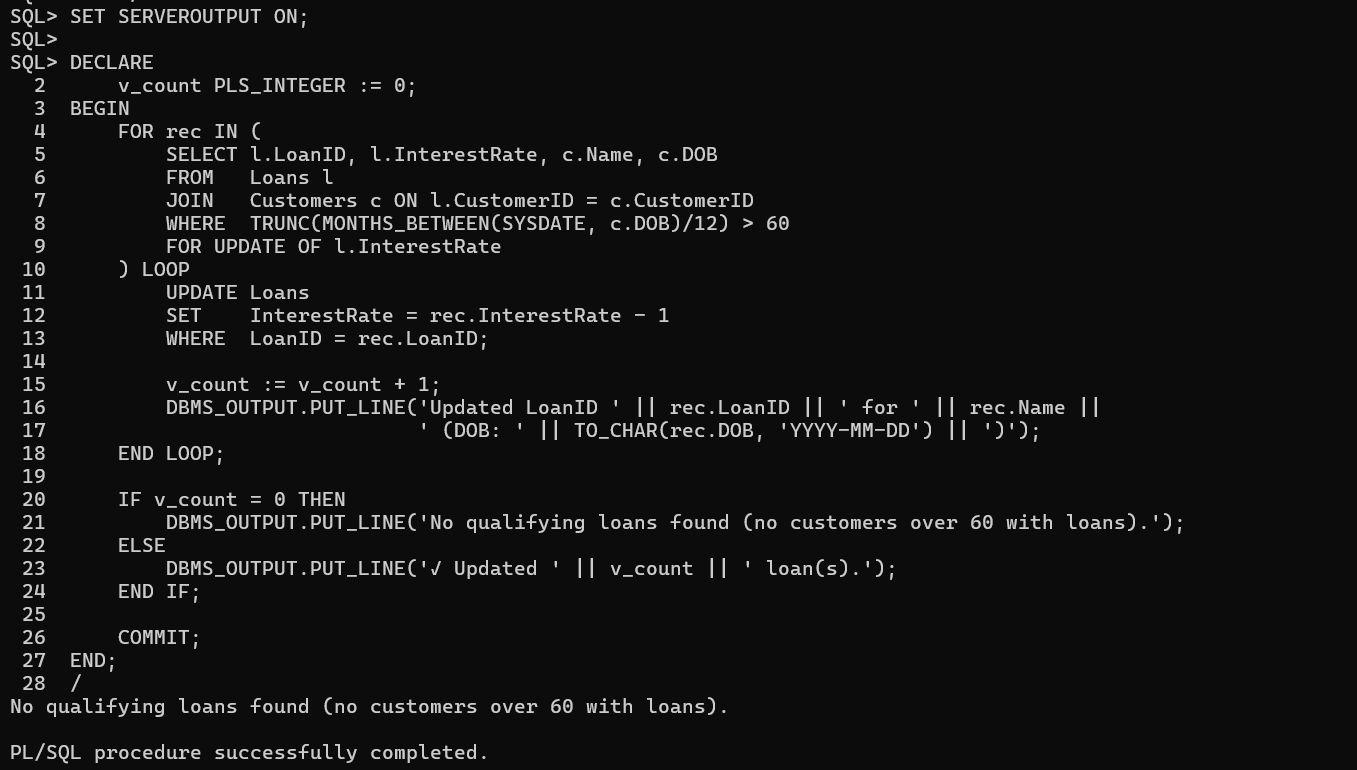
WHEN OTHERS THEN

ROLLBACK;

RAISE;

END;

/

**OUTPUT:** 

**Scenario 2:**

DECLARE

CURSOR cust\_cursor IS

SELECT CustomerID, Balance FROM Customers;

BEGIN

FOR cust\_rec IN cust\_cursor LOOP

IF cust\_rec.Balance > 10000 THEN

UPDATE Customers

SET IsVIP = 'TRUE'

WHERE CustomerID = cust\_rec.CustomerID;

ELSE

UPDATE Customers

SET IsVIP = 'FALSE'

WHERE CustomerID = cust\_rec.CustomerID;

END IF;

END LOOP;

OMMIT;

EXCEPTION

WHEN OTHERS THEN

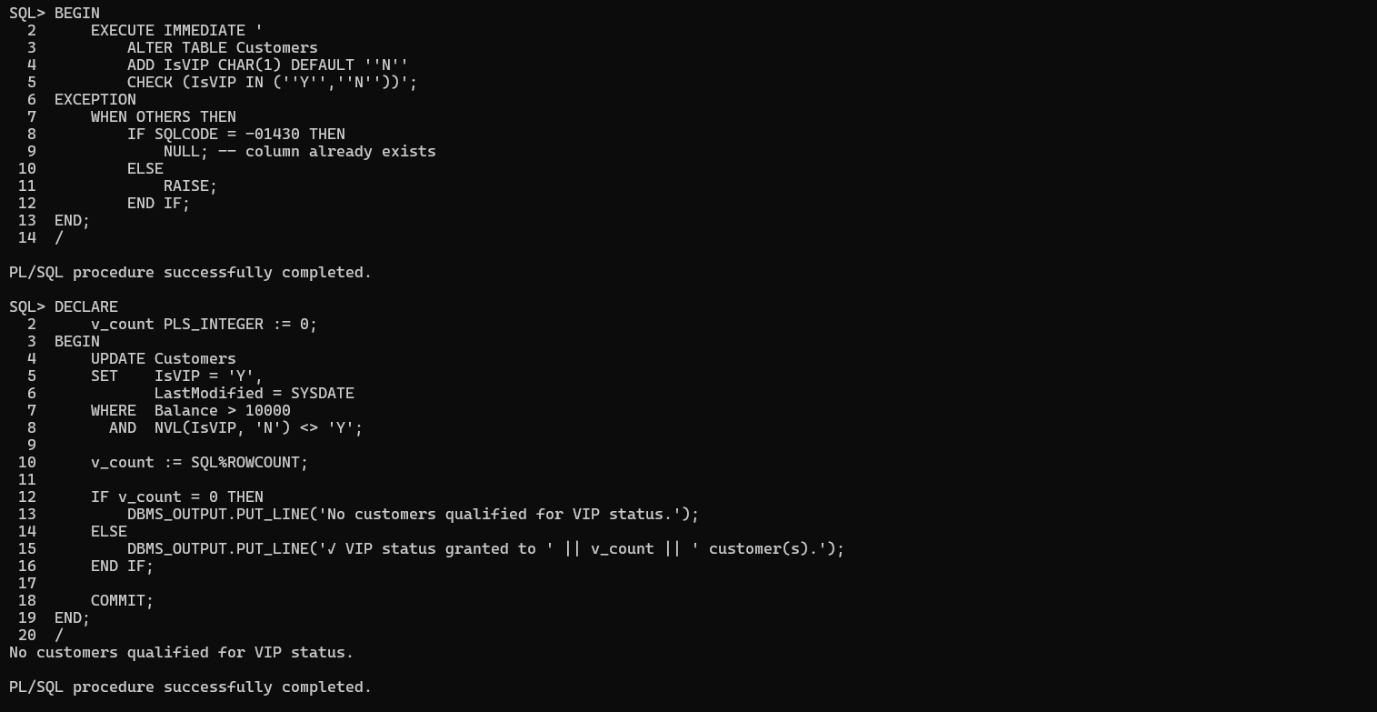
ROLLBACK;

RAISE;

END;

/

**OUTPUT:**



**Scenario 3:**

**SET SERVEROUTPUT ON**

**DECLARE**

**CURSOR cur\_due\_loans IS**

**SELECT l.loanID,**

**l.customerID,**

**l.loanAmount,**

**l.endDate,**

**c.name**

**FROM loans l**

**JOIN customers c ON c.customerID = l.customerID**

**WHERE l.endDate BETWEEN TRUNC(SYSDATE)**

**AND TRUNC(SYSDATE) + 30;**

**v\_count NUMBER := 0;**

**BEGIN**

**FOR rec IN cur\_due\_loans LOOP**

**DBMS\_OUTPUT.PUT\_LINE (**

**'REMINDER: Dear ' || rec.name ||**

**' (Customer ' || rec.customerID || '), your loan #' || rec.loanID ||**

**' of $' || TO\_CHAR(rec.loanAmount, 'FM999G999G999') ||**

**' is due on ' || TO\_CHAR(rec.endDate, 'YYYY-MM-DD') ||**

**'. Please arrange payment or contact the bank.'**

**);**

**v\_count := v\_count + 1;**

**END LOOP;**

**IF v\_count = 0 THEN**

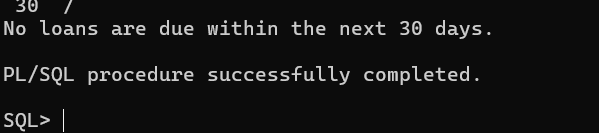
**DBMS\_OUTPUT.PUT\_LINE('No loans are due within the next 30 days.');**

**END IF;**

**END;**

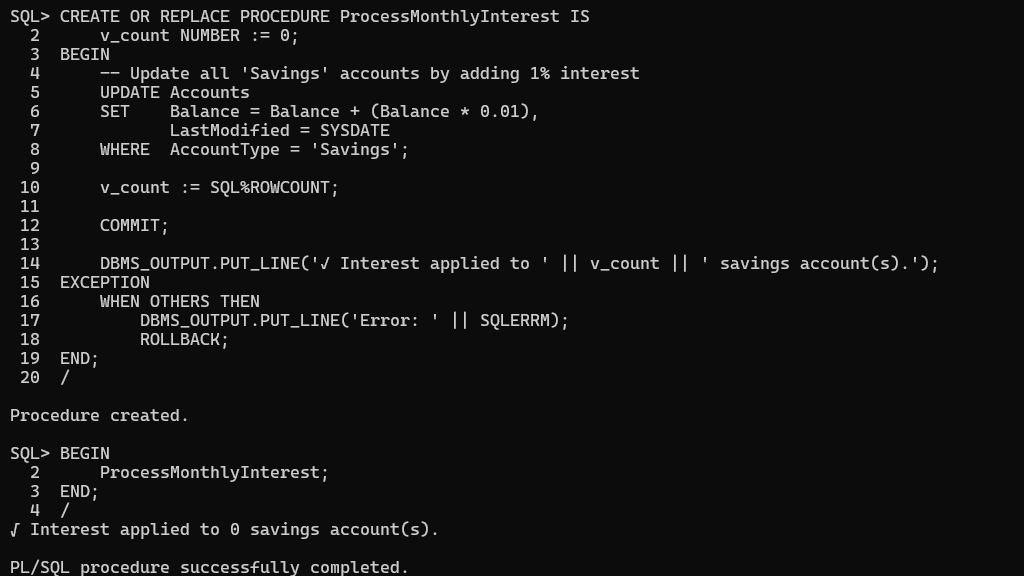
**/**

**OUTPUT:**

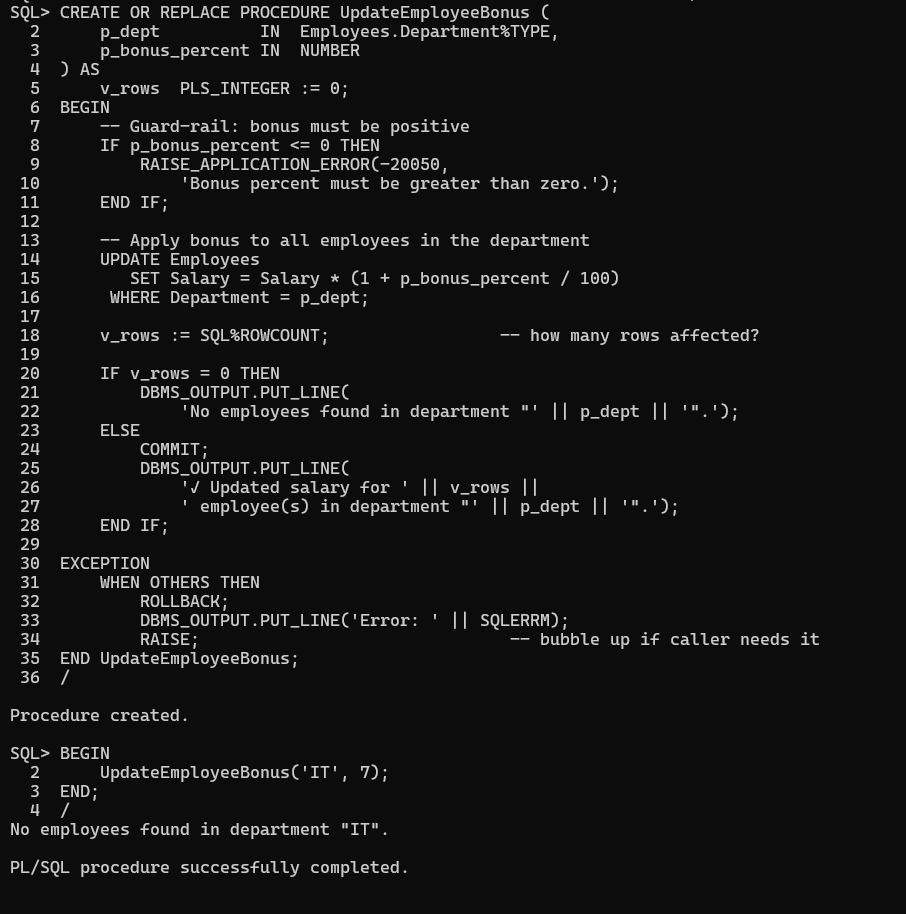
****

**Exercise 3: Stored Procedures**

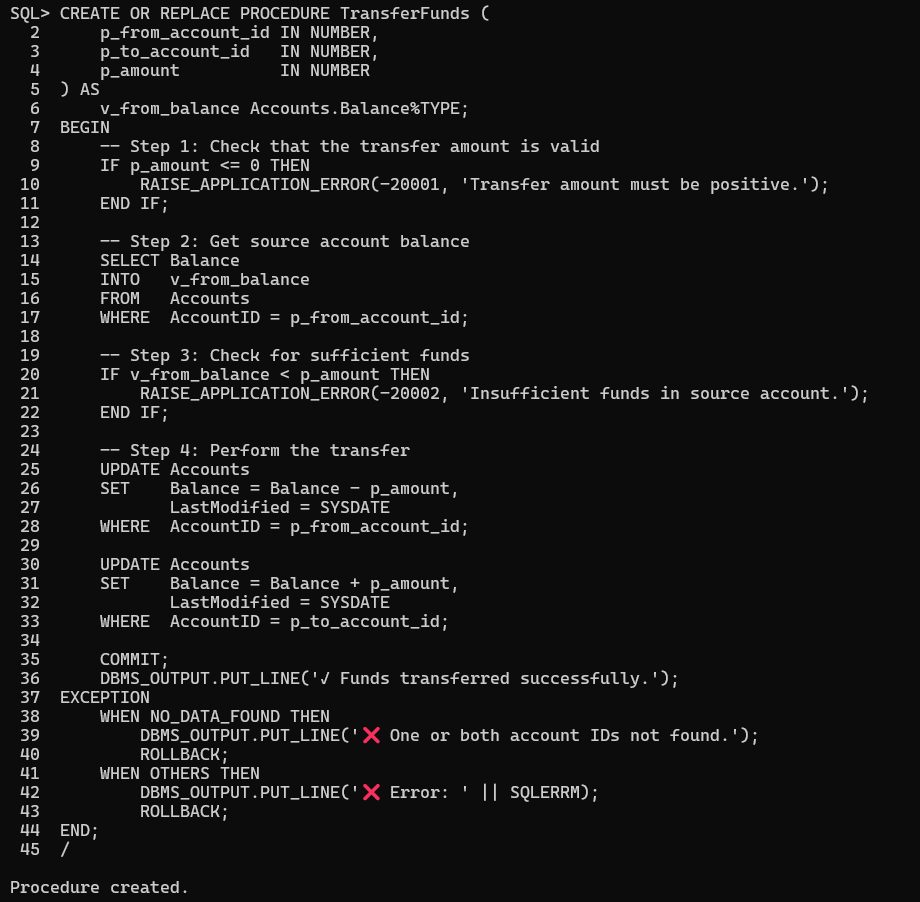
**Scenario 1**



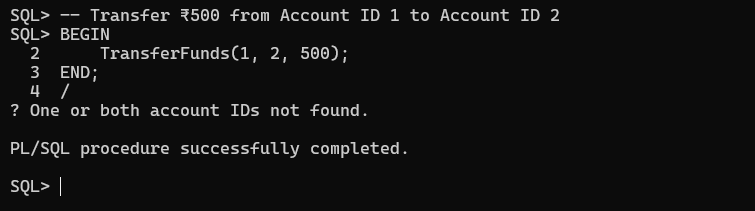
**Scenario 2:**



**Scenario 3:**



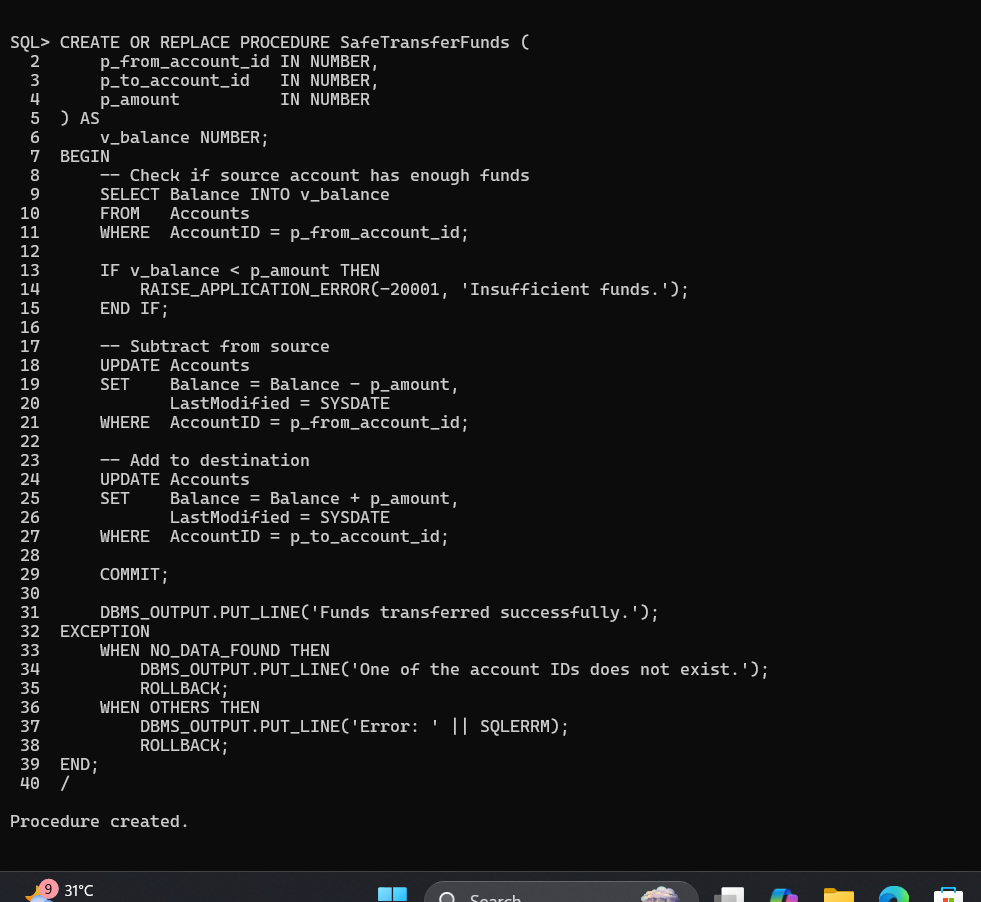
OUTPUT:



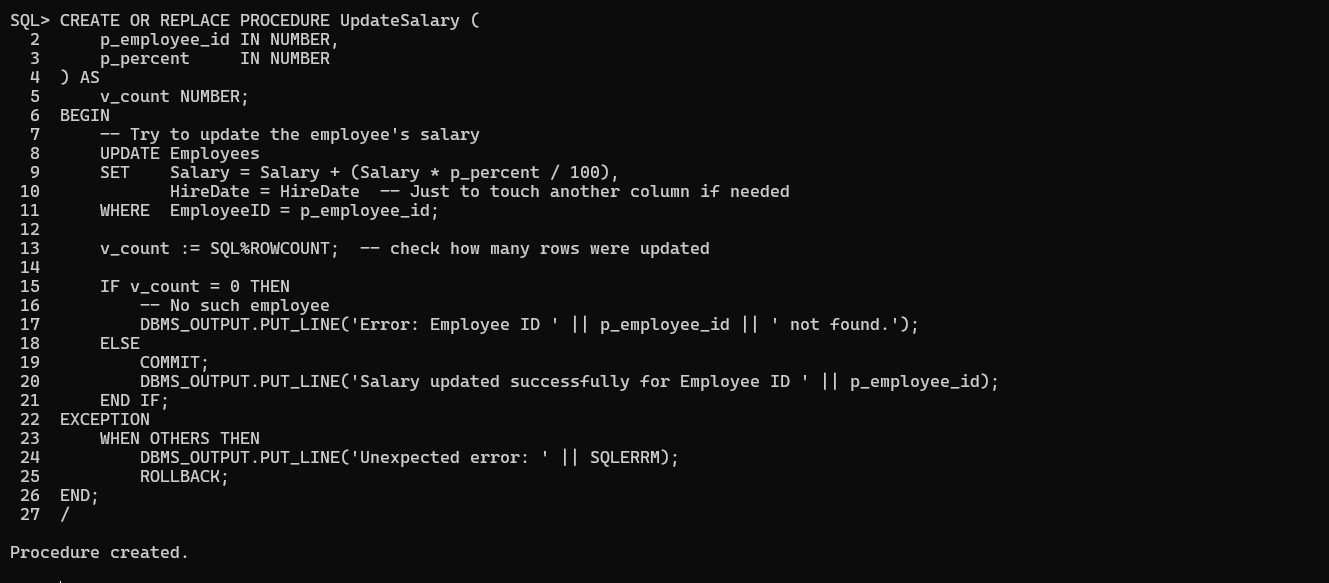
ADDITIONAL HANDSON

**Exercise 2: Error Handling**

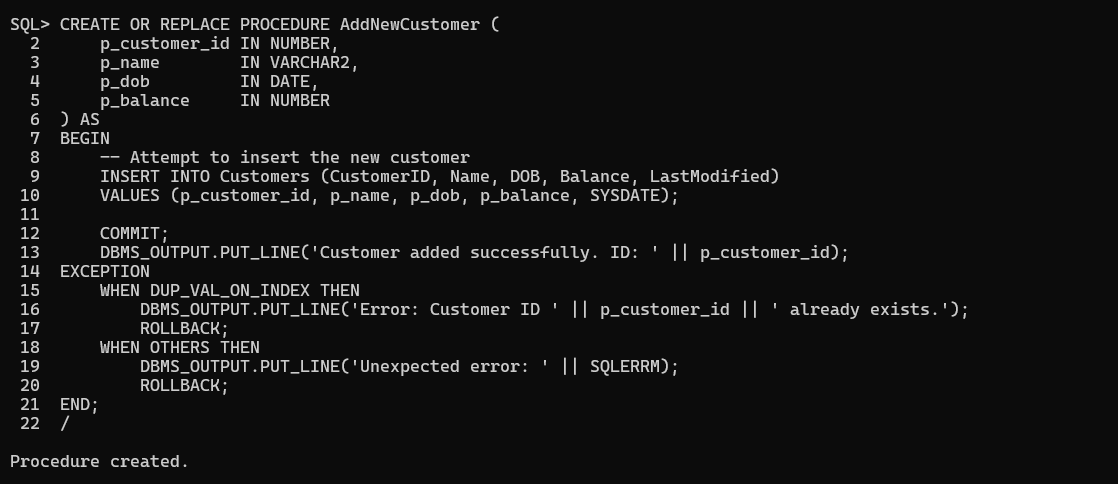
**Scenario 1**

****

**Scenario 2:**

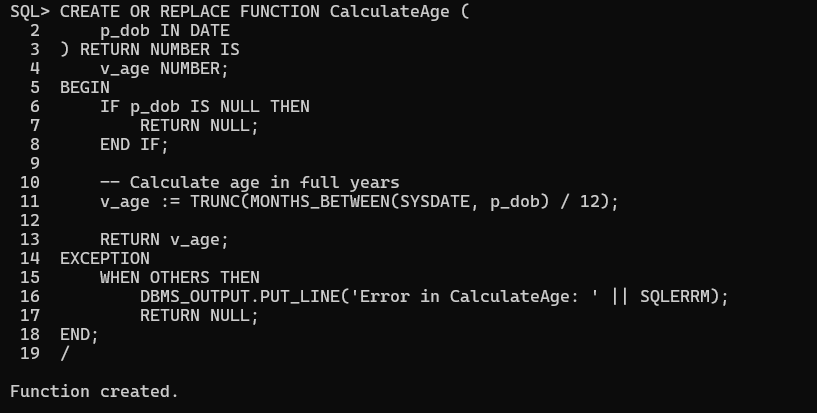


**Scenario 3:**

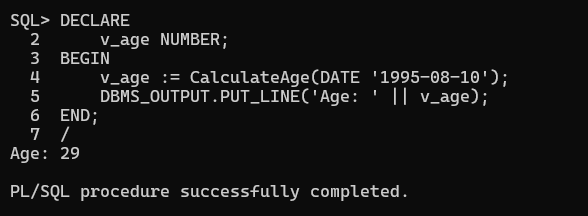


**Exercise 4: Functions**

**Scenario 1**



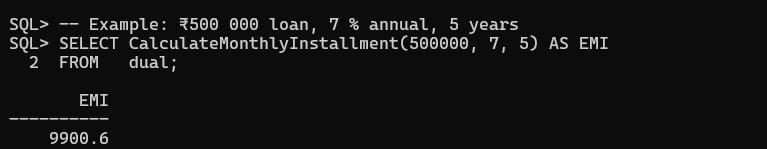
Output:



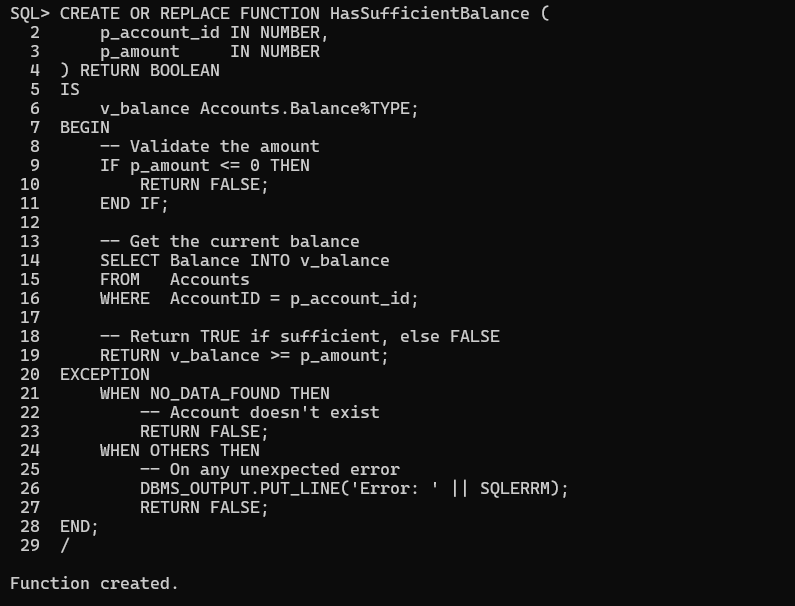
**Scenario 2**



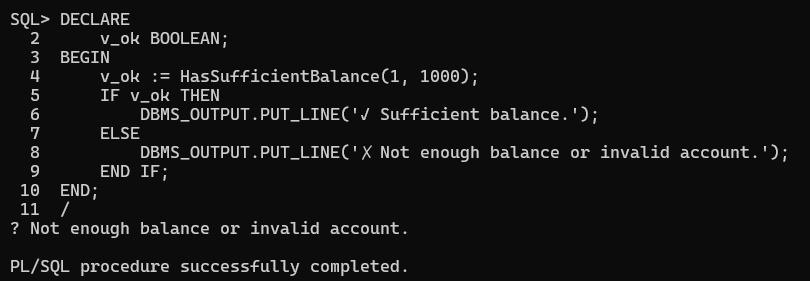
Output:



**Scenario 3**

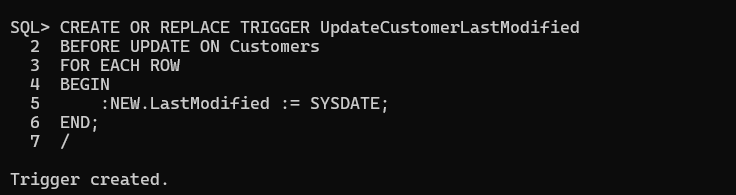
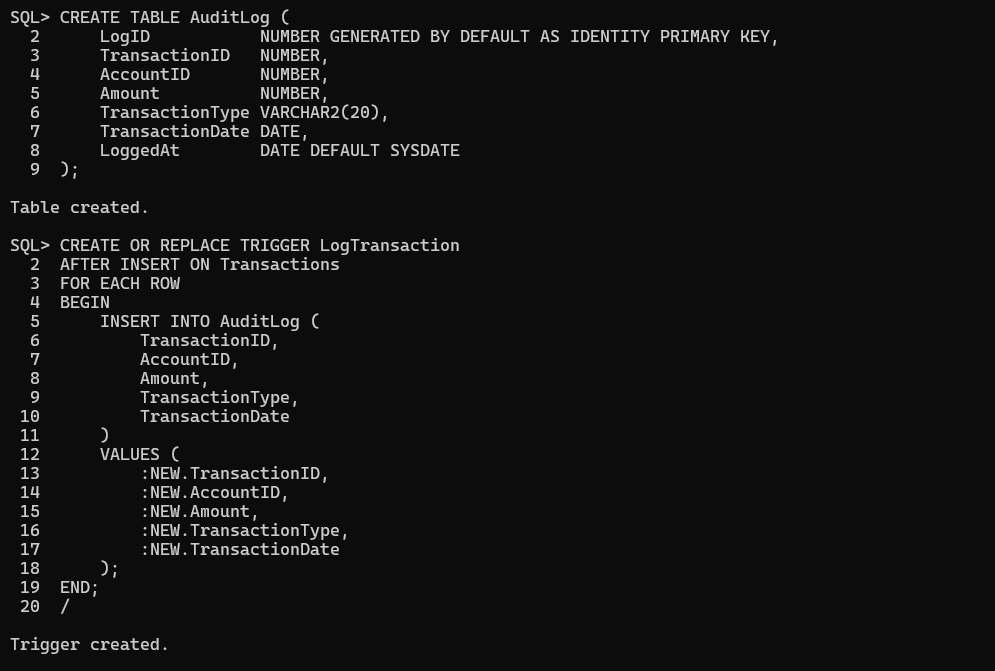


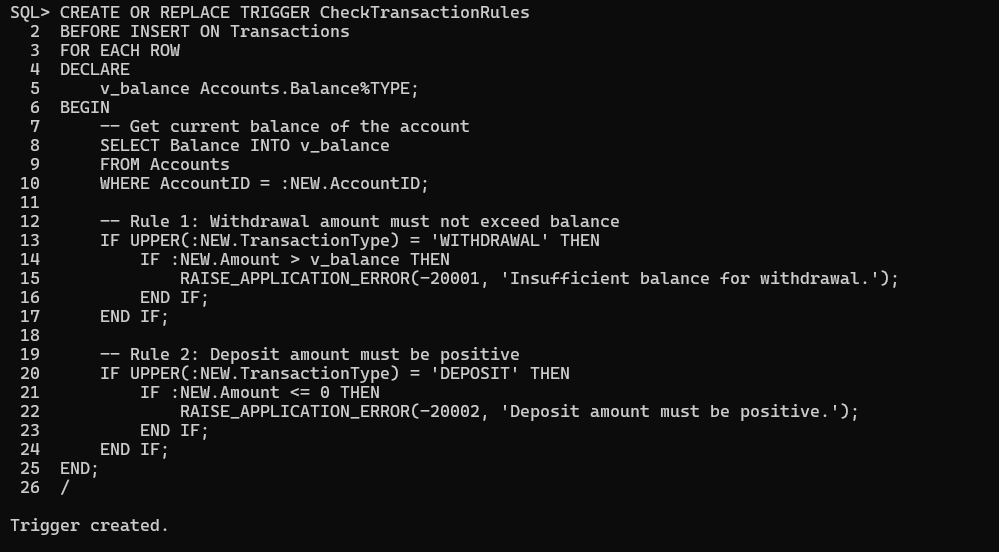
OUTPUT:



**Exercise 5: Triggers**

**Scenario 1**

2 **Scenario 2****Scenario 3**

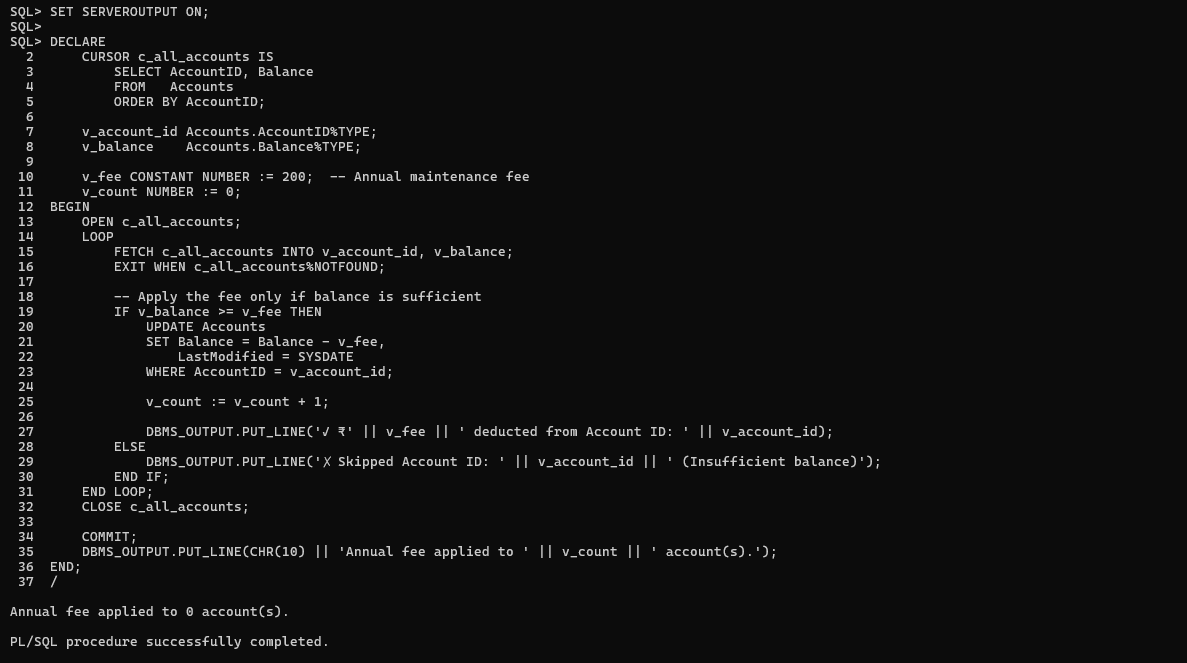


**Exercise 6: Cursors**

**Scenario 1**



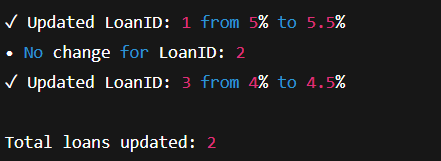
**Scenario 2**



**Scenario 3**

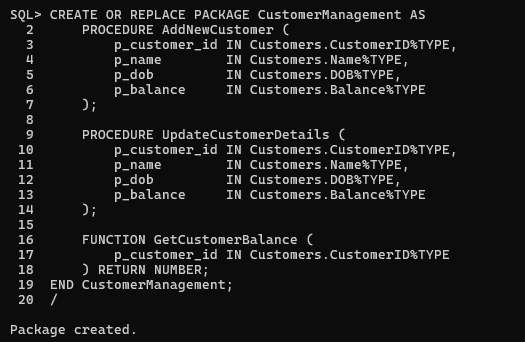


Output:



**Exercise 7:Packages**

**Scenario 1**





2.

