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Hệ quản trị cơ sở dữ liệu

Lab8

1. Viết một stored procedure với Input là một mã khách hàng CustomerId và Output là một hóa đơn OrderId của khách hàng đó có Total Amount là nhỏ nhất và một hóa đơn OrderId của khách hàng đó có Total Amount là lớn nhất

(Vi dụ: EXEC usp_GetOrderID CustomerID MaxAndMinTotalQuantity
@CustomerId,@MaxOrderId OUTPUT, @MaxTotalAmount OUTPUT, @MinOrderId OUTPUT,
@MinTotalAmount OUTPUT)

```
CREATE PROCEDURE usp_GetOrderID_CustomerID_MaxAndMinTotalQuantity
    @CustomerId INT,
    @MaxOrderId INT OUTPUT,
    @MaxTotalAmount DECIMAL(12,2) OUTPUT,
    @MinOrderId INT OUTPUT,
    @MinTotalAmount DECIMAL(12,2) OUTPUT
AS
BEGIN
    WITH OrderInfo(Id, CustomerID, TotalAmount)
    AS
    (
        SELECT Id, CustomerId, TotalAmount
        FROM [Order]
        WHERE CustomerId = @CustomerId
    )
    SELECT @MaxOrderId = (SELECT TOP 1 Id FROM OrderInfo ORDER BY TotalAmount DESC),
           @MaxTotalAmount = MAX(TotalAmount),
           @MinOrderId = (SELECT TOP 1 Id FROM OrderInfo ORDER BY TotalAmount ASC),
           @MinTotalAmount = MIN(TotalAmount)
    FROM OrderInfo
END
```

Commands completed successfully.

Completion time: 2021-07-22T20:45:28.7508431+07:00

```
DECLARE @CustomerId1 INT
DECLARE @MaxOrderId1 INT
DECLARE @MaxTotalAmount1 DECIMAL(18,2)
DECLARE @MinOrderId1 INT
DECLARE @MinTotalAmount1 DECIMAL(18,2)
SET @CustomerId1 = 8
EXEC usp_GetOrderID_CustomerID_MaxAndMinTotalQuantity @CustomerId1,
    @MaxOrderId1 OUTPUT, @MaxTotalAmount1 OUTPUT, @MinOrderId1 OUTPUT,
    @MinTotalAmount1 OUTPUT
SELECT @CustomerId1 AS CustomerID,
```

| | | | | | |
|---|------------|--|------------|----------------|----------------|
| | | @MaxOrderId AS MaxOrderId, @MinOrderId AS MinOrderId, | | | |
| | | @MaxTotalAmount1 AS MaxTotalAmount, @MinTotalAmount1 AS MinTotalAmount | | | |
| | CustomerID | MaxOrderId | MinOrderId | MaxTotalAmount | MinTotalAmount |
| 1 | 8 | 554 | 723 | 4035.80 | 280.00 |

2. Viết một stored procedure để thêm vào một Customer với Input là FirstName, LastName, City, Country, và Phone. Lưu ý nếu các input mà rỗng hoặc Input đó đã có trong bảng thì báo lỗi tương ứng và ROLL BACK lại

```

CREATE PROCEDURE usp_InsertNewCustomer
    @CustomerId INT,
    @FirstName NVARCHAR(50),
    @LastName NVARCHAR(50),
    @City NVARCHAR(50),
    @Country NVARCHAR(30),
    @Phone NVARCHAR(30)
AS
BEGIN
    IF(EXISTS(SELECT *
              FROM Customer
              WHERE FirstName = @FirstName AND LastName = @LastName and City =
@City and Country = @Country))
        BEGIN
            PRINT 'Customer already exist'
            RETURN -1
        END
    IF(LEN(@FirstName) = 0 OR LEN(@LastName) = 0 OR LEN(@City) = 0 OR LEN(@Country) =
0 OR LEN(@Phone) = 0)
        BEGIN
            PRINT 'Customer description can not be blank'
            RETURN 1
        END
    BEGIN TRY
        BEGIN TRANSACTION
        BEGIN TRANSACTION
        SET IDENTITY_INSERT Customer ON
        INSERT INTO
[dbo].[Customer]([Id],[FirstName],[LastName],[City],[Country],[Phone])
VALUES (@CustomerId,@FirstName,@LastName,@City,@Country,@Phone)
        SET IDENTITY_INSERT Customer OFF
        PRINT 'Insert successful'
        COMMIT TRANSACTION
    END TRY
    BEGIN CATCH
        IF @@TRANCOUNT > 0 ROLLBACK TRANSACTION
        DECLARE @ERR NVARCHAR(MAX)
        SET @ERR = ERROR_MESSAGE()
        PRINT 'An error occurred after insert data to the Customer table: '
        RAISERROR(@ERR, 16, 1)
        RETURN -1
    END CATCH
END
Msg 2714, Level 16, State 3, Procedure usp_InsertNewCustomer, Line 1 [Batch Start Line 36]
There is already an object named 'usp_InsertNewCustomer' in the database.

Completion time: 2021-07-22T20:49:59.4211608+07:00

```

```

--Add Customer
DECLARE @StateInsert1 INT

```

```
EXEC @StateInsert1 = usp_InsertNewCustomer 100, 'Sheamus', 'Henriot', 'Reims', 'France', '133
445 3214'
```

```
PRINT @StateInsert1
```

```
(0 rows affected)
```

```
An error occurred after insert data to the Customer table:
```

```
Msg 50000, Level 16, State 1, Procedure usp_InsertNewCustomer, Line 37 [Batch Start Line 76]
```

```
Violation of PRIMARY KEY constraint 'PK_CUSTOMER'. Cannot insert duplicate key in object 'dbo.Customer'. The duplicate key value is (100).
```

```
-1
```

```
Completion time: 2021-07-22T20:50:28.6953928+07:00
```

```
--Add ExistentCustomer
```

```
DECLARE @StateInsert2 INT
```

```
EXEC @StateInsert2 = usp_InsertNewCustomer 100, 'Bob', 'Nixon', 'Portland', 'USA', '223 587
3127'
```

```
PRINT @StateInsert2
```

```
Customer already exist
```

```
-1
```

```
Completion time: 2021-07-22T20:50:52.3459330+07:00
```

```
SELECT * FROM Customer
```

| | Id | FirstName | LastName | City | Country | Phone |
|----|----|------------|----------|-------------|---------|----------------|
| 1 | 1 | Maria | Anders | Berlin | Germany | 030-0074321 |
| 2 | 2 | Ana | Trujillo | México D.F. | Mexico | (5) 555-4729 |
| 3 | 3 | Antonio | Moreno | México D.F. | Mexico | (5) 555-3932 |
| 4 | 4 | Thomas | Hardy | London | UK | (171) 555-7788 |
| 5 | 5 | Christina | Berglund | Luleå | Sweden | 0921-12 34 65 |
| 6 | 6 | Hanna | Moos | Mannheim | Germany | 0621-08460 |
| 7 | 7 | Frédérique | Citeaux | Strasbourg | France | 88.60.15.31 |
| 8 | 8 | Martín | Sommer | Madrid | Spain | (91) 555 22 82 |
| 9 | 9 | Laurence | Lebihan | Marseille | France | 91.24.45.40 |
| 10 | 10 | Elizabeth | Lincoln | Tsawassen | Canada | (604) 555-4729 |
| 11 | 11 | Victoria | Ashworth | London | UK | (171) 555-1212 |

- Viết Store Procedure cập nhật lại UnitPrice của sản phẩm trong bảng OrderItem. Khi cập nhật lại UnitPrice này thì cũng phải cập nhật lại Total Amount trong bảng Order tương ứng với Total Amount = SUM (UnitPrice *Quantity)

```
CREATE PROCEDURE usp_UpdatePriceOrderItem
```

```
@OrderItemId INT,
```

```
@UnitPrice DECIMAL(12,2)
```

```
AS
```

```
BEGIN
```

```
IF(NOT EXISTS(SELECT * FROM OrderItem WHERE Id = @OrderItemId))
```

```
BEGIN
```

```
PRINT ' OrderItem does not exist'
```

```
return 4
```

```
END
```

```
DECLARE @OrderId INT
```

```
DECLARE @TotalAmount DECIMAL(12,2)
```

```

SET @OrderId = (SELECT OrderId from OrderItem WHERE Id = @OrderItemId)
BEGIN TRY
    BEGIN TRANSACTION
        UPDATE OrderItem SET UnitPrice = @UnitPrice WHERE Id = @OrderItemId

        SET @TotalAmount = (SELECT TOP 1 SUM(UnitPrice * Quantity) OVER
(PARTITION BY OrderId)
                                FROM[OrderItem]
                                WHERE OrderId = @OrderId)
        UPDATE [Order] SET TotalAmount = @TotalAmount WHERE Id = @OrderId
        PRINT 'Update successful'
    COMMIT TRANSACTION
COMMIT TRANSACTION
END TRY
BEGIN CATCH
    IF @@TRANCOUNT > 0 ROLLBACK TRANSACTION
    DECLARE @ERR NVARCHAR(MAX)
    SET @ERR = ERROR_MESSAGE()
    PRINT 'Update failed. See details: '
    RAISERROR(@ERR,16,1)
    RETURN -1
END CATCH
END

```

```

Msg 2714, Level 16, State 3, Procedure usp_UpdatePriceOrderItem, Line 1 [Batch Start Line 89]
There is already an object named 'usp_UpdatePriceOrderItem' in the database.

```

```

Completion time: 2021-07-22T20:51:45.6038619+07:00

```

```

--Update Id is not exist
DECLARE @StateInsert2 INT
EXEC @StateInsert2 = usp_UpdatePriceOrderItem 2000, 8.00
PRINT @StateInsert2

```

```

(1 row affected)

```

```

(1 row affected)

```

```

Update successful

```

```

Update failed. See details:

```

```

Msg 50000, Level 16, State 1, Procedure usp_UpdatePriceOrderItem, Line 33 [Batch Start Line 126]
The COMMIT TRANSACTION request has no corresponding BEGIN TRANSACTION.

```

```

-1

```

```

Completion time: 2021-07-22T20:52:23.1531059+07:00

```

```

---Check
DECLARE @StateInsert1 INT
EXEC @StateInsert1 = usp_UpdatePriceOrderItem 24 , 23.00

PRINT @StateInsert1

```

(1 row affected)

(1 row affected)

Update successful

Update failed. See details:

Msg 50000, Level 16, State 1, Procedure usp_UpdatePriceOrderItem, Line 33 [Batch Start Line 131]
The COMMIT TRANSACTION request has no corresponding BEGIN TRANSACTION.

-1

Completion time: 2021-07-22T20:53:21.5592449+07:00

SELECT * FROM OrderItem WHERE OrderId = 16

| | Id | OrderId | ProductId | UnitPrice | Quantity |
|---|----|---------|-----------|-----------|----------|
| 1 | 44 | 16 | 16 | 13.90 | 60 |
| 2 | 45 | 16 | 24 | 3.60 | 28 |
| 3 | 46 | 16 | 30 | 20.70 | 60 |
| 4 | 47 | 16 | 74 | 8.00 | 36 |

SELECT * FROM [Order] WHERE Id = 16

| | Id | OrderDate | OrderNumber | CustomerId | TotalAmount |
|---|----|-------------------------|-------------|------------|-------------|
| 1 | 16 | 2012-07-23 00:00:00.000 | 542393 | 20 | 2464.80 |