**Video #19 Homework (6 Problems)**

For this homework, there are two start files. One file is an Excel file and the other file is a Power BI Desktop file. They both have the same Data Model. You can use either one, depending on which one you feel more comfortable with. If you want, repeat the below problems in both for more fun practice. The Start File Names are:

* 019-MSPTDA-HomeworkStart.xlsx
* 019-MSPTDA-HomeworkStart.pbix

The Solution file is in the Excel File named: “019-MSPTDA-HomeworkFinished.xlsx”

Create all Measures in the Measure Grid below the fTransactions Table in Excel or under the fTransactions Table in the Power BI File.

1. Problem #1:
   1. Using SUMX and RELATED create a Measure that calculates Total Revenue.
2. Problem #2:
   1. Create a Measure using a Boolean Filter that sums the Revenue for only the “Carlota” Product.
   2. Create a Measure using the FILTER and ALL functions that is equivalent to using a Boolean Filter that sums the Revenue for only the “Carlota” Product.
   3. Create a Measure using a Boolean Filter that sums the Revenue for only the Condition/Criteria that is coming from the “disCriteria” Table.
   4. Create a PivotTable or Matrix Report with Product in the Row and the three Measures.
   5. The answer might look like this:  
      
3. Problem #3:
   1. To see the pattern of units sold in your Fact Table, create a Frequency Distribution for units sold. After you create the table the pattern should follow a typical retail sales pattern.
   2. Create a Frequency Distribution for Number of Units Sold as seen in this picture:  
      A screenshot of a cell phone

      Description automatically generated
4. Problem #4:
   1. Your goal is to create a report for the group of Products called “Freestyle Group”. The Products in this group are “Quad”, “Carlota” and “Doublers”. You goal to create a report that shows which boomerang contributes the greatest percentage of revenue to the total revenue for the group.
   2. Create these formulas:
      * Freestyle Revenue :=  
        CALCULATE([Total Revenue],FILTER(VALUES(dBoomProducts[Product]),dBoomProducts[Product]="Quad" || dBoomProducts[Product]="Carlota" || dBoomProducts[Product]="Doubler"))
      * Freestyle Total Revenue :=  
        CALCULATE([Total Revenue],dBoomProducts[Product]="Quad" || dBoomProducts[Product]="Carlota" || dBoomProducts[Product]="Doubler")
      * % of Freestyle Total Rev :=  
        DIVIDE([Freestyle Revenue],[Freestyle Total Revenue])
   3. The Finished Report should look like this:  
      
5. Problem #5:
   1. This problem is easier to complete in the Excel File because we are using manual filters in the row area.
   2. In the Below picture, the Grand Total “Average Monthly Revenue is listed as “$3,238,504.01”, but it should be, “$3,300,992.96”. Create a New Measure that uses KEEPFILTERS and fixes the problem.  
      
   3. The fix report should look like this:  
      
6. Problem #6:
   1. Create a Measure for Average Transactional Revenue using AVERAGEX
   2. Create a Measure for 12-Month Running Transactional Average (we created this Measure back in video #16). This measure shows the average transactional revenue for the past 12 months. This sort of measure is useful to compare to the current month average to see how it deviates from the average over the past 12 months.
   3. The finished Report should look like this:  
        
      