**Power Query & DAX Function Study Note (2023-01-04 ~ Present)**

**(2023/01/04)**

**In the table DimCustomer, can you create a new calculated column called FullName which combines Title, FirstName, MiddleName and LastName into one column.**

Solution

FullName = DimCustomer[Title] & “ “ & DimCustomer[FirstName] & “ “ & DimCustomer[MiddleName] & “ “ & DimCustomer[LastName]

**Create a new calculated column called NoMiddleName which shows "No middle name" if there is no MiddleName, and a blank if there is a MiddleName.**

Solution

NoMiddleName = IF(ISBLANK(DimCustomer[MiddleName]), “No middle name”, BLANK())

**Create a new calculated column called HasBothHouseAndCar.**

**It should have "Yes" if both HouseOwnerFlag and NumberCarsOwned are at least 1 each. Use the function AND(   ,    )**

**If not, then you can either do:**

**a. "No", or**

**b. If you are up for a challenge, it should have the values "Car Only", "House Only", and "Neither", depending on the values of these fields.**

Solution

HasBothHouseAndCar = IF(AND(DimCustomer[HouseOwnerFlag] >= 1, DimCustomer[NumberCarsOwned] >= 1), “Yes”, IF(DimCustomer[HouseOwnerFlag] >=1, “House Only”, IF(DimCustomer[NumberCarsOwned] >=1, “Car Only”, “Neither”)))

**In the table FactInternetSales, can you create a new calculated column called QuarterNumber which gives the QuarterNr of the OrderDate.**

Solution

QuarterNumber = FactInternetSales[OrderDate].[QuarterNo]

**Using this calculated column, can you create a new calculated column called Season so that it shows the words Spring, Summer, Autumn and Winter for the numbers 1, 2, 3 and 4 (or you can use 3, 4, 1, 2, if you are in the southern hemisphere!). Use the SWITCH function.**

Solution

Season = SWITCH(FactInternetSales[QuarterNumber], 1, “Spring”, 2, “Summer”, 3, “Autumn”, 4, “Winter”, “Error”)

**In the DimSalesTerritory table, create a new calculated column called InUS. It should have the values "In US" or "Outside of US", depending on whether the SalesTerritoryCountry field says "United Sales" or not.**

Solution

InUS = IF(DimSalesTerritory[SalesTerritoryCountry] = “United States”, “In US”, “Outside of US”)

**Please create a Calculated Column called NumberPeople which shows the number of people in the family.**

**If MaritalStatus is "M", then assume that there are two people in the family, plus the TotalChildren field.**

**If MaritalStatus is "S", then assume that there are one person in the family, plus the TotalChildren field.**

Solution

NumberPeople = SWITCH(DimCustomer[MaritalStatus], “M”, 2, “S”, 1) + DimCustomer[TotalChildren]

**Each family has a YearlyIncome column. Please create a Calculated Column called IncomePerPerson which gives the answer YearlyIncome divided by NumberPeople.**

Solution

IncomePerPerson = DimCustomer[YearlyIncome] / DimCustomer[NumberPeople]

**Please create a Measure called MeasureIncomePerPerson which gives the average of the income per person, without using all the Calculated Columns we have just created.**

Solution

MeasureIncomePerPerson = AverageX(DimCustomer, DimCustomer[YearlyIncome]/ DimCustomer[NumberPeople])

**Please create a calculated column called RankEQ which calculates the RANK.EQ of the IncomePerPerson.**

Solution

RankEQ = RANK.EQ(DimCustomer[IncomePerPerson], DimCustomer[IncomePerPerson], DESC)

**The IncomePerPerson calculated column includes values such as 15714.2857142857. Please round this column to the nearest 1,000, firstly using ROUND, and then change it to use MROUND.**

Solution

IncomePerPerson = ROUND(DimCustomer[YearlyIncome] / DimCustomer[NumberPeople], -3)

* Set it as -3 to rounding up to the nearest 1000.

IncomePerPerson = MROUND(DimCustomer[YearlyIncome] / DimCustomer[NumberPeople], 1000)

* Set it as 1000 to rounding up to the nearest 1000.

**Please split the RankEQ calculated column into two calculated columns - the number of Hundreds it has, and the last two digits. For example, if RankEQ = 5440, then the "Hundreds" column should equal 54, and the "Remainder" column should equal 40.**

Solution

Hundreds = INT(DimCustomer[RankEQ]/100)

Remainder = MOD(DimCustomer[RankEQ],100)

**Let's suppose that there is a target of 10,000 income for each person. We have calculated the IncomePerPerson in a previous Practice Activity. Please use the SIGN and SWITCH to create a new Calculated Column called GoalStatus give answers such as "Above by 20,000", "In line with target" or "Below by 2,000".**

Solution

GoalStatus = SWITCH(SIGN(DimCustomer[IncomePerPerson] – 10000), 1, “Above by ” & (DimCustomer[IncomePerPerson] - 10000), 0, “In line with target”, -1, “Below by ” & ABS(DimCustomer[IncomePerPerson] – 10000))