



DATA ANALYTICS POWER BI DATA ANALYSIS

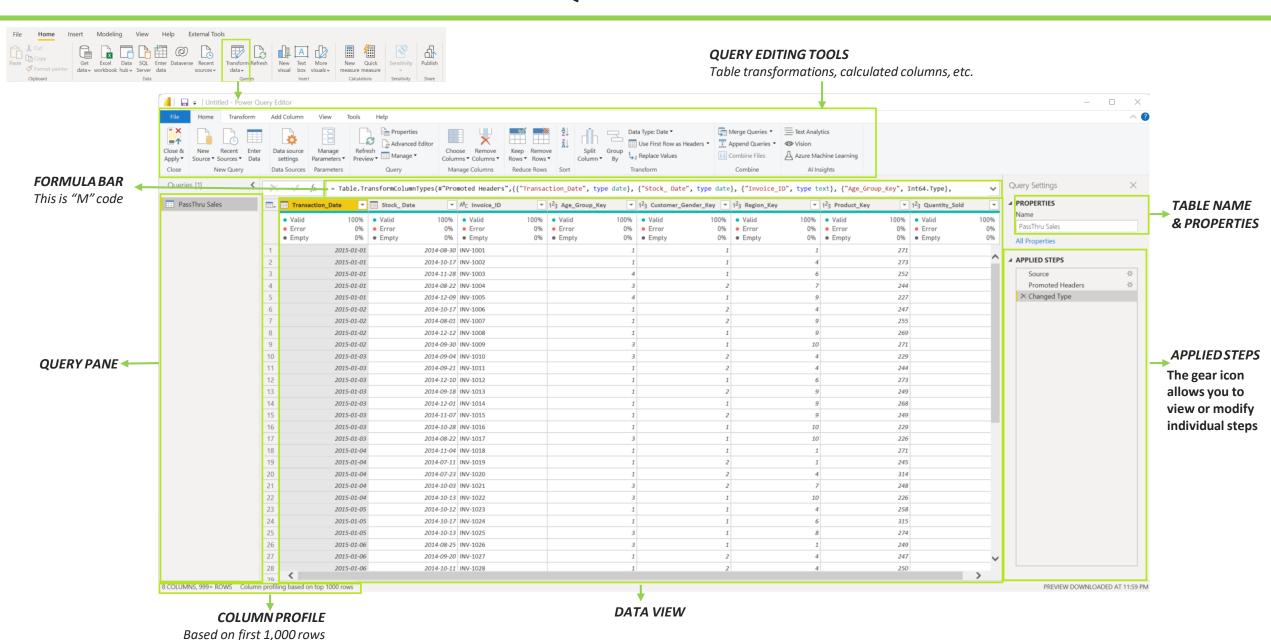
With Power BI Expert.... Benjamin Taiwo

TODAY'S CONTENT

- The Query Editor
- Meet the Query Editing Tools
- The Home Tab / General Settings
- Basic Table Transformations
- Transform Tab / Table Tools
- Column Tools
- Text Column Tools
- Number Column Tools
- Date & Time Column Tools

- Add Column Tab / General Tools
- The View Tab
- The View Tab / Profiling Tools
- The Help Tab
- M Code / Advanced Editor
- M Code / Syntax
- M Code / Common Functions
- ◆ Q & A

THE QUERY EDITOR

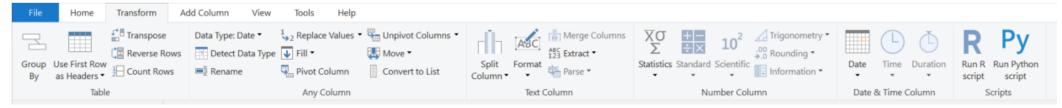


MEET THE QUERY EDITING TOOLS

The HOME tab includes general settings and common table transformation tools



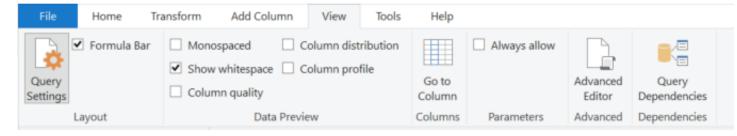
The TRANSFORM tab includes tools to modify existing columns (splitting/grouping, transposing, extracting text, etc)



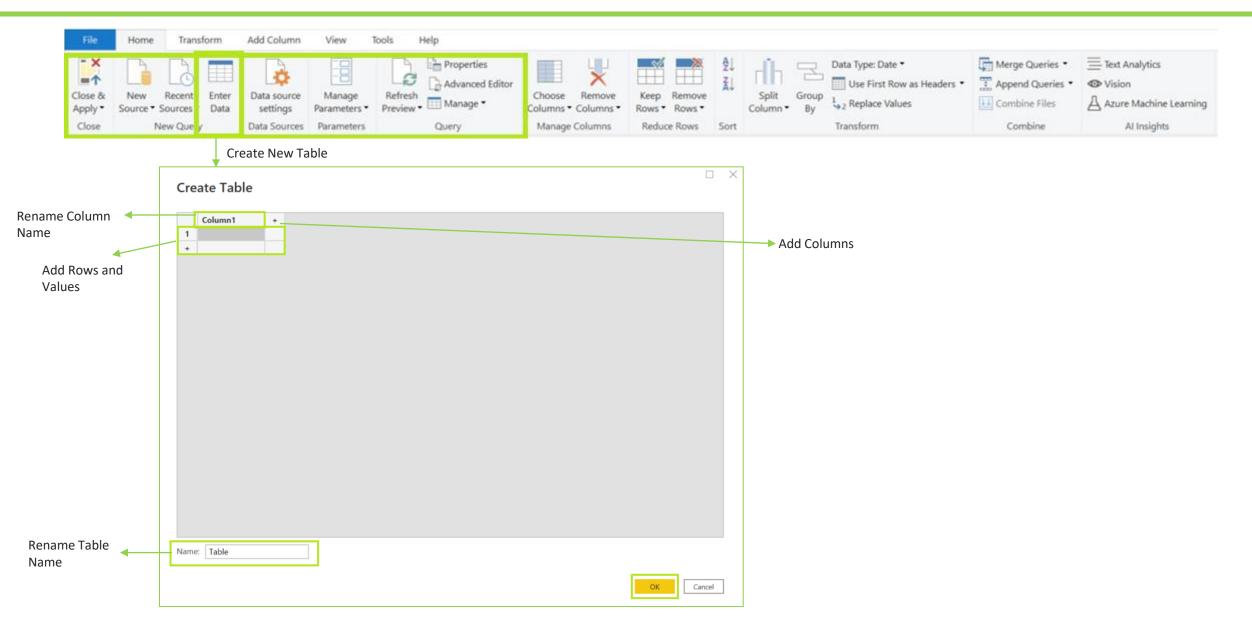
The ADD COLUMN tools create new columns (based on conditional rules, text operations, calculations, dates, etc)



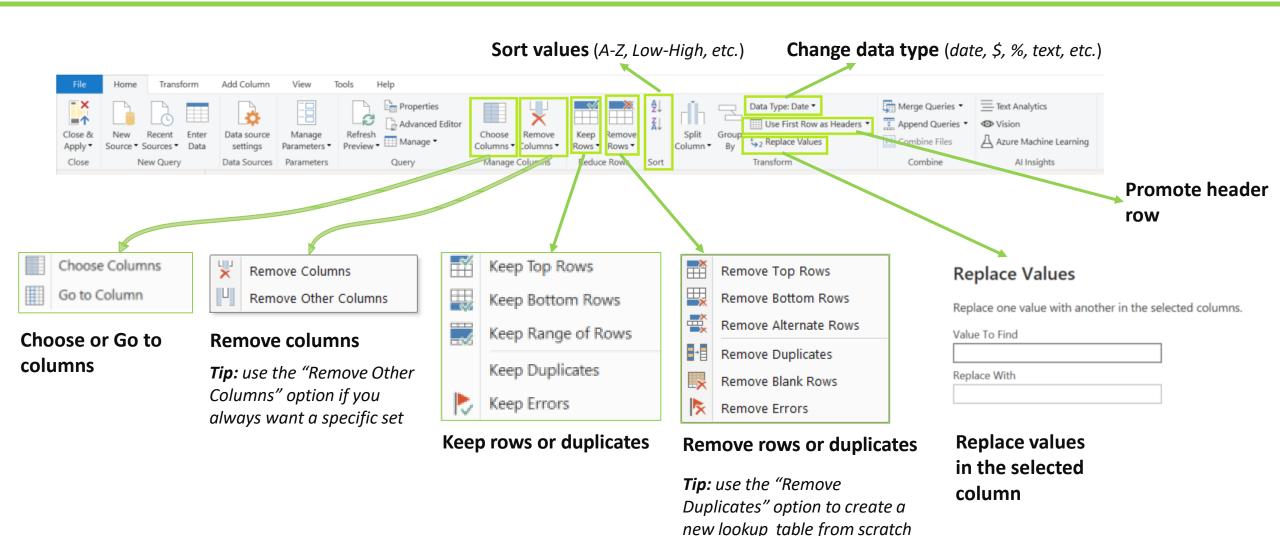
The VIEW tab includes data preview and other advanced editing tools



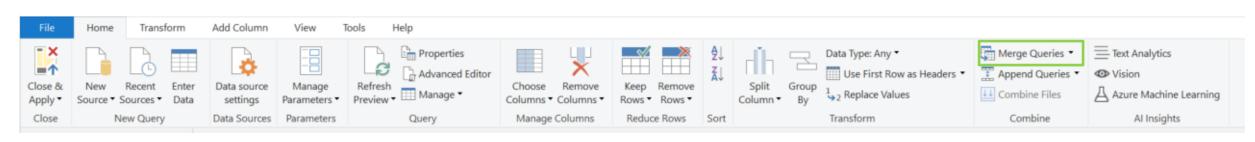
THE HOME TAB / GENERAL SETTINGS

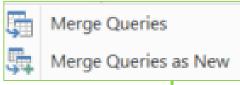


BASIC TABLE TRANSFORMATIONS



MERGE QUERIES

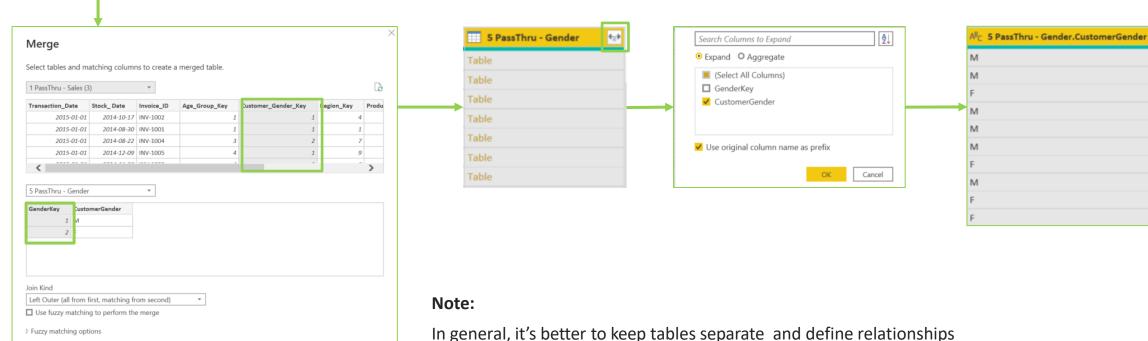




Merging queries allows you to add columns to an existing table by joining tables based on a common column (Primary/Secondary Key).

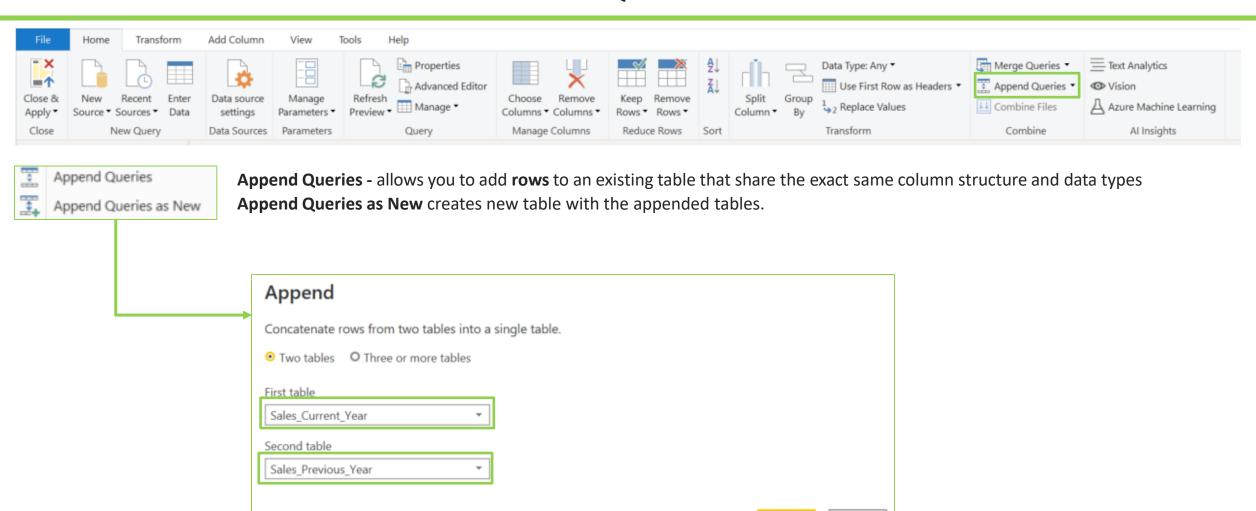
Merge Queries as New create a new table with the merged tables.

Cancel



between them in your data model

APPEND QUERIES



Note:

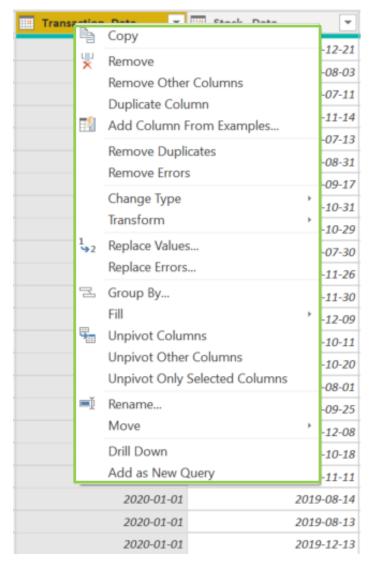
Use the "Folder" option (Get Data > More > Folder) to append all files within a folder (assuming they share the same structure); asyou add new files, simply refresh the query and they will automatically append!

OK

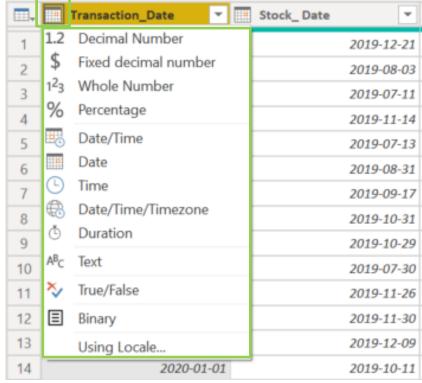
Cancel

THE DATA VIEW TAB

Right-click the column header

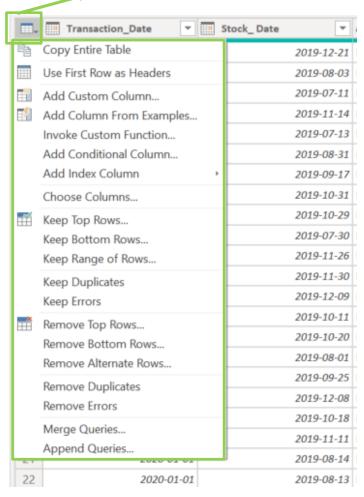




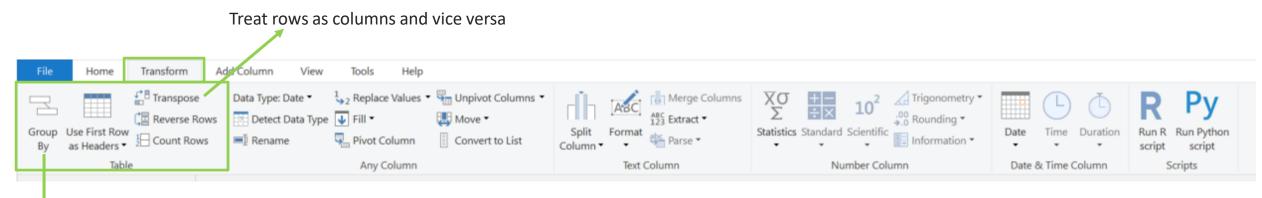


Follow the clicks to access common table and column tools

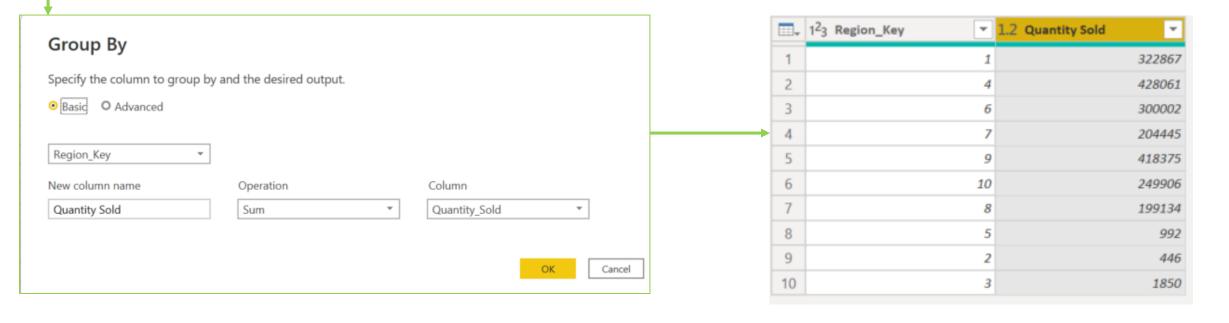
Click the table icon



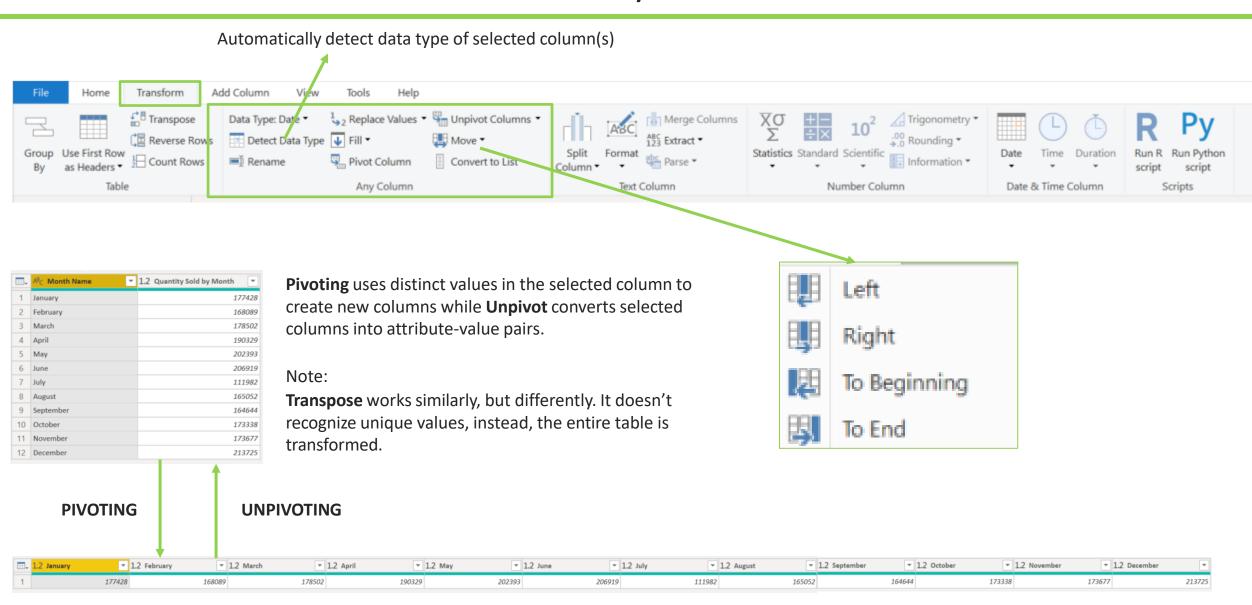
TRANSFORM TAB / TABLE TOOLS



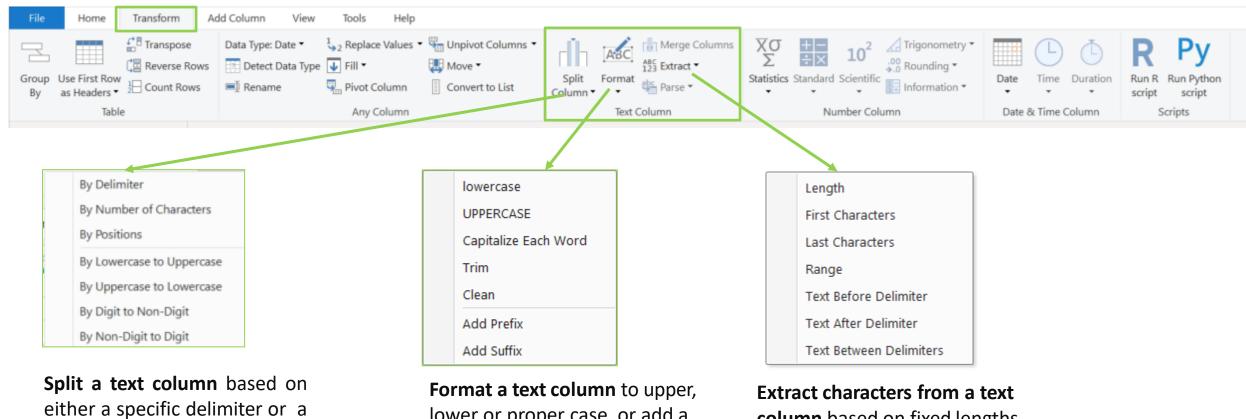
Group by allows you to aggregate your data at a different level. For example: Roll up transaction-level data by Region



TRANSFORM TAB / COLUMN TOOLS



TEXT COLUMN TOOLS



of characters number Upper/Lower positions or cases or digits

lower or proper case, or add a prefix or suffix

Tip: Use "Trim" to eliminate leading & trailing spaces, or "Clean" to remove non-printable characters

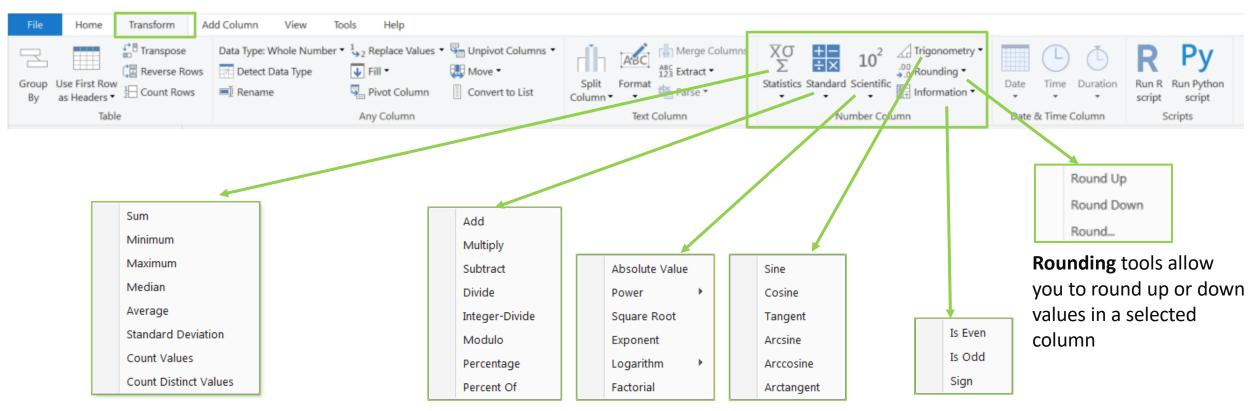
column based on fixed lengths, first/last, ranges or delimiters

Tip: Select two or more columns to merge (or concatenate) fields

Note:

You can access many of these tools in both the "Transform" and "Add Column" menus -- the difference is whether you want to add a new column or modify an existing one

NUMBER COLUMN TOOLS



Statistics functions allow you to evaluate basic stats for the selected column (sum, min/max, average, count, countdistinct, etc)

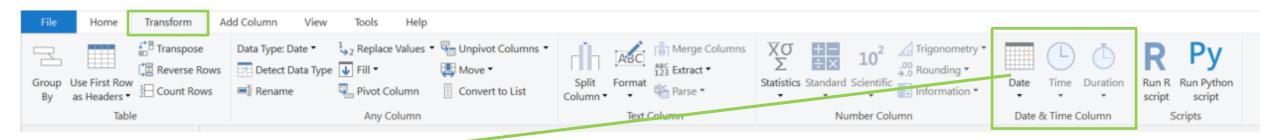
Note: These tools return a SINGLE value, and are commonly used to explore a table rather than prepare it for loading

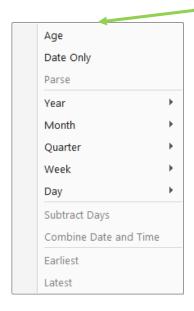
Standard, Scientific and **Trigonometry** tools allow you to apply standard operations (addition, multiplication, division, etc.) or more advanced calculations (power, logarithm, sine, tangent, etc) to each value in a column

Note: Unlike the Statistics options, these tools are applied to each individual row in the table

Information tools allow you to define binary flags (TRUE/FALSE or 1/0) to mark each row in a column as even, odd, positive or negative

DATE-SPECIFIC TOOLS



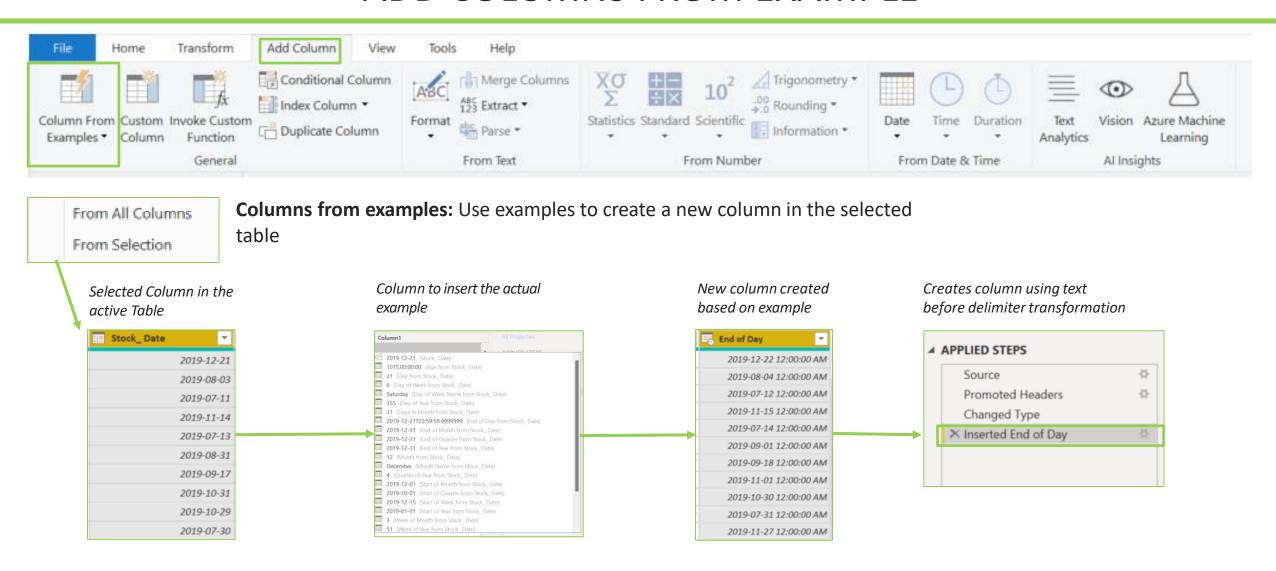


Date & Time tools are relatively straight-forward, and include the following options:

- Age: Difference between the current time and the date in each row
- Date Only: Removes the time component of a date/time field
- Year/Month/Quarter/Week/Day: Extracts individual components from a date field (Time-specific options include Hour, Minute, Second, etc.)
- Earliest/Latest: Evaluates the earliest or latest date from a column as a single value (can only be accessed from the "Transform" menu)

Note: You will almost always want to perform these operations from the "Add Column" menu to build out new fields, rather than transforming an individual date/time column

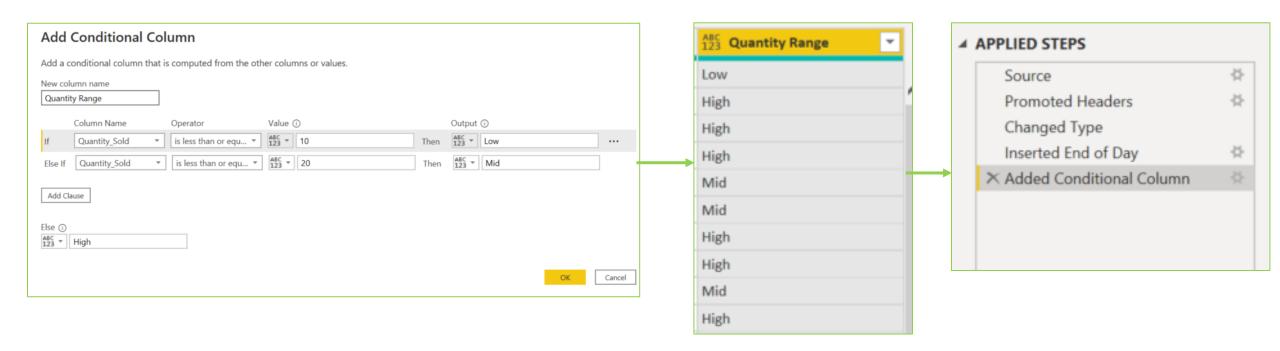
ADD COLUMNS FROM EXAMPLE



ADD CONDITIONAL COLUMNS



Conditional columns allow you to create new column using logical statements (*IF statements*)



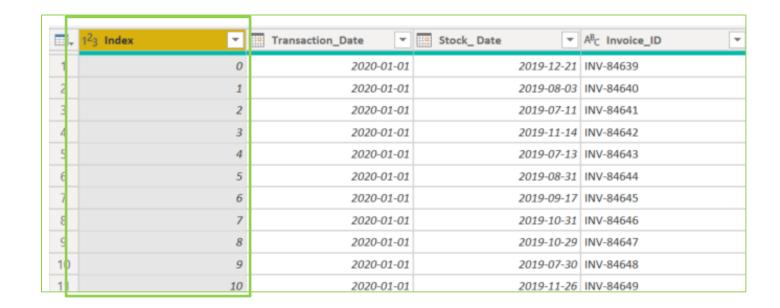
ADD INDEX COLUMNS



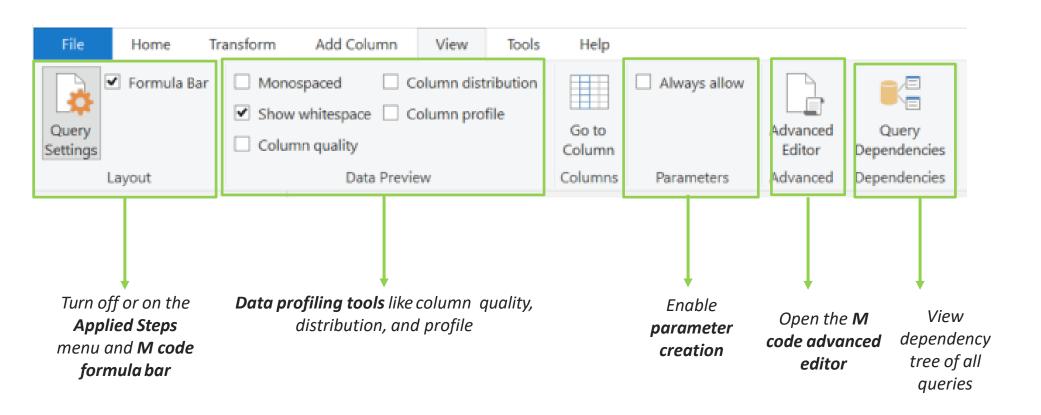
From 0
From 1
Custom...

Index columns create a new column with a list of sequential values from 0 or 1 or custom number to identify each unique row in a table.

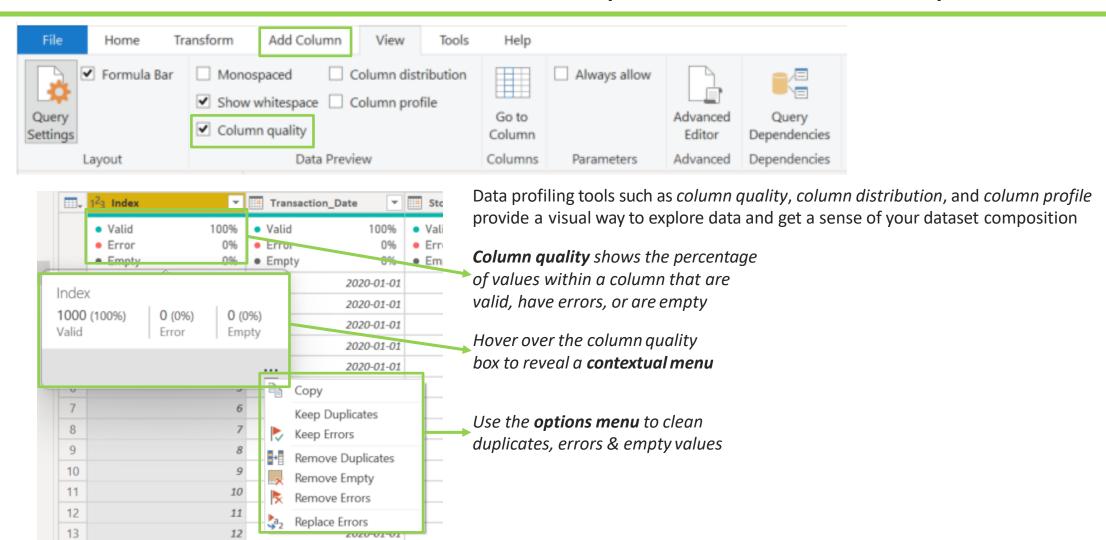
Note: They are often used to create unique IDs and form relationships between tables



VIEW MENU



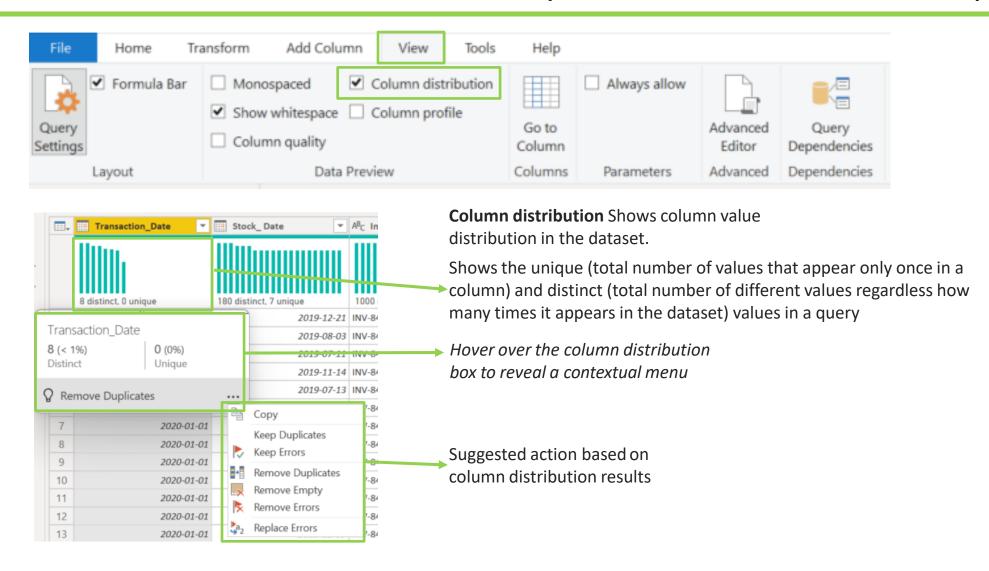
DATA PROFILING (COLUMN QUALITY)



Note:

Use the contextual menu to solve column quality issues instead of having to right-click or find the right Power Queryoption

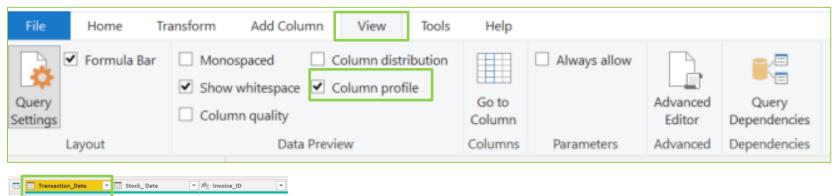
DATA PROFILING (COLUMN DISTRIBUTION)



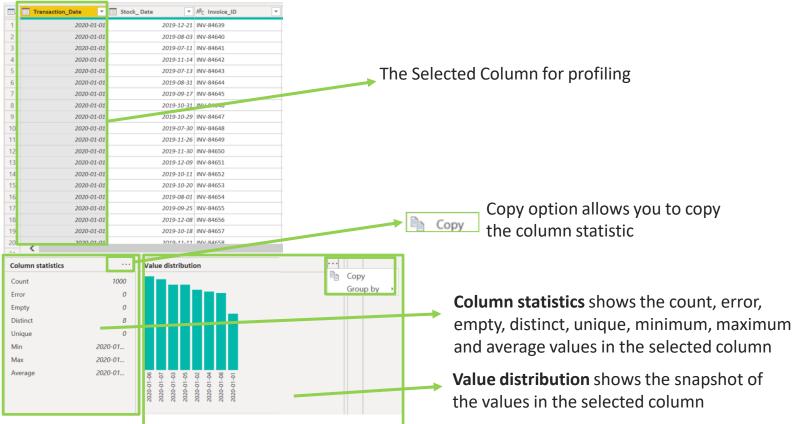
Note:

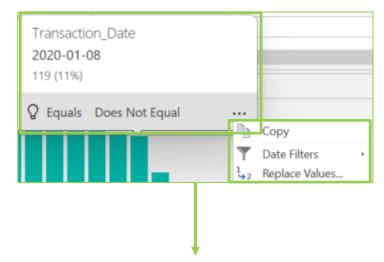
Use column distribution to identify primary keys within your lookup tables

DATA PROFILING (COLUMN PROFILE)



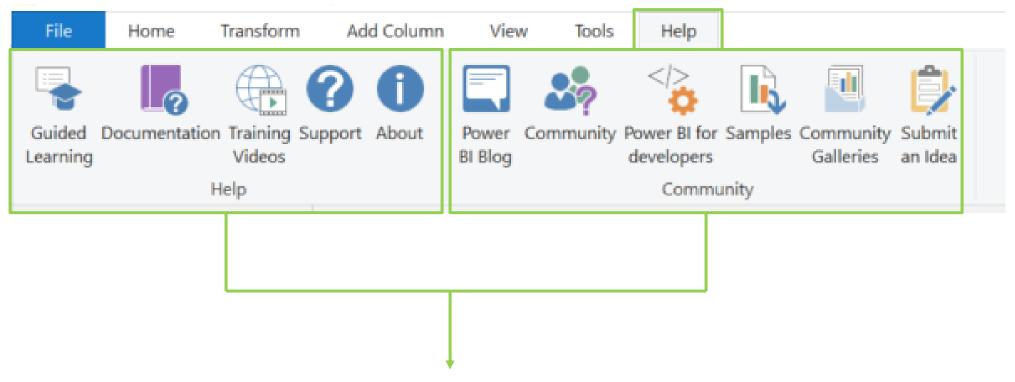
Column profile provides a more holistic view of data within a column providing sample distribution of the data and column statistics





Hover over value distribution bar for possible transformations and additional options

THE HELP TAB



The Help and Community tools provides additional resources for getting assistance with any issues with Power BI. Check them out.

INTRODUCTION TO M LANGUAGE (ADVANCED EDITOR)

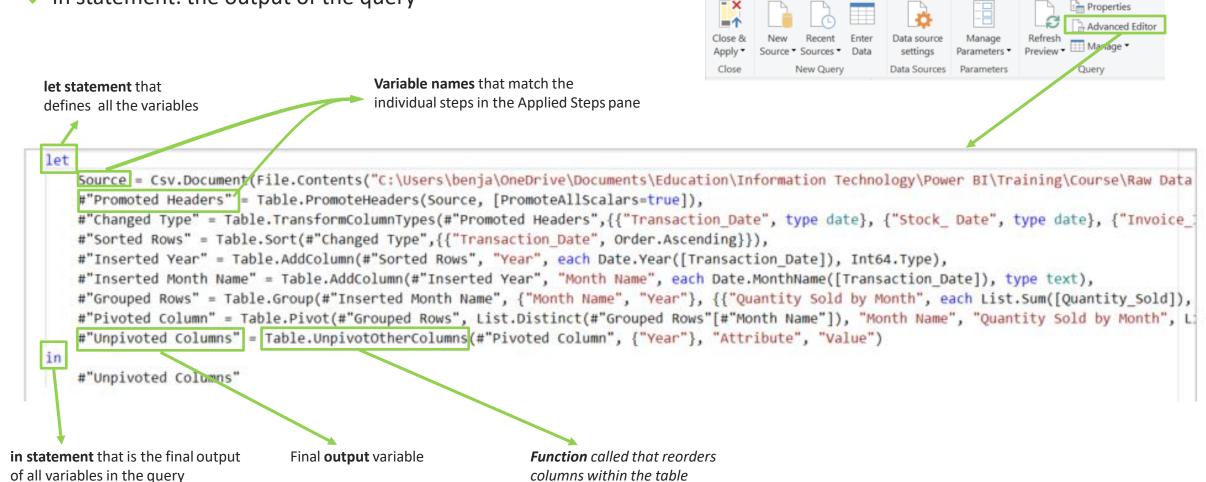
Add Column

Home

Transform

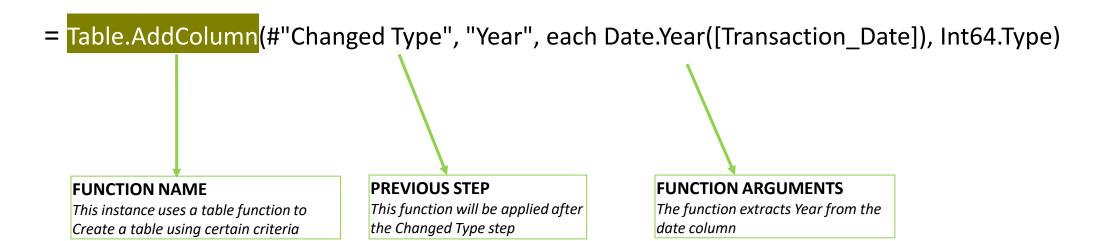
Advanced editor opens the M code that creates the query. This consists of two statements:

- Let statement: the definition of all variables
- In statement: the output of the query



M LANGUAGE SYNTAX

We will consider a statement in M language and break it down for our understanding of the syntax.



COMMON FUNCTION CATEGORIES

TABLE Functions

Functions to create and manipulate table values

Common Examples:

- Table.FromList
- Table.ToList
- Table.IsEmpty
- Table.FindText
- Table.RemoveColumns
- Table.Contains

Table function categories:

- Table construction
- Conversion
- Information
- Row operations
- Column operations
- Membership

LIST Function

Functions to create and manipulate list values

Common Examples:

- List.Select
- List.Contains
- List.Union
- List.Median
- List.Numbers

List function categories:

- Selection
- Membership
- Set operations
- Ordering
- Generators

TEXT Function

Functions to create and manipulate text values

Common Examples:

- Text.Length
- Text.From
- Text.Middle
- Text.Contains
- Text.Remove
- Text.BeforeDelimiter

Text function categories:

- Information
- Text comparisons
- Extraction
- Membership
- Modification
- Transformations

DATE Function

Functions to create and manipulate date, datetime, and datetimezone values

Common Examples:

- Date.EndOfMonth
- Date.EndOfQuarter
- Date.Day
- Date.StartOfWeek
- Date.StartOfMonth

THANK YOU FOR LISTENING

Q&A