Assignment 4 : Create Stored procedure in Northwind database to insert or update a record in a table

1. Create a stored procedure in the Northwind database that will calculate the average value of Freight for a specified customer.Then, a business rule will be added that will be triggered before every Update and Insert command in the Orders controller,and will use the stored procedure to verify that the Freight does not exceed the average freight. If it does, a message will be displayed and the command will be cancelled.

Code:

```
create PROCEDURE freight_Average
    @Customer_ID nchar(5),
    @Average_Freight MONEY OUTPUT
AS
DECLARE @ResultAverageFreight MONEY

    SELECT @Average_Freight = AVG(freight)
    FROM orders
    WHERE customerID = @Customer_ID;
RETURN;
GO


DECLARE @Freight money
DECLARE @CustomerIdInput nvarchar(5);
DECLARE @BusinessRules_PreventDefault bit
CREATE TRIGGER CheckFreight
ON Orders
AFTER INSERT, UPDATE
AS
```

```
BEGIN
   DECLARE  @CustomerIdInput NVARCHAR(5);
   DECLARE @Freight MONEY;
   DECLARE @AverageFreight MONEY;
DECLARE @AverageFreightOutput money

   -- Assuming you have a CustomerID and Freight column in the Orders table
   SELECT  @CustomerIdInput = CustomerID, @Freight = Freight
   FROM inserted;

   -- Call the stored procedure to get the average freight for the customer
    EXEC freight_Average @Customer_ID =  @CustomerIdInput,@Average_Freight =
@AverageFreightOutput OUTPUT

   -- Check if the Freight exceeds the average freight
   IF @Freight > @AverageFreightOutput
   BEGIN
      print 'Freight,The freight exceeds the average' + ' of $' + CONVERT(varchar(12),
@AverageFreightOutput, 1)  + ' of previous orders.'
      ROLLBACK; -- Cancel the command
   END;
END;

select * from [dbo].[Orders] order by customerID
select customerID,avg(freight) from orders group by customerID

insert into orders
values('ALFKI',2,NULL,NULL,NULL,NULL,40,NULL,NULL,NULL,NULL,NULL,NULL
)
insert into orders
values('ALFKI',2,NULL,NULL,NULL,NULL,20,NULL,NULL,NULL,NULL,NULL,NULL
)
```

Output:

	OrderID	CustomerID	EmployeeID	OrderDate	RequiredDate	ShippedDate	ShipVia	Freight
1	10643	ALFKI	6	1997-08-25 00:00:00.000	1997-09-22 00:00:00.000	1997-09-02 00:00:00.000	1	29.46
2	10692	ALFKI	4	1997-10-03 00:00:00.000	1997-10-31 00:00:00.000	1997-10-13 00:00:00.000	2	61.02
3	10702	ALFKI	4	1997-10-13 00:00:00.000	1997-11-24 00:00:00.000	1997-10-21 00:00:00.000	1	23.94
4	10835	ALFKI	1	1998-01-15 00:00:00.000	1998-02-12 00:00:00.000	1998-01-21 00:00:00.000	3	69.53
5	10952	ALFKI	1	1998-03-16 00:00:00.000	1998-04-27 00:00:00.000	1998-03-24 00:00:00.000	1	40.42
6	11011	ALFKI	3	1998-04-09 00:00:00.000	1998-05-07 00:00:00.000	1998-04-13 00:00:00.000	1	1.21
7	11080	ALFKI	2	NULL	NULL	NULL	NULL	20.00
8	10926	ANATR	4	1998-03-04 00:00:00.000	1998-04-01 00:00:00.000	1998-03-11 00:00:00.000	3	39.92

	customerID	(No column name)
1	ALFKI	35.0828
2	ANATR	24.355

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	customerID	(No column name)
1	ALFKI	37.5966
2	ANATR	24.355

```
Freight,The freight exceeds the average of $37.94 of previous orders.
Msg 3609, Level 16, State 1, Line 9364
The transaction ended in the trigger. The batch has been aborted.

Completion time: 2024-01-24T15:58:12.6904097+05:30
```

2. write a SQL query to Create Stored procedure in the Northwind database to retrieve Employee Sales by Country.

Code:

```
create view "Order Subtotals" AS

SELECT "Order Details".OrderID, Sum(CONVERT(money,("Order Details".UnitPrice*Quantity*(1-Discount)/100))*100) AS Subtotal

FROM "Order Details"

GROUP BY "Order Details".OrderID


create procedure "Employee Sales by Country"

@Beginning_Date DateTime, @Ending_Date DateTime AS

SELECT Employees.Country, Employees.LastName, Employees.FirstName, Orders.ShippedDate, Orders.OrderID, "Order Subtotals".Subtotal AS SaleAmount

FROM Employees INNER JOIN

(Orders INNER JOIN "Order Subtotals" ON Orders.OrderID = "Order Subtotals".OrderID)

ON Employees.EmployeeID = Orders.EmployeeID

WHERE Orders.ShippedDate Between @Beginning_Date And @Ending_Date

order by Employees.EmployeeID


exec [dbo].[Employee Sales by Country] @Beginning_Date='1996-07-16 00:00:00.000', @Ending_Date='1996-07-31 00:00:00.000'
```

Output:

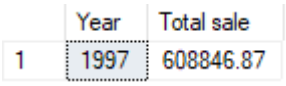
	Country	LastName	FirstName	ShippedDate	OrderID	SaleAmount
1	USA	Davolio	Nancy	1996-07-23 00:00:00.000	10258	1614.88
2	USA	Leverling	Janet	1996-07-16 00:00:00.000	10253	1444.80
3	USA	Leverling	Janet	1996-07-17 00:00:00.000	10256	517.80
4	USA	Leverling	Janet	1996-07-31 00:00:00.000	10266	346.56
5	USA	Peacock	Margaret	1996-07-22 00:00:00.000	10257	1119.90
6	USA	Peacock	Margaret	1996-07-25 00:00:00.000	10259	100.80
7	USA	Peacock	Margaret	1996-07-29 00:00:00.000	10260	1504.65
8	USA	Peacock	Margaret	1996-07-30 00:00:00.000	10261	448.00
9	UK	Buchanan	Steven	1996-07-23 00:00:00.000	10254	556.62
10	UK	Buchanan	Steven	1996-07-16 00:00:00.000	10248	440.00
11	USA	Callahan	Laura	1996-07-25 00:00:00.000	10262	584.00
12	UK	Dodsworth	Anne	1996-07-31 00:00:00.000	10263	1873.80

3. write a SQL query to Create Stored procedure in the Northwind database to retrieve Sales by Year.

Code:

```
create view "Summary of Sales by Year" AS

SELECT Orders.ShippedDate, Orders.OrderID, "Order Subtotals".Subtotal

FROM Orders INNER JOIN "Order Subtotals" ON Orders.OrderID = "Order Subtotals".OrderID

WHERE Orders.ShippedDate IS NOT NULL

--ORDER BY Orders.ShippedDate

GO

create procedure "Sales by Year"

@Sales_year int

AS

SELECT DATENAME(yy,ShippedDate) AS Year,sum(Subtotal) as 'Total sale'

FROM "Summary of Sales by Year" group by DATENAME(yy,ShippedDate)

having DATENAME(yy,ShippedDate)=@Sales_year

GO


exec [dbo].[Sales by Year] 1997
```

Output:



	Year	Total sale
1	1997	608846.87

4. write a SQL query to Create Stored procedure in the Northwind database to retrieve Sales By Category.

Code:

```
CreatePROCEDURE SalesByCategory
    @CategoryName nvarchar(15)
AS
SELECT ProductName,
TotalPurchase=ROUND(SUM(CONVERT(decimal(14,2), OD.Quantity * (1-OD.Discount) * OD.UnitPrice)), 0)
FROM [Order Details] OD, Orders O, Products P, Categories C
WHERE OD.OrderID = O.OrderID
AND OD.ProductID = P.ProductID
AND P.CategoryID = C.CategoryID
AND C.CategoryName = @CategoryName
GROUP BY ProductName
ORDER BY ProductName
GO
exec SalesByCategory 'Beverages'
```

Output:

	ProductName	TotalPurchase
1	Chai	12788.00
2	Chang	16356.00
3	Chartreuse verte	12295.00
4	Côte de Blaye	141397.00
5	Guaraná Fantástica	4504.00
6	Ipoh Coffee	23527.00
7	Lakkalikööri	15760.00
8	Laughing Lumberjack Lager	2397.00
9	Outback Lager	10673.00
10	Rhönbräu Klosterbier	8178.00
11	Sasquatch Ale	6350.00
12	Steeleye Stout	13644.00

5. write a SQL query to Create Stored procedure in the Northwind database to retrieve Ten Most Expensive Products.

Code:

```
create procedure "Ten Most Expensive Products" AS
SET ROWCOUNT 10
SELECT Products.ProductName AS TenMostExpensiveProducts, Products.UnitPrice
FROM Products
ORDER BY Products.UnitPrice DESC
GO

exec [dbo].[Ten Most Expensive Products]
```

Output:

	TenMostExpensiveProducts	UnitPrice
Click to select all grid cells		263.50
2	Thüringer Rostbratwurst	123.79
3	Mishi Kobe Niku	97.00
4	Sir Rodney's Marmalade	81.00
5	Carnarvon Tigers	62.50
6	Raclette Courdavault	55.00
7	Manjimup Dried Apples	53.00
8	Tarte au sucre	49.30
9	Ipoh Coffee	46.00
10	Rössle Sauerkraut	45.60

6. write a SQL query to Create Stored procedure in the Northwind database to insert Customer Order Details.

Code:

```
create PROCEDURE InsertOrder
                                @CustomerIDnchar(5),
                                @EmployeeID    int,
                                @OrderDate     datetime,
                                @RequiredDate        datetime,
                                @ShippedDate         datetime,
                               @ShipVia int,
@Freight  money,
 @ShipName nvarchar (60),
@ShipAddress nvarchar (60),
 @ShipCity nvarchar (60),
 @ShipRegion nvarchar (60),
@ShipPostalCode nvarchar (60),
@ShipCountry nvarchar (60)
AS
DECLARE @error VARCHAR(50)
  BEGIN         TRY

          INSERT INTO Orders VALUES
(
                    @CustomerID,
                    @EmployeeID,
                    @OrderDate,
                    @RequiredDate,
 @ShippedDate,
 @ShipVia,
```

```
@Freight,
 @ShipName,
 @ShipAddress,
 @ShipCity,
 @ShipRegion,
 @ShipPostalCode,
 @ShipCountry
 )

       END TRY
BEGIN CATCH
    SET @error  = 'please add customer record'
    SELECT @error
END CATCH

exec InsertCustomer
'JAYRA',1,NUll,NULL,NULL,NULL,25,NULL,NULL,NULL,NULL,NULL,India

exec InsertCustomer
'RATTC',1,NUll,NULL,NULL,NULL,25,NULL,NULL,NULL,NULL,NULL,India
```

Output:

	(No column name)
1	please add customer record

830	11077	RATTC	1	1998-05-06 00:00:00.000	1998-06-03 00:00:00.000	NULL	2	8.53	Rattlesnake Canyon Grocery
831	11080	RATTC	1	NULL	NULL	NULL	NULL	25.00	NULL

7. write a SQL query to Create Stored procedure in the Northwind database to update Customer Order Details.

Code:

```
create PROCEDURE UpdateOrder        @OrderID int,
@ColumnName nvarchar(20),
                                    @ColumnValue nvarchar(100)
AS
DECLARE @error VARCHAR(50)
DECLARE @SQL NVARCHAR(MAX);
SET @SQL = N'update Orders set'+ QUOTENAME(@ColumnName)+ '= @ColumnValue where OrderId = @OrderID';
IF(@OrderID = (select OrderId from Orders o where o.OrderID = @OrderID))
BEGIN
EXEC sp_executesql @SQL, N'@ColumnName NVARCHAR(MAX), @ColumnValue NVARCHAR(5), @OrderID INT', @ColumnName, @ColumnValue, @OrderID;
END
ELSE
BEGIN
SET @error  = 'Order Record Not Found'
SELECT @error
END

exec UpdateOrder 11078,'EmployeeID',2
exec UpdateOrder 11078,'Freight',30
```

Output:

830	11077	RATTC	1	1998-05-06 00:00:00.000	1998-06-03 00:00:00.000	NULL	2	8.53
831	11078	RATTC	2	NULL	NULL	NULL	NULL	30.00