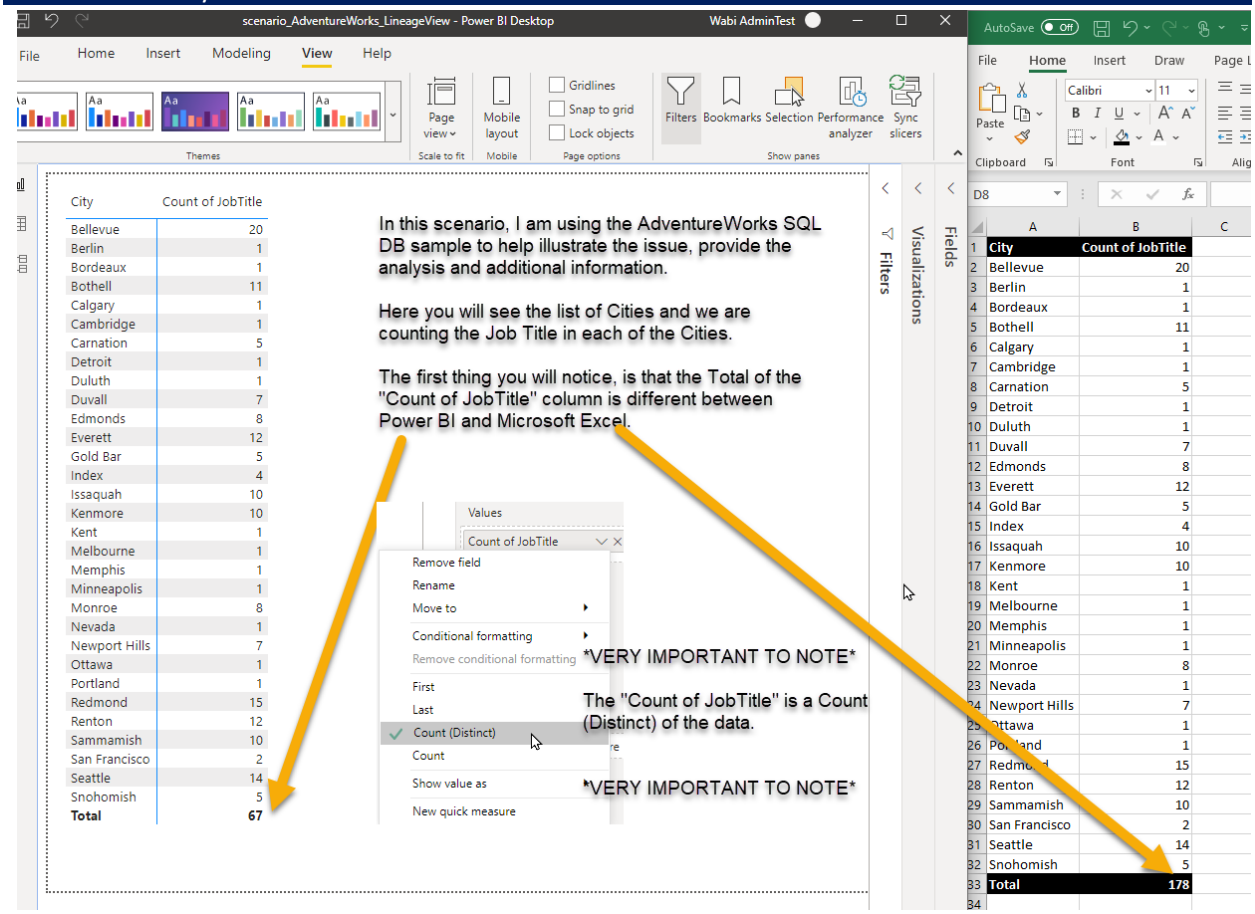
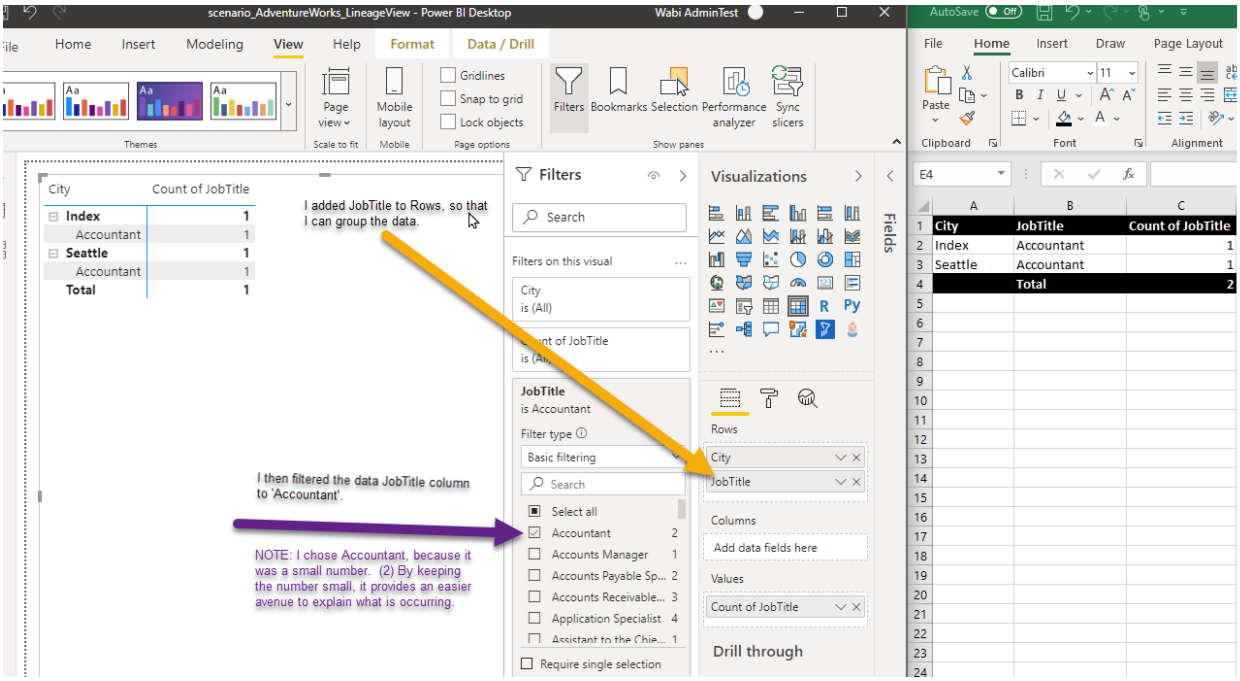
Scenario: Overview of Scenario

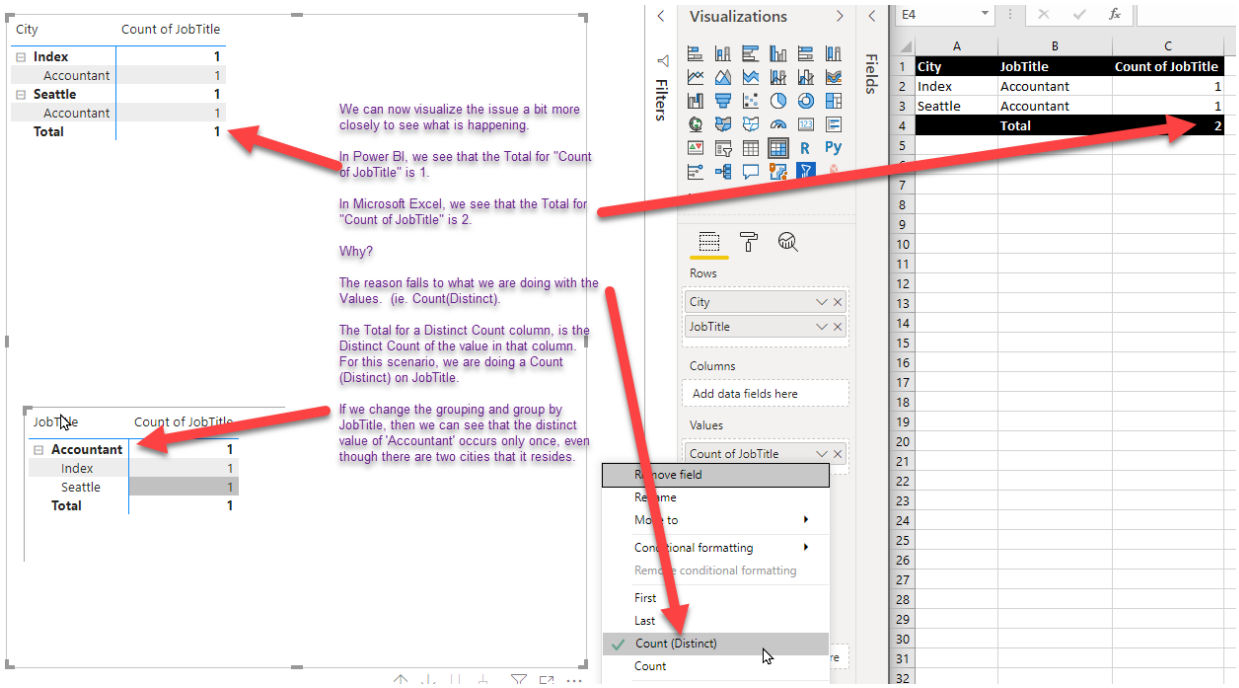
- **Scenario Description**: In this scenario, data is displayed in either a Table Visual and/or a Matrix Visual. One of the columns is executing a count of data and thus displaying a numeric value. When data is counted like this, a Total Row appears. This data is then exported to Microsoft Excel. Then to compare the data and ensure that numbers are displaying correctly and totaling correctly, the data is summed in Microsoft Excel. This data does not match the data that we see in Power BI.
- **Data**: Distinct Count of Job Title per City
- **Dilemma**: The summed data in Microsoft Excel does not match that of the Total Row in Power BI. Why?



Scenario: Reduction of data for problem isolation

- **Goal**: My goal here is reduce the amount of data I am working with here, so to simplify the issue and be able to provide a clear explanation as to what is occurring here. In doing so, I will be grouping and filtering the data.
- **Data**: Distinct Count of Job Title per City Filtered on Job Title = Accountant
- **Discovery**:
    - The Total Row in Power BI for a Count(Distinct) is a Distinct Count of all of the data for the Column that is being Counted, regardless of groupings.
    - The Total Row in Excel is a Sum of the Count.


scenario_AdventureWorks_LineageView - Power BI Desktop
Wabi AdminTest
Home
Insert
Modeling
View
Help
Format
Data / Drill
Page view
Mobile layout
Gridlines
Snap to grid
Lock objects
Filters
Bookmarks
Selection
Performance analyzer
Sync slicers
Themes
Scale to fit
Mobile
Page options
Show panes
City
Count of JobTitle
Index 1
Accountant 1
Seattle 1
Accountant 1
Total 1
I added JobTitle to Rows, so that I can group the data.
I then filtered the data JobTitle column to 'Accountant'.
NOTE: I chose Accountant, because it was a small number. (2) By keeping the number small, it provides an easier avenue to explain what is occurring.
Filters
Search
Filters on this visual
City is (All)
JobTitle is Accountant
Filter type
Basic filtering
Select all
Accountant 2
Accounts Manager 1
Accounts Payable Sp... 2
Accounts Receivable... 3
Application Specialist 4
Require single selection
Visualizations
Rows
City
JobTitle
Columns
Add data fields here
Values
Count of JobTitle
Drill through
Fields
AutoSave
File
Home
Insert
Draw
Page Layout
Paste
Clipboard
Font
Alignment
Calibri
11
E4
A
B
C
City
JobTitle
Count of JobTitle
Index
Accountant
1
Seattle
Accountant
1
Total
2

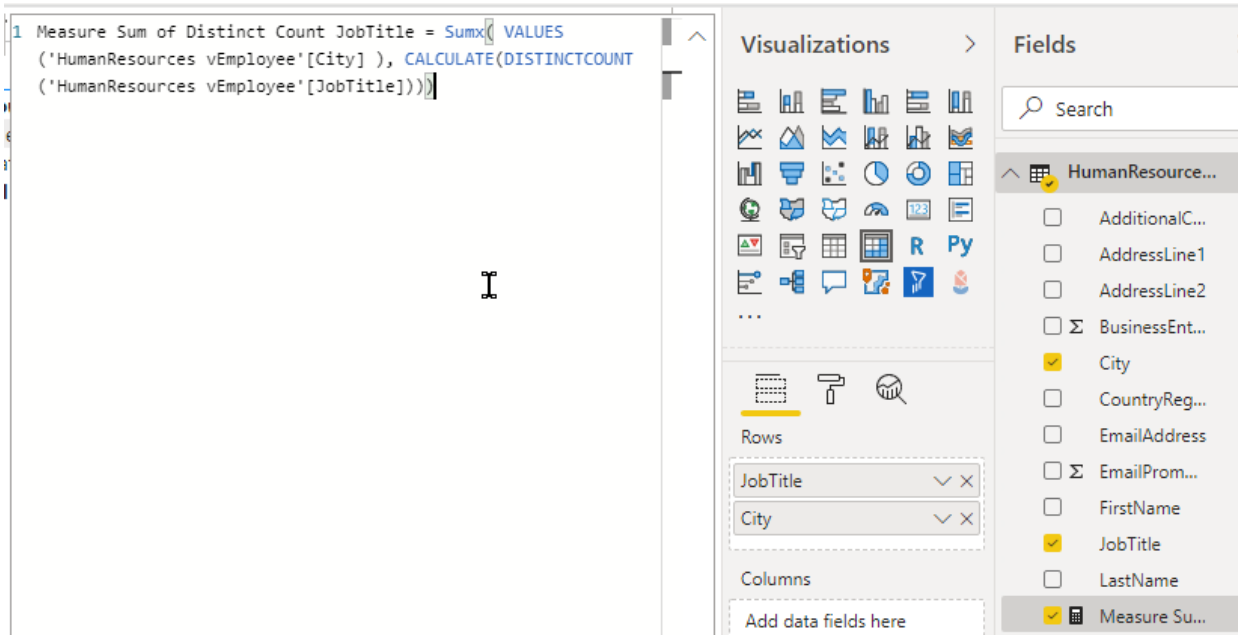

City
Count of JobTitle
Index 1
Accountant 1
Seattle 1
Accountant 1
Total 1
We can now visualize the issue a bit more closely to see what is happening.
In Power BI, we see that the Total for "Count of JobTitle" is 1.
In Microsoft Excel, we see that the Total for "Count of JobTitle" is 2.
Why?
The reason falls to what we are doing with the Values. (ie. Count(Distinct).
The Total for a Distinct Count column, is the Distinct Count of the value in that column. For this scenario, we are doing a Count (Distinct) on JobTitle.
If we change the grouping and group by JobTitle, then we can see that the distinct value of 'Accountant' occurs only once, even though there are two cities that it resides.
JobTitle
Count of JobTitle
Accountant 1
Index 1
Seattle 1
Total 1
Visualizations
Filters
Fields
Rows
City
JobTitle
Columns
Add data fields here
Values
Count of JobTitle
Remove field
Rename
Move to
Conditional formatting
Remove conditional formatting
First
Last
Count (Distinct)
Count
E4
A
B
C
City
JobTitle
Count of JobTitle
Index
Accountant
1
Seattle
Accountant
1
Total
2

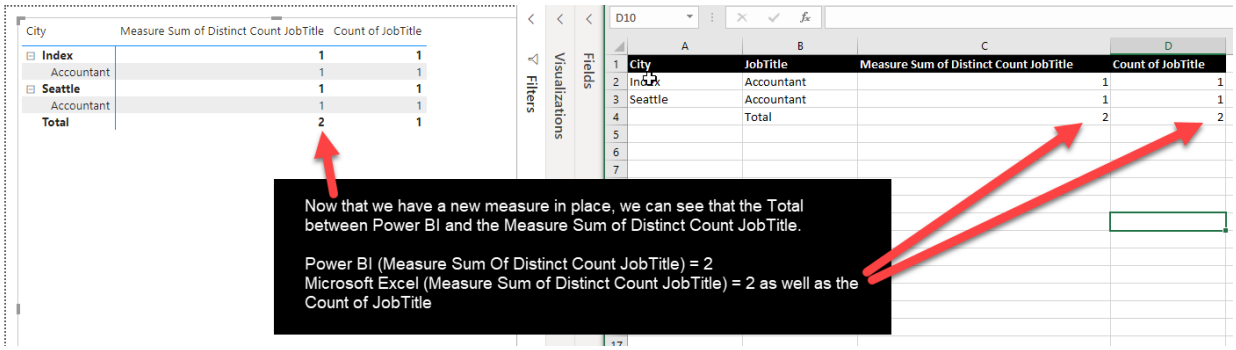
Scenario: Filtered Data with New Measure

- **Goal**: The goal here, is to see if we can add a column to the visual (Table or Matrix) that will have the same Total as Microsoft Excel, once exported and summed. In doing so, we will need to add a New Measure to be able to sum the data and have it resemble the same number when exported to Excel. Initially, we will keep the data filtered, so that we can see this visually with a reduced amount of data.
- **Data**: Distinct Count of Job Title per City Filtered on Job Title = Accountant
- **Challenge**:
    - How to have the Total Row be the Sum of the Data for the Count(Distinct) Column, so that when exporting to Excel the data resembles each other.

First, need to create the new Measure.

MEASURE	`Measure Sum of Distinct Count JobTitle = Sumx( VALUES('HumanResources vEmployee'[City] ), CALCULATE(DISTINCTCOUNT('HumanResources vEmployee'[JobTitle])))`





Scenario: Non-Filtered Data with New Measure

- **Goal**: Now, let's look at all of the data together so that we can see the output with the new measure in place.
- **Data**: Distinct Count of Job Title per City Not Filtered
- Snapshots with the New Measure Column being added