# MTH785P: Programming for Business Analytics (Autumn 2024) Project 1

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# Part I: Table Creation Queries

Create Customers

SELECT DISTINCT

[Imported Data].[Customer ID],

[Imported Data].[Customer Name],

[Imported Data].[Segment]

INTO Customers

FROM [Imported Data];

Create Orders

SELECT DISTINCT

[Imported Data].[Order ID],

[Imported Data].[Order Date],

[Imported Data].[Ship Date],

[Imported Data].[Ship Mode],

[Imported Data].[Customer ID]

INTO Orders

FROM [Imported Data];

Create Products

SELECT DISTINCT

[Imported Data].[Products ID],

[Imported Data].[Product Name],

[Imported Data].[Category]

INTO Products

FROM [Imported Data];

Create OrdersProducts

SELECT DISTINCT

[Imported Data].[Products ID],

[Imported Data].[Order ID],

[Imported Data].[Sales],

[Imported Data].[Quantity],

[Imported Data].[Discount],

[Imported Data].[Profit]

INTO OrdersProducts

FROM [Imported Data];

# Part II: Analysis Queries

Q01 Products for Order

PARAMETERS [Enter Order ID] CHAR;

SELECT

OrdersProducts.[Products ID],

OrdersProducts.Quantity

FROM OrdersProducts

WHERE ((OrdersProducts.[Order ID])=[Enter Order ID]);

Q02 Orders Shipped in May 2012

SELECT

Orders.[Order ID],

Orders.[Customer ID],

Orders.[Ship Mode],

Orders.[Order Date],

Orders.[Ship Date]

FROM Orders

WHERE ((Orders.[Ship Date])>#4/30/2012#

And (Orders.[Ship Date])<#6/1/2012#);

Q03 Customers by Segment

SELECT

Customers.Segment,

COUNT(Customers.[Customer ID]) AS [Number of Customers]

FROM Customers

GROUP BY Customers.Segment;

Q04 Orders by Segment

SELECT

Customers.Segment,

Count(Orders.[Order ID]) AS [Total Orders]

FROM Customers

INNER JOIN Orders

ON Customers.[Customer ID] = Orders.[Customer ID]

GROUP BY Customers.Segment;

Q05 Sales and Profit by Segment

SELECT

Customers.Segment,

SUM(OrdersProducts.Sales) AS [Total Sales],

SUM(OrdersProducts.Profit) AS [Total Profit]

FROM (Customers

INNER JOIN Orders

ON Customers.[Customer ID]=Orders.[Customer ID])

INNER JOIN OrdersProducts

ON Orders.[Order ID]=OrdersProducts.[Order ID]

GROUP BY Customers.Segment;

Q06 2012 Monthly Sales Data

SELECT

  Month(Orders.[Order Date]) AS [Month],

  Sum(OrdersProducts.Sales) AS [Total Sales],

  Sum(OrdersProducts.Profit) AS [Total Profit]

FROM Orders

INNER JOIN OrdersProducts

  ON Orders.[Order ID] = OrdersProducts.[Order ID]

GROUP BY Month(Orders.[Order Date]),

  Year([Orders].[Order Date])

HAVING ((Year([Orders].[Order Date]))="2012");

Q07 Top 10 Items by Sales

SELECT TOP 10

  Products.[Products ID],

  Products.[Product Name],

  Products.Category,

  [Total Sales]

FROM (SELECT

  Products.[Products ID],

  Products.[Product Name],

  Products.Category,

  SUM(OrdersProducts.Sales) AS [Total Sales]

FROM Products

INNER JOIN OrdersProducts

  ON Products.[Products ID]=OrdersProducts.[Products ID]

GROUP BY Products.[Products ID],

  Products.[Product Name],

  Products.Category)

ORDER by [Total Sales] DESC;

Q08 2014 Unprofitable Products

SELECT

  Products.[Products ID],

  Products.[Product Name],

  Products.Category,

  Sum(OrdersProducts.Quantity) AS [Total Quantity],

  Sum(OrdersProducts.Profit) AS [Total Profit]

FROM (Products

  INNER JOIN OrdersProducts

    ON Products.[Products ID]= OrdersProducts.[Products ID])

INNER JOIN Orders

  ON OrdersProducts.[Order ID] = Orders.[Order ID]

WHERE ((Year([Orders].[Order Date]))="2014")

GROUP BY Products.[Products ID],

  Products.[Product Name],

  Products.Category

HAVING ((sum(OrdersProducts.Profit))<0);