***Exercise 1: Control Structures***

Apply 1% Discount to Interest Rates for Customers Over 60

DECLARE

CURSOR cur\_customers IS

SELECT customer\_id, age, interest\_rate

FROM customers

WHERE age > 60;

BEGIN

FOR cust IN cur\_customers LOOP

UPDATE customers

SET interest\_rate = interest\_rate - (interest\_rate \* 0.01)

WHERE customer\_id = cust.customer\_id;

END LOOP;

COMMIT;

END;

Promote to VIP if Balance > $10,000

DECLARE

CURSOR cur\_vip IS

SELECT customer\_id, balance

FROM customers

WHERE balance > 10000;

BEGIN

FOR cust IN cur\_vip LOOP

UPDATE customers

SET IsVIP = 'TRUE'

WHERE customer\_id = cust.customer\_id;

END LOOP;

COMMIT;

END;

Reminders for Loans Due in Next 30 Days

DECLARE

CURSOR cur\_loans IS

SELECT loan\_id, customer\_id, due\_date

FROM loans

WHERE due\_date <= SYSDATE + 30;

BEGIN

FOR loan IN cur\_loans LOOP

DBMS\_OUTPUT.PUT\_LINE(

'Reminder: Loan ' || loan.loan\_id ||

' for Customer ' || loan.customer\_id ||

' is due on ' || TO\_CHAR(loan.due\_date, 'DD-MON-YYYY')

);

END LOOP;

END;

***Exercise 3: Stored Procedures***

ProcessMonthlyInterest – Apply 1% Interest to Savings Accounts

CREATE OR REPLACE PROCEDURE ProcessMonthlyInterest AS

BEGIN

UPDATE accounts

SET balance = balance + (balance \* 0.01)

WHERE account\_type = 'SAVINGS';

COMMIT;

END;

UpdateEmployeeBonus – Bonus Based on Performance

CREATE OR REPLACE PROCEDURE UpdateEmployeeBonus (

dept\_id IN NUMBER,

bonus\_pct IN NUMBER

) AS

BEGIN

UPDATE employees

SET salary = salary + (salary \* bonus\_pct / 100)

WHERE department\_id = dept\_id;

COMMIT;

END;

Example-

EXEC UpdateEmployeeBonus(5, 12); -- Apply 12% bonus to dept 5

TransferFunds – Transfer Amount Between Accounts

CREATE OR REPLACE PROCEDURE TransferFunds (

from\_acc IN NUMBER,

to\_acc IN NUMBER,

amt IN NUMBER

) AS

current\_balance NUMBER;

BEGIN

-- Fetch balance of source account

SELECT balance INTO current\_balance

FROM accounts

WHERE account\_id = from\_acc

FOR UPDATE;

IF current\_balance >= amt THEN

-- Deduct from sender

UPDATE accounts

SET balance = balance - amt

WHERE account\_id = from\_acc;

-- Credit to receiver

UPDATE accounts

SET balance = balance + amt

WHERE account\_id = to\_acc;

COMMIT;

ELSE

RAISE\_APPLICATION\_ERROR(-20001, 'Insufficient funds in source account.');

END IF;

END;

Example-

EXEC TransferFunds(1010, 1020, 2000);