Module 4 - Assignment

Problem Statement:

You work as a Power BI Developer in a leading software company. As a BI professional, you are asked to explore ways in which **AdventureWorks** can empower business and build a report based on sales.

You have been asked to:

a) In Power BI Desktop, connect to [AdventureWorks Sales Data.xlsx](#)

b) Import **DimCurrency**, **DimCustomer**, **DimDate**, **DimProduct**, **DimPromotion**, **DimSalesTerritory**, and **FactInternetSales** worksheets

c) Create a new relationship between the **FactInternetSales** table's **OrderDateKey** column and the **DateKey** column in **DimDate**. Set the cardinality as **Many to One (*:1)**, the cross-filter direction as **Single,** and make this relationship **Active**

d) Create a relationship from **FactInternetSales** [DueDateKey] to **DimDate** [DateKey]

e) Create a relationship between **FactInternetSales** [ShipDateKey] and **DimDate** [DateKey]

f) In Power BI Desktop, load the **DimProductCategory** and **DimProductSubcategory** data from the [AdventureWorks Product Categories.xlsx](#) file

g) Delete the relationship between **DimProductCategory** and **DimProductSubcategory**

h) Create a Many to One (*:1) between **DimProductSubcategory** [CategoryKey] and **DimProductCategory** [CategoryKey] and make the cross-filter direction to both

i) Create a Many to One (*:1) between **DimProduct** [ProductSubcategoryKey] and **DimProductSubcategory** [SubcategoryKey] and make the cross-filter direction to both

j) Add a calculated column named **IncomeStatus** to the **DimCustomer** table based on the **YearlyIncome** column. Income should be classified as follows:
- Lower than 25,000: Lower Income
- Between 25,000 and 60,000: Middle Income
- Between 60,000 and 100,000: Higher Income
- 100,000 and upward: Very High Income

k) Add a calculated column named **DaysSinceFirstPurchase** to the **DimCustomer** table to show the number of days since a customer made the first purchase

l) Add a calculated column named **FullName** to **DimCustomer**, which concatenates the FirstName and the LastName

m) Add a calculated column named **MaleFemale** to **DimCustomer**, which converts the values of the **Gender** column to Male or Female

n) Add a calculated column to **DimCustomer**, called **Relationship**, which converts the value of the **MaritalStatus** column to Married or Single

o) Add a calculated column called **MainCategory** to the **DimProductSubcategory** table, which gets the category name from **DimProductCategory**

p) Add a calculated column called **PromotionLengthDays** to the **DimPromotion** table, which is the difference between **StartDate** and **EndDate**

q) Add a calculated column called **Profit** to **FactInternetSales**, and show the difference between **UnitPrice** and **ProductStandardCost** formatted as currency

r) Save the changes, and close Power BI Desktop