**Exercise 4: Functions**

**Scenario 1: Calculate Customer Age (for eligibility)**

CREATE OR REPLACE FUNCTION CalculateAge (

p\_dob IN DATE

) RETURN NUMBER IS

v\_age NUMBER;

BEGIN

v\_age := TRUNC(MONTHS\_BETWEEN(SYSDATE, p\_dob) / 12);

RETURN v\_age;

END;

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**Scenario 2:** The bank needs to compute the monthly installment for a loan.

CREATE OR REPLACE FUNCTION CalculateMonthlyInstallment (

p\_loan\_amount IN NUMBER,

p\_annual\_interest\_rate IN NUMBER,

p\_loan\_years IN NUMBER

) RETURN NUMBER IS

v\_monthly\_rate NUMBER;

v\_months NUMBER;

v\_emi NUMBER;

BEGIN

v\_monthly\_rate := p\_annual\_interest\_rate / 12 / 100;

v\_months := p\_loan\_years \* 12;

IF v\_monthly\_rate = 0 THEN

v\_emi := p\_loan\_amount / v\_months;

ELSE

v\_emi := p\_loan\_amount \* v\_monthly\_rate \* POWER(1 + v\_monthly\_rate, v\_months) /

(POWER(1 + v\_monthly\_rate, v\_months) - 1);

END IF;

RETURN ROUND(v\_emi, 2);

END;

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**Scenario 3:** Check if a customer has sufficient balance before making a transaction.

CREATE OR REPLACE FUNCTION HasSufficientBalance (

p\_account\_id IN NUMBER,

p\_amount IN NUMBER

) RETURN BOOLEAN IS

v\_balance NUMBER;

BEGIN

SELECT Balance INTO v\_balance FROM Accounts WHERE AccountID = p\_account\_id;

IF v\_balance >= p\_amount THEN

RETURN TRUE;

ELSE

RETURN FALSE;

END IF;

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

RETURN FALSE;

END;

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**Execution Example**

DECLARE

v\_result BOOLEAN;

BEGIN

v\_result := HasSufficientBalance(1, 500);

IF v\_result THEN

DBMS\_OUTPUT.PUT\_LINE('Sufficient Balance Available');

ELSE

DBMS\_OUTPUT.PUT\_LINE('Insufficient Balance');

END IF;

END;

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