**Exercise 3 – Stored Procedures**

**Scenario 1 – Monthly Intreset Processing**

Question: Write a stored procedure ProcessMonthlyInterest that calculates and updates the balance of all savings accounts by applying an interest rate of 1% to the current balance.

DELIMITER $$  
  
CREATE PROCEDURE ProcessMonthlyInterest()  
BEGIN  
 UPDATE accounts  
 SET balance = balance + (balance \* 0.01)  
 WHERE account\_type = 'savings';  
END $$  
  
DELIMITER;

**Scenario 2: Employee Bonus Scheme**

Question: Write a stored procedure UpdateEmployeeBonus that updates the salary of employees in a given department by adding a bonus percentage passed as a parameter.

DELIMITER $$  
  
CREATE PROCEDURE UpdateEmployeeBonus(  
 IN dept\_id INT,  
 IN bonus\_percent DECIMAL(5,2)  
)  
BEGIN  
 UPDATE employees  
 SET salary = salary + (salary \* bonus\_percent / 100)  
 WHERE department\_id = dept\_id;  
END $$  
  
DELIMITER ;

**Scenario 3: Fund Transfer Between Accounts**

Question: Write a stored procedure TransferFunds that transfers a specified amount from one account to another, checking that the source account has sufficient balance before making the transfer.

DELIMITER $$  
  
CREATE PROCEDURE TransferFunds(  
 IN from\_account INT,  
 IN to\_account INT,  
 IN amount DECIMAL(10,2)  
)  
BEGIN  
 DECLARE current\_balance DECIMAL(10,2);  
  
 -- Check balance of source account  
 SELECT balance INTO current\_balance  
 FROM accounts  
 WHERE account\_id = from\_account;  
  
 IF current\_balance >= amount THEN  
 -- Deduct from source account  
 UPDATE accounts  
 SET balance = balance - amount  
 WHERE account\_id = from\_account;  
  
 -- Add to destination account  
 UPDATE accounts  
 SET balance = balance + amount  
 WHERE account\_id = to\_account;  
 ELSE  
 SIGNAL SQLSTATE '45000'  
 SET MESSAGE\_TEXT = 'Insufficient funds in the source account.';  
 END IF;  
END $$  
  
DELIMITER ;