

Database Labsheet 2

Question 01

```
1 CREATE TABLE Products (  
2     ProductID INT AUTO_INCREMENT PRIMARY KEY,  
3     ProductName VARCHAR(255) NOT NULL,  
4     CategoryID INT NOT NULL,  
5     Price DECIMAL(10, 2) NOT NULL  
6 );  
7  
8 CREATE TABLE Sales (  
9     SaleID INT AUTO_INCREMENT PRIMARY KEY,  
10    ProductID INT NOT NULL,  
11    SaleDate DATE NOT NULL,  
12    Quantity INT NOT NULL,  
13    TotalAmount DECIMAL(10, 2) NOT NULL,  
14    FOREIGN KEY (ProductID) REFERENCES Products(ProductID)  
15 );
```

```
1 DELIMITER $$  
2 CREATE PROCEDURE InsertProduct (  
3     IN ProductName VARCHAR(255),  
4     IN CategoryID INT,  
5     IN Price DECIMAL(10, 2)  
6 )  
7 BEGIN  
8     INSERT INTO Products (ProductName, CategoryID, Price)  
9     VALUES (ProductName, CategoryID, Price);  
10 END $$  
11 DELIMITER ;
```

```
1 DELIMITER $$
2 CREATE FUNCTION CalculateDiscount (
3     Price DECIMAL(10, 2)
4 ) RETURNS DECIMAL(10, 2)
5 DETERMINISTIC
6 BEGIN
7     RETURN Price * 0.9;
8 END $$
9 DELIMITER ;
```

```
1 DELIMITER $$
2
3 CREATE PROCEDURE GetSalesByCategory (IN CategoryID INT)
4 BEGIN
5     SELECT
6         s.ProductID,
7         s.SaleDate,
8         s.Quantity,
9         s.TotalAmount
10    FROM
11        Sales s
12    JOIN
13        Products p ON s.ProductID = p.ProductID
14    WHERE
15        p.CategoryID = CategoryID;
16 END $$
17
18 DELIMITER ;
```

Question 02

```
1 DELIMITER $$
2
3 CREATE PROCEDURE GetProductsInCategory (
4     IN CategoryID INT
5 )
6 BEGIN
7     SELECT
8         ProductID,
9         ProductName,
10        Price
11    FROM
12        Products
13    WHERE
14        CategoryID = CategoryID;
15 END $$
16
17 DELIMITER ;
```

Question 03

```
1 DELIMITER $$
2
3 CREATE FUNCTION CalculateBonus (
4     EmployeeID INT
5 ) RETURNS DECIMAL(10, 2)
6 BEGIN
7     DECLARE EmpSalary DECIMAL(10, 2);
8     DECLARE EmpDepartment VARCHAR(50);
9     DECLARE Bonus DECIMAL(10, 2);
10
11     SELECT Salary, Department INTO EmpSalary, EmpDepartment
12     FROM Employees
13     WHERE EmployeeID = EmployeeID;
14
15     IF EmpDepartment = 'IT' THEN
16         SET Bonus = EmpSalary * 0.10;
17     ELSEIF EmpDepartment = 'HR' THEN
18         SET Bonus = EmpSalary * 0.05;
19     ELSE
20         SET Bonus = EmpSalary * 0.07;
21     END IF;
22
23     RETURN Bonus;
24 END $$
25
26 DELIMITER ;
```

```
1 DELIMITER $$
2
3 CREATE FUNCTION CalculateTaxDeduction (
4     EmployeeID INT
5 ) RETURNS DECIMAL(10, 2)
6 BEGIN
7     DECLARE EmpSalary DECIMAL(10, 2);
8     DECLARE TaxAmount DECIMAL(10, 2);
9
10    SELECT Salary INTO EmpSalary
11    FROM Employees
12    WHERE EmployeeID = EmployeeID;
13
14    IF EmpSalary <= 50000 THEN
15        SET TaxAmount = EmpSalary * 0.10;
16    ELSEIF EmpSalary > 50000 AND EmpSalary <= 100000 THEN
17        SET TaxAmount = EmpSalary * 0.20;
18    ELSE
19        SET TaxAmount = EmpSalary * 0.30;
20    END IF;
21
22    RETURN TaxAmount;
23 END $$
24
25 DELIMITER ;
```