



COMBINING DATA IN POWER QUERY

**Crime Data Analyst Svetlana Gubin,
Oakland PD**

International Association Crime Analysts

April 19, 2023

INSTRUCTOR & COURSE INTRODUCTION

Svetlana Gubin, Oakland PD

(510) 238-2017

Sgubin@OaklandCA.gov



Power Query

- ✓ Power Query documentation
<https://docs.microsoft.com/en-us/power-query>
- ✓ Power Query M Language documentation
<https://learn.microsoft.com/en-us/powerquery-m/power-query-m-language-specification>



CONTENTS

- ✓ Combining Data in Power Query
 - *Merge Query*
 - *Append*
- ✓ Additional Information
- ✓ Conclusion and QA

POWER QUERY – POWER QUERY EDITOR

The screenshot shows the Power Query Editor interface. The ribbon at the top includes tabs for File, Home, Transform, Add Column, and View. The ribbon contains various icons for actions like Refresh, Manage, Choose/Remove Columns, Keep/Remove Rows, Sort, Split/Group, Merge/Append/Combine, and Data source settings. A red circle with the number 1 is placed over the ribbon area.

The Queries list on the left shows a single query named 'Table1'. A red circle with the number 3 is placed over this list.

The Formula Bar at the top center contains the M formula: `= Table.TransformColumnTypes(Source,{{"Names", type text}, {"Scores", Int64.Type}})`. A red circle with the number 4 is placed over the formula bar.

The Data Preview table in the center shows a list of 20 rows with columns for 'Names' and 'Scores'. A red circle with the number 5 is placed over the data preview area.

The Query Settings pane on the right shows the 'PROPERTIES' section with the name 'Table1' and the 'APPLIED STEPS' section showing 'Source' and 'Changed Type'. A red circle with the number 2 is placed over the 'APPLIED STEPS' section.

At the bottom left, it says '2 COLUMNS, 50 ROWS Column profiling based on top 1000 rows'. At the bottom right, it says 'PREVIEW DOWNLOADED AT 2:33 PM'.

1. Ribbon

2. Applied Steps

3. Queries

4. Formula Bar

5. Data Preview

DATABASE SAN FRANCISCO, 2022

Police Department Incident Reports: 2018 to Present

Public Safety

A. SUMMARY

Read the [detailed overview of this dataset](#).

This dataset includes incident reports that have been filed as of January 1, 2018. These reports [More](#)

View Data Visualize Export API

Download Police Department Incident Reports: 2018 to Present

Download Police Department Incident Reports: 2018 to Present for offline use in other applications.

CSV KML Shapefile

Additional Formats

[CSV for Excel](#) [KMZ](#) [TSV for Excel](#)

[CSV for Excel \(Europe\)](#) [RDF](#) [XML](#)

[GEOJSON](#) [RSS](#)

Featured Content Using this Data

Public [Map of Police Department Incident Reports: 2018 to Pr...](#)

January 24, 2023 36.7K Views

Public [SFPD Narcan/ Naloxone Deployment Chart & Table](#)

January 24, 2023 209 Views

Public [SFPD Narcan Deployment](#)

January 24, 2023 175 Views

Incident_Joins.xlsx

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat **Table Design** [Share](#) [Comments](#)

Table Name: **LeftTable**

Summarize with PivotTable | Remove Duplicates | Convert to Range | Insert Slicer | Export | Refresh | Open in Browser | Unlink | Properties | External Table Data

Header Row First Column Filter Button
 Total Row Last Column
 Banded Rows Banded Columns

Table Styles

Left Table

J6 : X ✓ ✖ fx Lost Property

Incident	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description	Incident Code	Incident Category	Incident Subcategory	Incident Description	Resolution	Inter
1	1/1/2022 23:44	220002008	220013421 II	Initial		64085	Other Miscellaneous	Other	Investigative Detention	Open or Active	CABF
2	1/1/2022 23:43	210825086	220013420 VS	Vehicle Supplement		7041	Recovered Vehicle	Recovered Vehicle	Vehicle, Recovered, Au	Open or Active	SHRA
3	1/1/2022 23:36	220001981	220013407 VI	Vehicle Initial		7055	Motor Vehicle Theft	Motor Vehicle Theft	Vehicle, Recovered, Stc	Open or Active	BRAN
4	1/1/2022 23:42	220002020	220013402 II	Initial		6243	Larceny Theft	Larceny - From Vehicle	Theft, From Locked Veh	Open or Active	LARK
5	1/4/2022 11:36	226001319	II	Coplogic Initial		71000	Lost Property	Lost Property	Lost Property	Open or Active	

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat **Table Design** [Share](#) [Comments](#)

Table Name: **RightTable**

Summarize with PivotTable | Remove Duplicates | Convert to Range | Insert Slicer | Export | Refresh | Open in Browser | Unlink | Properties | External Table Data

Header Row First Column Filter Button
 Total Row Last Column
 Banded Rows Banded Columns

Table Styles

Right Table

B8 : X ✓ ✖ fx 1/1/2022 8:30:00 PM

Incident I	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 23:44	1/1/2022	23:44	2022	Saturday
2	1/1/2022 23:43	1/1/2022	23:43	2022	Saturday
3	1/1/2022 21:14	1/1/2022	21:14	2022	Saturday
4	1/1/2022 21:00	1/1/2022	21:00	2022	Saturday
5	1/1/2022 21:00	1/1/2022	21:00	2022	Saturday
6	1/1/2022 21:00	1/1/2022	21:00	2022	Saturday
7	1/1/2022 21:00	1/1/2022	21:00	2022	Saturday
8	1/1/2022 20:30	1/1/2022	20:30	2022	Saturday
9	1/1/2022 20:30	1/1/2022	20:30	2022	Saturday
10	1/1/2022 20:29	1/1/2022	20:29	2022	Saturday
11	1/1/2022 20:16	1/1/2022	20:16	2022	Saturday
12	1/1/2022 20:16	1/1/2022	20:16	2022	Saturday
13	1/1/2022 20:16	1/1/2022	20:16	2022	Saturday

TIME CLEANING

Incident Datetime	Report Datetime	Incident ID	Incident Number	Date	Time_Text	Time_number
1/1/2020 0:00	6/23/2021 15:16	1043121	210393732	20200413	0130	130
1/1/2020 0:00	6/23/2021 13:49	1042957	210392784	20200413	0130	130
1/1/2020 0:00	3/15/2022 12:50	1131074	220122593	20200415	0016	16
1/1/2020 0:00	12/30/2021 14:00	1107459	210863440	20200415	2152	2152
1/1/2020 0:00	3/23/2022 8:59	1133319	220122593	20200418	0601	601
1/1/2020 0:00	5/16/2022 15:17	1150849	220319762	20200413	0130	130
1/1/2020 0:00	5/17/2022 9:48	1151149	220321563	20200413	0130	130
1/1/2020 0:00	4/18/2022 18:00	1142074	220253665	20200414	0100	100
1/1/2020 0:00	4/22/2022 7:28	1143304	220253665	20200415	0030	30
1/1/2020 0:00	7/25/2022 10:45	1174461	220492192	20200415	1600	1600
1/1/2020 0:00	7/27/2022 13:20	1177735	220319762	20200417	0825	825
1/1/2020 0:00	8/3/2022 9:06	1177744	220321563	20200417	0903	903
1/1/2020 0:00	8/8/2022 14:46	1179354	220528888	20200417	1835	1835

TIME CLEANING - TEXT

Table.TransformColumnTypes(Source,{{"Incident Datetime", type datetime}, {"Report

Incident ID	Incident Number	Date	Time_Text	Time_number
M 1043121	210393732	20200413	130	130
M 1042957	210392784	20200413	130	130
M 1131074	220122593	20200415	16	16
M 1107459	210863440	20200415	2152	2152
M 1133319	220122593	20200418	601	601
M 1150849	220319762	20200413	130	130
M 1151149	220321563	20200413	130	130

Query Settings

PROPERTIES
Name: TimeCleaning

APPLIED STEPS
Source
X Changed Type

Add Column View

= Table.TransformColumnTypes(Source,{{"Incident Datetime", type datetime}, {"Report

Report Datetime	Incident ID	Incident Number	Date	Time_Text	Time_number
1 6/23/2021 3:16:00 PM	1043121	210393732	20200413	1:30:00 AM	130
2 6/23/2021 1:49:00 PM	1042957	210392784	20200413	1:30:00 AM	130
3 /15/2022 12:50:00 PM	1131074	220122593	20200415	12:16:00 AM	16
4 2/30/2021 2:00:00 PM	1107459	210863440	20200415	9:52:00 PM	2152
5 3/23/2022 8:59:00 AM	1133319	220122593	20200418	6:01:00 AM	601
6 5/16/2022 3:17:00 PM	1150849	220319762	20200413	1:30:00 AM	130
7 5/17/2022 9:48:00 AM	1151149	220321563	20200413	1:30:00 AM	130
8 4/18/2022 6:00:00 PM	1142074	220253665	20200414	1:00:00 AM	100

Query Settings

PROPERTIES
Name: TimeCleaning

APPLIED STEPS
Source
X Changed Type

TIME CLEANING - NUMBER

Query Settings

PROPERTIES

Name: TimeCleaning

Report Datetime	Incident ID	Incident Number	Date	Time_Text	Time_number
6/23/2021 3:16:00 PM	1043121	210393732	20200413	0130	130
6/23/2021 1:49:00 PM	1042957	210392784	20200413	0130	130

Query Settings

PROPERTIES

Name: TimeCleaning

Report Datetime	Incident ID	Incident Number	Date	Time_Text	Time_number
6/23/2021 3:16:00 PM	1043121	210393732	20200413	0130	130
6/23/2021 1:49:00 PM	1042957	210392784	20200413	0130	130

Advanced Editor

Choose Columns | Remove Columns | Keep Rows | Remove Rows | Split Column

By Delimiter | Transform

By Number of Characters

Replace Values | Merge Queries | Append Queries | Combine Files | Manage Parameters | Data source settings | New Source | Recent Sources

Query Settings

PROPERTIES

Name: TimeCleaning

Report Datetime	Incident ID	Incident Number	Date	Time_Text	Time_number
6/23/2021 3:16:00 PM	1043121	210393732	20200413	0130	130
6/23/2021 1:49:00 PM	1042957	210392784	20200413	0130	130

Split Column by Number of Characters

Split values in the selected column into fragments with the specified length.

By Non-Digit to Digit

Split Column by Number of Characters

Specify the number of characters used to split the text column.

Number of characters: 2

Split

- Once, as far left as possible
- Once, as far right as possible
- Repeatedly

> Advanced options

OK Cancel

TIME CLEANING - NUMBER

Data Type: Whole Number ▾
 Use First Row as Headers ▾
 Replace Values
 Transform

Merge Queries ▾
 Append Queries ▾
 Combine Files
 Combine

Manage Parameters ▾
 Parameters

Data source settings
 Data Sources

New Source ▾
 Recent Sources ▾
 New Query

Split Column by Position", {"Time_number.1", Int64.Type}, ▾

Time_Text	Time_number.1	Time_number.2
0	1	30
0	1	30

Query Settings

▾ **PROPERTIES**

Name

Time_Text	Time_number.1	Time_number.2
130	1	30
130	1	30
16		16
2152	21	52
601	6	01
130	1	30
130	1	30
100	1	00
30		30
1600	16	00

Query Settings

▾ **PROPERTIES**

Name

TimeCleaning

[All Properties](#)

▾ **APPLIED STEPS**

- Source
- Changed Type
- Split Column by Position
- Changed Type1**

TIME CLEANING - NUMBER

Form Combine Parameters Settings Data Sources New Query

by Position",{{"Time_number.1", type text},

Time_Text	Time_number.1	Time_number.2
130	1	
130	1	
16		
2152	21	
601	6	
130	1	
130	1	
100	1	
30		

Copy
Remove
Remove Other Columns
Duplicate Column
Add Column From Examples...
Remove Duplicates
Remove Errors
Change Type
Transform
Replace Values...

Query Settings

PROPERTIES
Name
TimeCleaning

APPLIED STEPS
Source
Changed Type
Split Column by Position

Replace Values

Replace one value with another in the selected columns.

Value To Find

Replace With

acer.ReplaceValue,{{"Time_number.1"}})

Time_number.1	Time_number.2
130	30
130	30
16	16
2152	52
601	01

Query Set

PROPERTIES
Name
TimeCleaning

All Properties

TIME CLEANING - NUMBER

Custom Column

Add a column that is computed from the other columns.

New column name

Custom column formula

Available columns
Incident Datetime
Report Datetime
Incident ID

2	ABC 123	Time_new
		1:30
		1:30
		0:16
		21:52
		6:01
		1:30
		1:30

Query Settings

PROPERTIES

Name

Time_new
1:30:00 AM
1:30:00 AM
12:16:00 AM
9:52:00 PM
6:01:00 AM
1:30:00 AM

Query Settings

PROPERTIES

Name

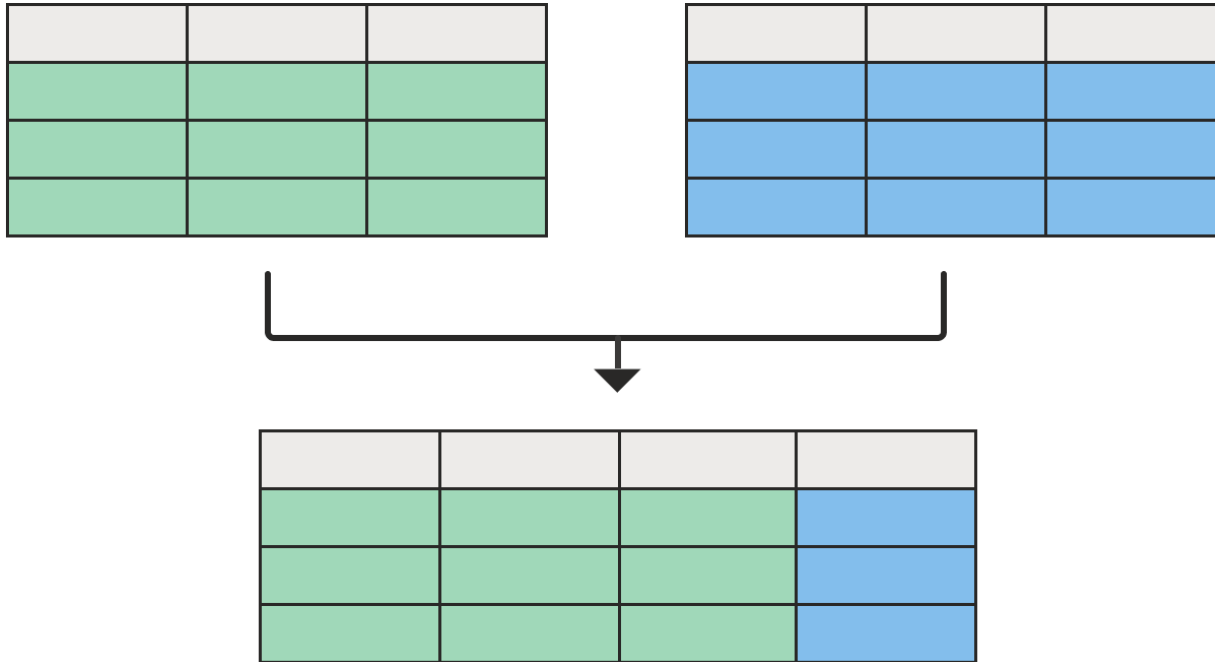
All Properties

APPLIED STEPS

Source

MERGE QUERY - OVERVIEW

A merge queries operation joins two existing tables together based on matching values from one or multiple columns. You can choose to use different types of joins, depending on the output you want.



MERGE QUERY - TYPES

- Left outer join
- Right outer join
- Full outer join
- Inner join
- Left anti join
- Right anti join
- Fuzzy merge
- Cross join

MERGE QUERY – LEFT OUTER JOIN

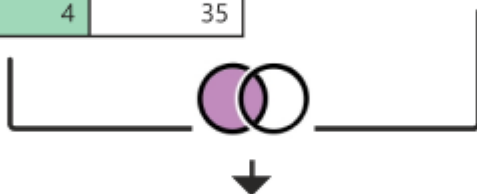
A left outer join keeps all the rows from the left table and brings in any matching rows from the right table.

Left Table

Date	CountryID	Units
1/1/2020	1	40
1/2/2020	1	25
1/3/2020	3	30
1/4/2020	4	35

Right Table

ID	Country
1	USA
2	Canada
3	Panama



Merged Table

Date	CountryID	Units	Country
1/1/2020	1	40	USA
1/2/2020	1	25	USA
1/3/2020	3	30	Panama
1/4/2020	4	35	<i>null</i>

MERGE QUERY – LEFT OUTER JOIN - EXAMPLE

File Home Transform Add Column View

Close & Load Close Refresh Preview Advanced Editor Manage Query

Choose Columns Manage Columns Remove Columns Remove Rows Keep Rows Remove Rows Sort

Split Column Group By Transform

Data Type: Whole Number Use First Row as Headers Replace Values

Merge Queries Merge Queries as New

Data source settings Enter Data New Query

Query Settings

PROPERTIES Name LeftTable

APPLIED STEPS Source Navigation Changed Type

Table.TransformColumnTypes(LeftTable_Table,({"Incident ID", Int64.Type}, {"Report Datetime", Int64.Type}, {"Incident Number", Int64.Type}, {"CAD Number", Int64.Type}, {"Report Type Code", type

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description	Incident Code	Incident Category	Incident Subcategory
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial	64085	Other Miscellaneous	Other
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement	7041	Recovered Vehicle	Recovered Vehicle
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial	7055	Motor Vehicle Theft	Motor Vehicle Theft
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial	6243	Larceny Theft	Larceny - From Vehicle
5	1/4/2022 11:36:00 AM	226001319	null	II	Coplogic Initial	71000	Lost Property	Lost Property
6	1/2/2022 1:10:00 PM	226001234	null	II	Coplogic Initial	6244	Larceny Theft	Larceny - From Vehicle
7	1/2/2022 12:27:00 AM	220002086	220020038	II	Initial	4134	Assault	Simple Assault
8	1/7/2022 9:24:00 PM	226002549	null	II	Coplogic Initial	9320	Fraud	Fraud
9	1/2/2022 11:56:00 AM	226001563	null	II	Coplogic Initial	28150	Malicious Mischief	Vandalism

Merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Left Outer (all from first, matching from second)

Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection matches 2 of 10 rows from the first table.

OK Cancel

MERGE QUERY – LEFT OUTER JOIN - EXAMPLE

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage

Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Close Query Manage Columns Reduce Rows Sort Transform Combine Parameters Data Sources New Query

Queries [3] LeftTable RightTable Merge1

fx = Table.NestedJoin(LeftTable, {"Incident ID"}, RightTable, {"Incident ID"}, "RightTable", JoinKind.LeftOuter)

	Resolution	Intersection	Police District	Analysis Neighborhood	Latitude	Longitude	Neighborhoods	RightTable
1	Open or Active	CABRILLO ST \ 05TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5 Table	
2	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12 Table	
3	Open or Active	BRANNAN ST \ HARRIET ST	Southern	South of Market	37.77438465	-122.4015181	32 Table	
4	Open or Active	LARKIN ST \ BUSH ST	Northern	Nob Hill	37.78890961	-122.4186559	50 Table	
5	Open or Active		Out of SF		null	null	null Table	
6	Open or Active	22ND ST \ BARTLETT ST	Mission	Mission	37.75536573	-122.4198579	53 Table	
7	Open or Active	CAPITOL AVE \ SAGAMORE ST	Taraval	Oceanview/Merced/Ingleside	37.71138733	-122.4590055	81 Table	

Query Settings

PROPERTIES Name Merge1 All Properties

APPLIED STEPS Source

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage

Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Table Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Close Query Manage Columns Reduce Rows Sort Transform Combine Parameters Data Sources New Query

Queries [3] LeftTable RightTable Merge1

fx = Table.NestedJoin(LeftTable, {"Incident ID"}, RightTable, {"Incident ID"}, "RightTable", JoinKind.LeftOuter)

	Resolution	Intersection	Police District	Analysis Neighborhood	Latitude	Longitude	Neighborhoods	RightTable
1	Open or Active	CABRILLO ST \ 05TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5 Table	
2	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12 Table	
3	Open or Active	BRANNAN ST \ HARRIET ST	Southern	South of Market	37.77438465	-122.4015181	32 Table	
4	Open or Active	LARKIN ST \ BUSH ST	Northern	Nob Hill	37.78890961	-122.4186559	50 Table	
5	Open or Active		Out of SF		null	null	null Table	
6	Open or Active	22ND ST \ BARTLETT ST	Mission	Mission	37.75536573	-122.4198579	53 Table	
7	Open or Active	CAPITOL AVE \ SAGAMORE ST	Taraval	Oceanview/Merced/Ingleside	37.71138733	-122.4590055	81 Table	
8	M, Fraudulent Use of	GOUGH ST \ CALIFORNIA ST	Northern	Pacific Heights	37.78995188	-122.4218655	50 Table	
9	Open or Active	VICENTE ST \ 39TH AVE	Taraval	Sunset/Parkside	37.7383795	-122.4918655	50 Table	
10	Open or Active		Mission		null	null	null Table	

Query Settings

PROPERTIES Name Merge1 All Properties

APPLIED STEPS Source

Expand Aggregate

(Select All Columns)

Incident ID

Incident Datetime

Incident Date

Incident Time

Incident Year

Incident Day of Week

Use original column name as prefix

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage

Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Table Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Close Query Manage Columns Reduce Rows Sort Transform Combine Parameters Data Sources New Query

Queries [3] LeftTable RightTable Merge1

fx = Table.NestedJoin(LeftTable, {"Incident ID"}, RightTable, {"Incident ID"}, "RightTable", JoinKind.LeftOuter)

	Resolution	Intersection	Police District	Analysis Neighborhood	Latitude	Longitude	Neighborhoods	RightTable
1	Open or Active	CABRILLO ST \ 05TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5 Table	
2	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12 Table	
3	Open or Active	BRANNAN ST \ HARRIET ST	Southern	South of Market	37.77438465	-122.4015181	32 Table	
4	Open or Active	LARKIN ST \ BUSH ST	Northern	Nob Hill	37.78890961	-122.4186559	50 Table	
5	Open or Active		Out of SF		null	null	null Table	
6	Open or Active	22ND ST \ BARTLETT ST	Mission	Mission	37.75536573	-122.4198579	53 Table	
7	Open or Active	CAPITOL AVE \ SAGAMORE ST	Taraval	Oceanview/Merced/Ingleside	37.71138733	-122.4590055	81 Table	
8	M, Fraudulent Use of	GOUGH ST \ CALIFORNIA ST	Northern	Pacific Heights	37.78995188	-122.4218655	50 Table	
9	Open or Active	VICENTE ST \ 39TH AVE	Taraval	Sunset/Parkside	37.7383795	-122.4918655	50 Table	
10	Open or Active		Mission		null	null	null Table	

Query Settings

PROPERTIES Name Merge1 All Properties

APPLIED STEPS Source

Expand Aggregate

(Select All Columns)

Sum of Incident ID

Count of Incident Datetime

Count of Incident Date

Count of Incident Time

Sum of Incident Year

Count of Incident Day of Week

Use original column name as prefix

OK Cancel

MERGE QUERY – LEFT OUTER JOIN - EXAMPLE

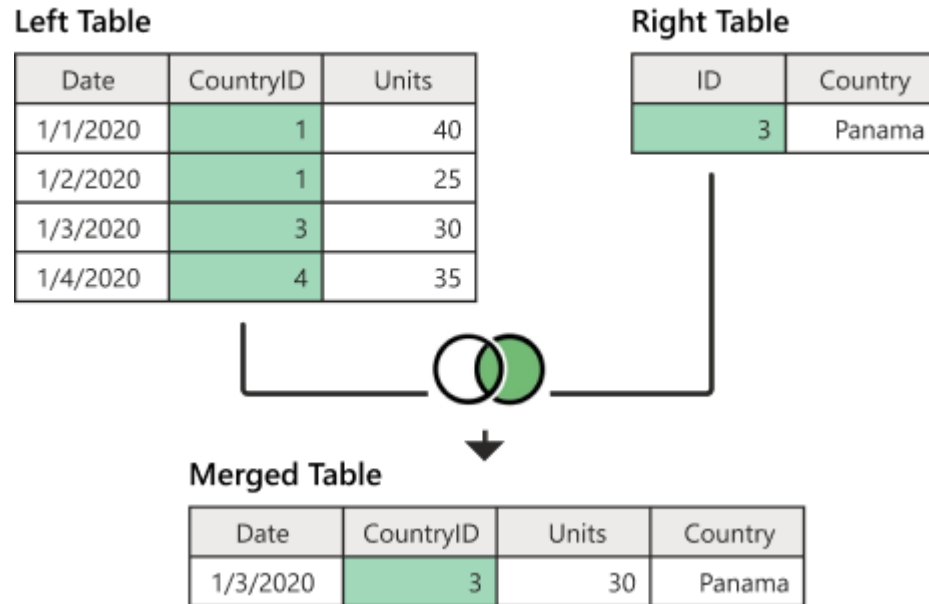
The screenshot displays the Power BI Desktop interface. The ribbon at the top includes tabs for File, Home, Transform, Add Column, and View. The Transform tab is active, showing options like Merge Queries, Append Queries, and Combine Files. The main area shows a data table with the following columns: Neighborhoods, RightTable.Incident ID, RightTable.Incident Datetime, RightTable.Incident Date, RightTable.Incident Time, RightTable.Incident Year, and RightTable.Incident Day of Week. The data is as follows:

Neighborhoods	RightTable.Incident ID	RightTable.Incident Datetime	RightTable.Incident Date	RightTable.Incident Time	RightTable.Incident Year	RightTable.Incident Day of Week
-122.4628048	5	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
-122.4526238	12	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
-122.4015181	32	null	null	null	null	null
-122.4186559	50	null	null	null	null	null
null	null	null	null	null	null	null
-122.4198579	53	null	null	null	null	null
-122.4590055	81	null	null	null	null	null
-122.4256161	102	null	null	null	null	null
-122.4968548	39	null	null	null	null	null
null	null	null	null	null	null	null

The right-hand pane shows the Query Settings for the 'Merge1' query. The Name is 'Merge1' and the Applied Steps include 'Source' and 'Expanded RightTable'.

MERGE QUERY – RIGHT OUTER JOIN

A right outer join keeps all the rows from the right table and brings in any matching rows from the left table.



MERGE QUERY – RIGHT OUTER JOIN - EXAMPLE

Merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Right Outer (all from second, matching from first)

Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection matches 2 of 12 rows from the second table.

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Queries [4] Table.ExpandTableColumn(Source, "RightTable", {"Incident ID"}, {"RightTable.Incident ID"})

Report Type Description	Resolution	Intersection	Police District	Analysis Neighborhood	Latitude	Longitude	Neighborhoods	RightTable.Incident ID
1e Detention	Open or Active	CABRILLO ST \ 05TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5	1
2 covered, Auto	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12	2
3	null	null	null	null	null	null	null	31
4	null	null	null	null	null	null	null	32
5	null	null	null	null	null	null	null	33
6	null	null	null	null	null	null	null	34
7	null	null	null	null	null	null	null	35
8	null	null	null	null	null	null	null	36
9	null	null	null	null	null	null	null	37
10	null	null	null	null	null	null	null	38
11	null	null	null	null	null	null	null	39
12	null	null	null	null	null	null	null	40

Query Settings

PROPERTIES

Name Merge2

APPLIED STEPS

Source Expanded RightTable

MERGE QUERY – FULL OUTER JOIN

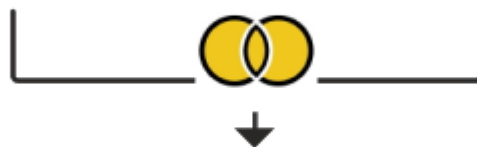
A **full outer join** brings in all the rows from both the left and right tables.

Left Table

Date	CountryID	Units
1/1/2020	1	40
1/2/2020	1	25
1/3/2020	3	30
1/4/2020	2	35

Right Table

ID	Country
1	USA
2	Canada
3	Panama
4	Spain



Merged Table

Date	CountryID	Units	Country
1/1/2020	1	40	USA
1/2/2020	1	25	USA
1/4/2020	2	35	Canada
1/3/2020	3	30	Panama
<i>null</i>	<i>null</i>	<i>null</i>	Spain

MERGE QUERY – FULL OUTER JOIN - EXAMPLE

Merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Full Outer (all rows from both)

Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection matches 2 of 10 rows from the first table, and 2 of 12 rows from the second table.

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage Query

Choose Columns Remove Columns Keep Rows Remove Rows Sort

Split Column Group By Transform

Data Type: Whole Number Use First Row as Headers Replace Values

Merge Queries Append Queries Combine Files Combine Parameters

Data source settings Data Sources

New Source Recent Sources Enter Data New Query

Queries [5]

LeftTable RightTable Merge1 Merge2 Merge3

Table.ExpandTableColumn(Source, "RightTable", {"Incident ID"}, {"RightTable.Incident ID"})

	Resolution	Intersection	Police District	Analysis Neighborhood	1.2 Latitude	1.2 Longitude	Neighborhoods	RightTable.Incident ID
1	Open or Active	CABRILLO ST \ 05TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5	1
2	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12	2
3	null	null	null	null	null	null	null	31
4	null	null	null	null	null	null	null	32
5	null	null	null	null	null	null	null	33
6	null	null	null	null	null	null	null	34
7	null	null	null	null	null	null	null	35
8	null	null	null	null	null	null	null	36
9	null	null	null	null	null	null	null	37
10	null	null	null	null	null	null	null	38
11	null	null	null	null	null	null	null	39
12	null	null	null	null	null	null	null	40
13	Open or Active	BRANNAN ST \ HARRIET ST	Southern	South of Market	37.77438465	-122.4015181	32	null
14	Open or Active	LARKIN ST \ BUSH ST	Northern	Nob Hill	37.78890961	-122.4186559	50	null
15	Open or Active	null	Out of SF	null	null	null	null	null
16	Open or Active	22ND ST \ BARTLETT ST	Mission	Mission	37.75536573	-122.4198579	53	null
17	Open or Active	CAPITOL AVE \ SAGAMORE ST	Taraval	Oceanview/Merced/Ingleside	37.71138733	-122.4590055	81	null
18	Open or Active	GOUGH ST \ CALIFORNIA ST	Northern	Pacific Heights	37.78995188	-122.4256161	102	null
19	Open or Active	VICENTE ST \ 39TH AVE	Taraval	Sunset/Parkside	37.7383795	-122.4968548	39	null
20	Open or Active	null	Mission	null	null	null	null	null

Query Settings

PROPERTIES

Name Merge3

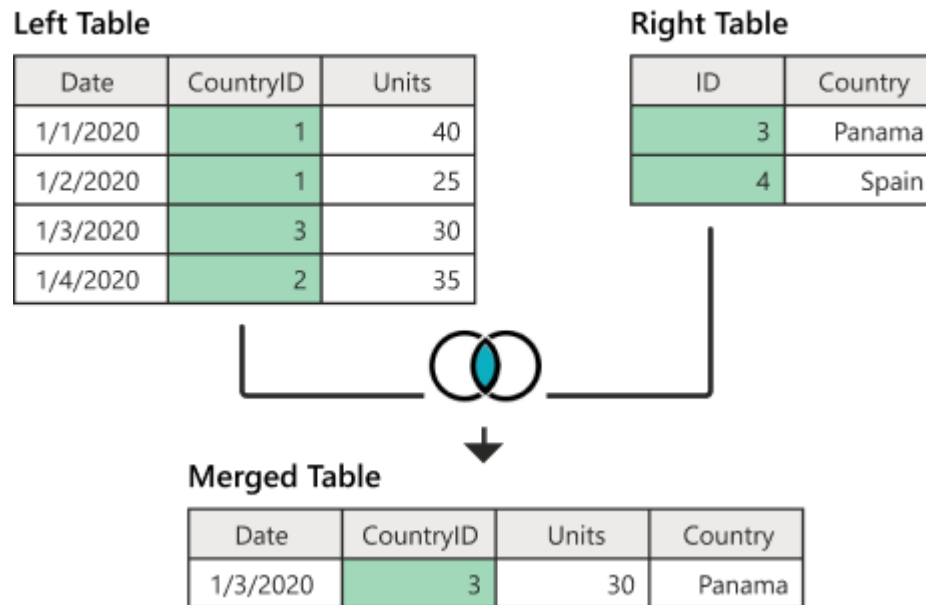
APPLIED STEPS

Source

Expanded RightTable

MERGE QUERY – INNER JOIN

An *inner join* brings in only matching rows from both the left and right tables. More information



MERGE QUERY – INNER JOIN - EXAMPLE

Merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Inner (only matching rows)

Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection matches 2 of 10 rows from the first table, and 2 of 12 rows f...

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Queries [6] = Table.ExpandTableColumn(Source, "RightTable", ("Incident ID"), ("RightTable.Incident ID"))

Report Type Description	Resolution	Intersection	Police District	Analysis Neighborhood	Latitude	Longitude	Neighborhoods	RightTable.Incident ID
Detention covered, Auto	Open or Active	CABRILLO ST \ O5TH AVE	Richmond	Inner Richmond	37.77541791	-122.4628048	5	1
	Open or Active	SHRADER ST \ HAYES ST	Park	Lone Mountain/USF	37.77310613	-122.4526238	12	2

Query Settings

PROPERTIES

Name: Merge4

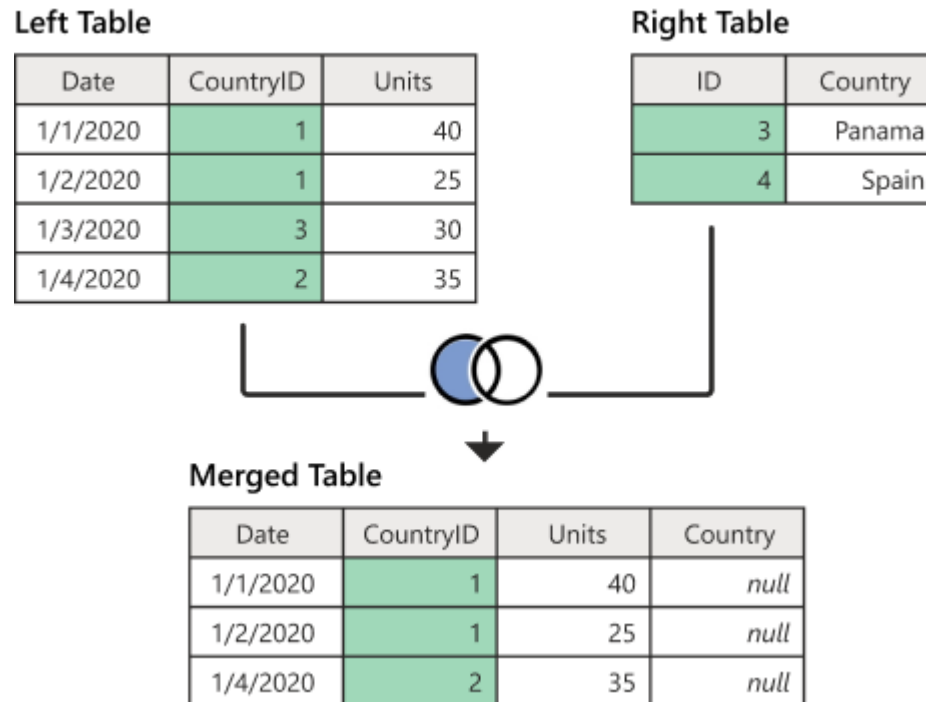
APPLIED STEPS

Source

Expanded RightTable

MERGE QUERY – LEFT ANTI JOIN

A **left anti join** brings in only rows from the left table that don't have any matching rows from the right table.



MERGE QUERY – LEFT ANTI JOIN - EXAMPLE

Merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Left Anti (rows only in first)

Use fuzzy matching to perform the merge

▸ Fuzzy matching options

✓ The selection excludes 2 of 10 rows from the first table.

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Combine Parameters Data source settings Data Sources New Source Recent Sources Enter Data New Query

Queries [7]

LeftTable RightTable Merge1 Merge2 Merge3 Merge4 Merge5

Table.ExpandTableColumn(Source, "RightTable", {"Incident ID"}, {"RightTable.Incident ID"})

	Resolution	Intersection	Police District	Analysis Neighborhood	1.2 Latitude	1.2 Longitude	Neighborhoods	RightTable.Incident ID
1	Open or Active	BRANNAN ST \ HARRIET ST	Southern	South of Market	37.77438465	-122.4015181		32
2	Open or Active	LARKIN ST \ BUSH ST	Northern	Nob Hill	37.78890961	-122.4186559		50
3	Open or Active		Out of SF					
4	Open or Active	22ND ST \ BARTLETT ST	Mission	Mission	37.75536573	-122.4198579		53
5	Open or Active	CAPITOL AVE \ SAGAMORE ST	Taraval	Oceanview/Merced/Ingleside	37.71138733	-122.4590055		81
6	Open or Active	GOUGH ST \ CALIFORNIA ST	Northern	Pacific Heights	37.78995188	-122.4256161		102
7	Open or Active	VICENTE ST \ 39TH AVE	Taraval	Sunset/Parkside	37.7383795	-122.4968548		39
8	Open or Active							

Query Settings

PROPERTIES

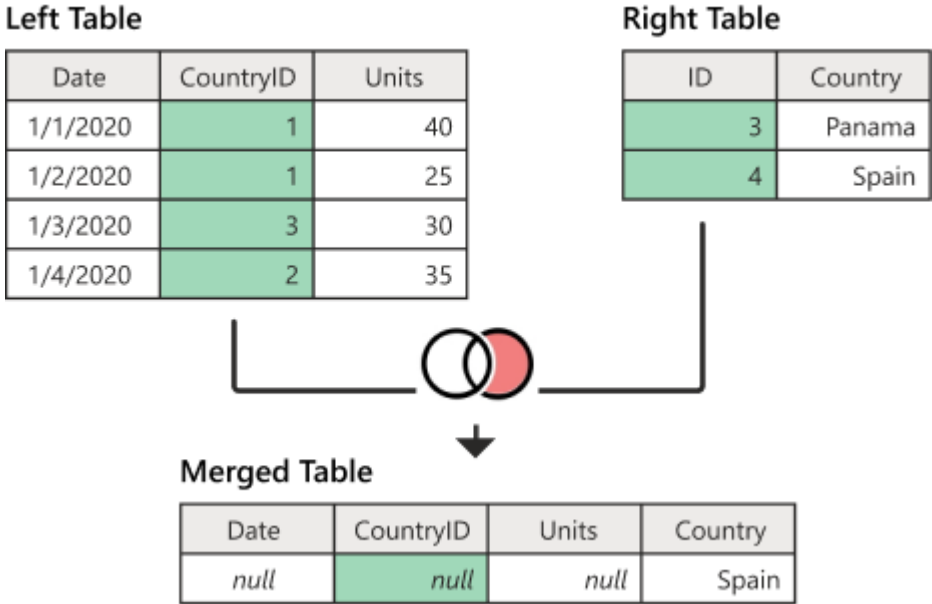
Name Merge5

APPLIED STEPS

Source Expanded RightTable

MERGE QUERY – RIGHT ANTI JOIN

A right anti join brings in only rows from the right table that don't have any matching rows from the left table



MERGE QUERY – RIGHT ANTI JOIN - EXAMPLE

merge

Select tables and matching columns to create a merged table.

LeftTable

Incident ID	Report Datetime	Incident Number	CAD Number	Report Type Code	Report Type Description
1	1/1/2022 11:44:00 PM	220002008	220013421	II	Initial
2	1/1/2022 11:43:00 PM	210825086	220013420	VS	Vehicle Supplement
3	1/1/2022 11:36:00 PM	220001981	220013407	VI	Vehicle Initial
4	1/1/2022 11:42:00 PM	220002020	220013402	II	Initial

RightTable

Incident ID	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week
1	1/1/2022 11:44:00 PM	1/1/2022	12/31/1899 11:44:00 PM	2022	Saturday
2	1/1/2022 11:43:00 PM	1/1/2022	12/31/1899 11:43:00 PM	2022	Saturday
31	1/1/2022 9:14:00 PM	1/1/2022	12/31/1899 9:14:00 PM	2022	Saturday
32	1/1/2022 9:00:00 PM	1/1/2022	12/31/1899 9:00:00 PM	2022	Saturday

Join Kind

Right Anti (rows only in second)

Use fuzzy matching to perform the merge

Fuzzy matching options

✓ The selection excludes 2 of 12 rows from the second table.

OK Cancel

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Manage Query

Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Transform

Data Type: Whole Number Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Combine Parameters Data Sources New Query

Queries [8]

Table.ExpandTableColumn(Source, "RightTable", {"Incident ID"}, {"RightTable.Incident ID"})

Incident Description	Resolution	Intersection	Police District	Analysis Neighborhood	1.2 Latitude	1.2 Longitude	1.2.3 Neighborhoods	1.2.3 RightTable.Incident ID
1	null	null	null	null	null	null	null	31
2	null	null	null	null	null	null	null	32
3	null	null	null	null	null	null	null	33
4	null	null	null	null	null	null	null	34
5	null	null	null	null	null	null	null	35
6	null	null	null	null	null	null	null	36
7	null	null	null	null	null	null	null	37
8	null	null	null	null	null	null	null	38
9	null	null	null	null	null	null	null	39
10	null	null	null	null	null	null	null	40

Query Settings

PROPERTIES

Name Merge6

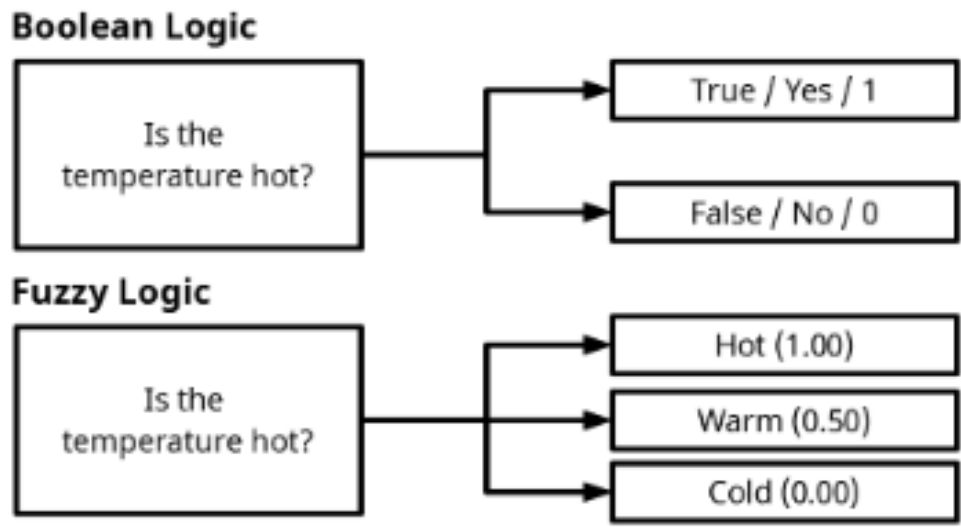
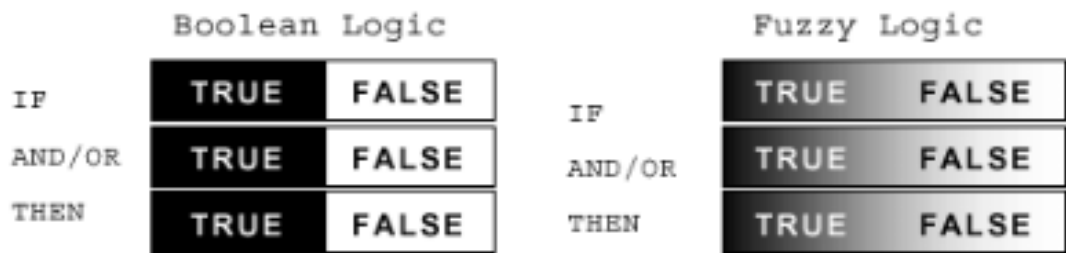
APPLIED STEPS

Source Expanded RightTable

MERGE QUERY – FUZZY MERGE

Fuzzy merge is a smart data preparation feature you can use to apply fuzzy matching algorithms when comparing columns, to try to find matches across the tables that are being merged.

<https://learn.microsoft.com/en-us/power-query/merge-queries-fuzzy-match>



<https://winpure.com/fuzzy-matching/>

Incident_FuzzyMerge.xlsx

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat Table Design

Clipboard Font Alignment Number Styles Cells Editing Sensitivity

B6 Malicious Mischief, Vandalism to Property

Description ID	DescriptionTable
1	Access Card, incl. Credit, Phone, ATM, Fraudulent Use of
2	Battery
3	Investigative Detention
4	Lost Property
5	Malicious Mischief, Vandalism to Property

Left Table

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat Table Design

Clipboard Font Alignment Number Styles Cells Editing Sensitivity

B7 1/1/2022 9:00:00 PM

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description
1	1/1/2022 23:44	2022	Saturday	Invest Detention
2	1/1/2022 23:43	2022	Saturday	Veh, Recovered, Auto
31	1/1/2022 21:14	2022	Saturday	Vehicle, Recovered, Stolen outside SF
32	1/1/2022 21:00	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950
33	1/1/2022 21:00	2022	Saturday	Lost Prop
34	1/1/2022 21:00	2022	Saturday	Theft, From Lock Vehicle, >\$950
35	1/1/2022 20:30	2022	Saturday	Lost Property
36	1/1/2022 20:30	2022	Saturday	Access Card, incl. Credit, Phone, ATM, Fraud Use of
37	1/1/2022 20:29	2022	Saturday	Malicious Mischief, Vandalism to Property
38	1/1/2022 20:16	2022	Saturday	Theft, From Unlocked Vehicle, >\$950
39	1/1/2022 20:16	2022	Saturday	Invest Detention
40	1/1/2022 20:16	2022	Saturday	Vehicle, Recovered, Auto

Right Table

MERGE QUERY – FUZZY MERGE - EXAMPLE

2022 | Saturday | Vehicle, Recovered, Stolen outside SF | Table

Merge

Select tables and matching columns to create a merged table.

RightTable

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description
1	1/1/2022 11:44:00 PM	2022	Saturday	Invest Detention
2	1/1/2022 11:43:00 PM	2022	Saturday	Veh, Recovered, Auto
31	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF
32	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950
33	1/1/2022 9:00:00 PM	2022	Saturday	Lost Prop

LeftTable

Description ID	DescriptionTable
1	Access Card, incl. Credit, Phone, ATM, Fraudulent Use of
2	Battery
3	Investigative Detention
4	Lost Property
5	Malicious Mischief, Vandalism to Property

Join Kind

Left Outer (all from first, matching from second)

Use fuzzy matching to perform the merge

Fuzzy matching options

Similarity threshold (optional)

Ignore case

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor

Choose Columns Remove Columns Keep Rows Remove Rows Sort

Split Column Group By Data Type: Any Use First Row as Headers Replace Values Transform

Merge Queries Append Queries Combine Files Combine Parameters Data source settings Data Sources New Source Recent Sources Enter Data New Query

Queries [3] | Table.ExpandTableColumn(Source, "LeftTable", {"Description ID", "DescriptionTable"}, {"LeftTable.Description ID", "LeftTable.DescriptionTable"})

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description	LeftTable.Description ID	LeftTable.DescriptionTable
1	1/1/2022 11:44:00 PM	2022	Saturday	Invest Detention	null	null
2	1/1/2022 11:43:00 PM	2022	Saturday	Veh, Recovered, Auto	null	null
3	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF	10	Vehicle, Recovered, Stolen outside SF
4	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	6	Theft, From Locked Vehicle, \$200-\$950
5	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	7	Theft, From Locked Vehicle, >\$950
6	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	8	Theft, From Unlocked Vehicle, >\$950
7	1/1/2022 9:00:00 PM	2022	Saturday	Lost Prop	null	null
8	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Lock Vehicle, >\$950	null	null
9	1/1/2022 8:30:00 PM	2022	Saturday	Lost Property	4	Lost Property
10	1/1/2022 8:30:00 PM	2022	Saturday	Access Card, incl. Credit, Phone, ATM, Fraud Use of	1	Access Card, incl. Credit, Phone, ATM, Fraudulent Use of
11	1/1/2022 8:29:00 PM	2022	Saturday	Malicious Mischief, Vandalism to Property	5	Malicious Mischief, Vandalism to Property
12	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	8	Theft, From Unlocked Vehicle, >\$950
13	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	7	Theft, From Locked Vehicle, >\$950
14	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	6	Theft, From Locked Vehicle, \$200-\$950
15	1/1/2022 8:16:00 PM	2022	Saturday	Invest Detention	null	null
16	1/1/2022 8:16:00 PM	2022	Saturday	Vehicle, Recovered, Auto	9	Vehicle, Recovered, Auto

Query Settings

PROPERTIES

Name: Merge1

APPLIED STEPS

- Source
- Expanded LeftTable

MERGE QUERY – FUZZY MERGE - EXAMPLE

Similarity threshold = 0.8

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description	LeftTable.Description ID	LeftTable.DescriptionTable
1	1/1/2022 11:44:00 PM	2022	Saturday	Invest Detention	null	null
2	1/1/2022 11:43:00 PM	2022	Saturday	Veh, Recovered, Auto	null	null
3	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF	10	Vehicle, Recovered, Stolen outside SF
4	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	6	Theft, From Locked Vehicle, \$200-\$950
5	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	7	Theft, From Locked Vehicle, >\$950
6	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	8	Theft, From Unlocked Vehicle, >\$950

Similarity threshold = 0.6

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description	LeftTable.Description ID	LeftTable.DescriptionTable
1	1/1/2022 11:44:00 PM	2022	Saturday	Invest Detention	null	n
2	1/1/2022 11:43:00 PM	2022	Saturday	Veh, Recovered, Auto	9	Vehicle, Recovered, Auto
3	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF	10	Vehicle, Recovered, Stolen outside SF
4	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	6	Theft, From Locked Vehicle, \$200-\$950
5	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	7	Theft, From Locked Vehicle, >\$950
6	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	8	Theft, From Unlocked Vehicle, >\$950
7	1/1/2022 9:00:00 PM	2022	Saturday	Lost Prop	null	n
8	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Lock Vehicle, >\$950	null	n
9	1/1/2022 8:30:00 PM	2022	Saturday	Lost Property	4	Lost Property

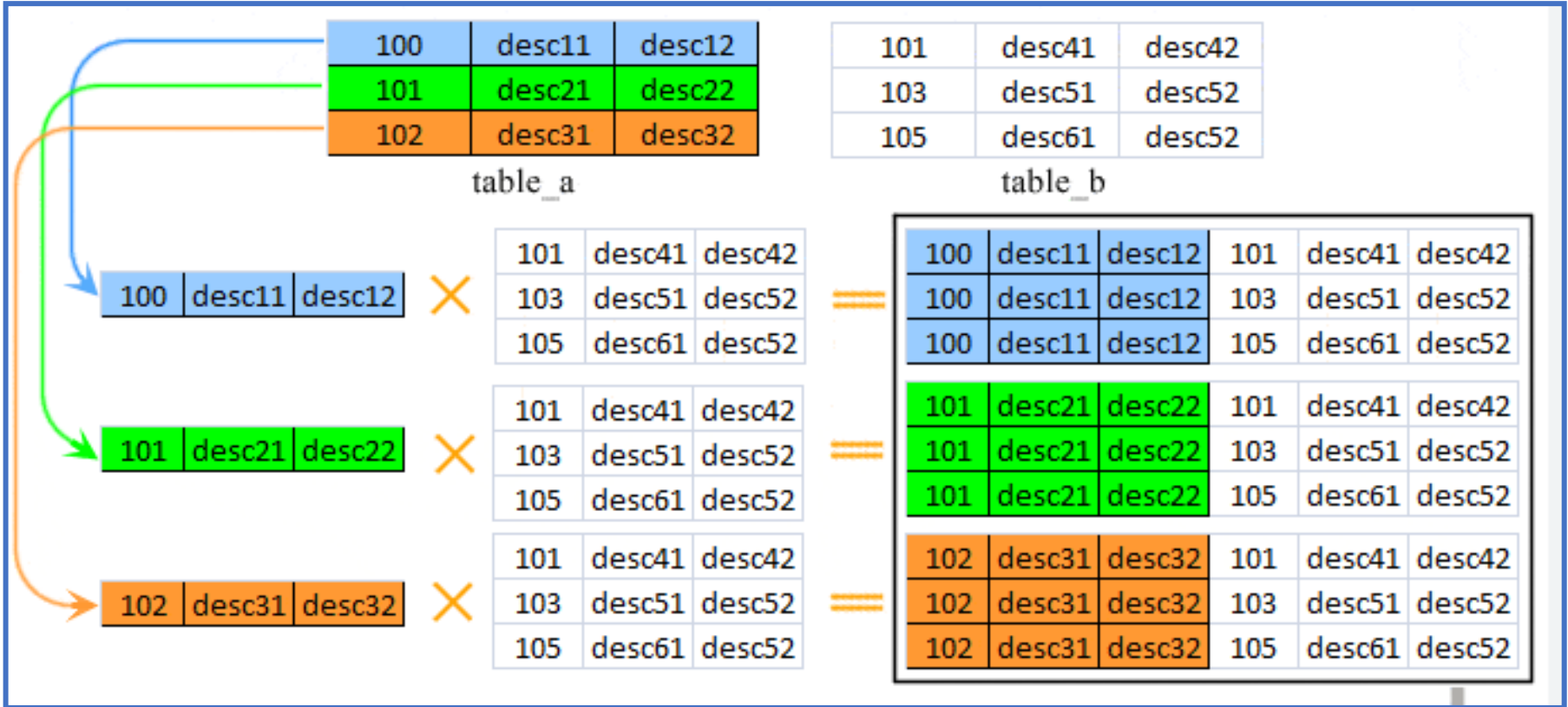
Similarity threshold = 0.4

Incident ID	Incident Datetime	Incident Year	Incident Day of Week	Incident Description	LeftTable.Description ID	LeftTable.DescriptionTable
1	1/1/2022 11:44:00 PM	2022	Saturday	Invest Detention	3	Investigative Detention
2	1/1/2022 11:43:00 PM	2022	Saturday	Veh, Recovered, Auto	9	Vehicle, Recovered, Auto
3	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF	10	Vehicle, Recovered, Stolen outside SF
4	1/1/2022 9:14:00 PM	2022	Saturday	Vehicle, Recovered, Stolen outside SF	9	Vehicle, Recovered, Auto
5	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	6	Theft, From Locked Vehicle, \$200-\$950
6	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	7	Theft, From Locked Vehicle, >\$950
7	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Locked Vehicle, \$200-\$950	8	Theft, From Unlocked Vehicle, >\$950
8	1/1/2022 9:00:00 PM	2022	Saturday	Lost Prop	4	Lost Property
9	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Lock Vehicle, >\$950	7	Theft, From Locked Vehicle, >\$950
10	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Lock Vehicle, >\$950	8	Theft, From Unlocked Vehicle, >\$950
11	1/1/2022 9:00:00 PM	2022	Saturday	Theft, From Lock Vehicle, >\$950	6	Theft, From Locked Vehicle, \$200-\$950
12	1/1/2022 8:30:00 PM	2022	Saturday	Lost Property	4	Lost Property
13	1/1/2022 8:30:00 PM	2022	Saturday	Access Card, incl. Credit, Phone, ATM, Fraud Use of	1	Access Card, incl. Credit, Phone, ATM, Fraudulent Use of
14	1/1/2022 8:29:00 PM	2022	Saturday	Malicious Mischief, Vandalism to Property	5	Malicious Mischief, Vandalism to Property
15	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	8	Theft, From Unlocked Vehicle, >\$950
16	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	7	Theft, From Locked Vehicle, >\$950
17	1/1/2022 8:16:00 PM	2022	Saturday	Theft, From Unlocked Vehicle, >\$950	6	Theft, From Locked Vehicle, \$200-\$950
18	1/1/2022 8:16:00 PM	2022	Saturday	Invest Detention	3	Investigative Detention
19	1/1/2022 8:16:00 PM	2022	Saturday	Vehicle, Recovered, Auto	9	Vehicle, Recovered, Auto
20	1/1/2022 8:16:00 PM	2022	Saturday	Vehicle, Recovered, Auto	10	Vehicle, Recovered, Stolen outside SF

MERGE QUERY – CROSS JOIN

A **cross join** is a type of join that returns the Cartesian product of rows from the tables in the join. In other words, it combines each row from the first table with each row from the second table.

<https://learn.microsoft.com/en-us/power-query/cross-join>



<https://www.w3resource.com/sqlite/sqlite-cross-join.php>

DATA

Incident_CrossJoin.xlsx

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat Table Design

Clipboard Font Alignment Number Styles Cells Editing

Formula Bar: ID

ID	Type
1	Hatchback
2	Crossover
3	Convertible
4	Sedan
5	Sports Car
6	Coupe
7	Minivan

Left Table

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat Table Design

Clipboard Font Alignment Number Styles Cells Editing Sensitivity

Formula Bar: ID

ID	Color
1	Black
2	Red
3	Green
4	White
5	Yellow
6	Orange
7	Grey
8	Silver

Right Table

MERGE QUERY – CROSS JOIN - EXAMPLE

The screenshot shows the Power Query Editor interface. The ribbon includes 'File', 'Home', 'Transform', 'Add Column', and 'View'. The 'Add Column' ribbon is active, showing options like 'Conditional Column', 'Index Column', 'Duplicate Column', 'Merge Columns', 'Extract', 'Parse', 'Statistics', 'Standard Scientific', 'Trigonometry', 'Rounding', 'Information', 'Date', 'Time', and 'Duration'. The main area displays a data table with columns 'ID' and 'Type'. The formula bar shows: `= Table.TransformColumnTypes(LeftTable_Table,{{"ID", Int64.Type}, {"Type ", type text}})`. A 'Custom Column' dialog box is open, with the formula `= RightTable` entered. The 'Available columns' list on the right includes 'ID' and 'Type'. The 'Query Settings' pane on the right shows 'LeftTable' as the source and 'Changed Type' as the applied step.

ID	Type
1	Hatchback
2	Crossover
3	Convertible
4	Sedan
5	Sports Car
6	Coupe
7	Minivan

The screenshot shows the Power Query Editor after a cross-join operation. The ribbon is the same as in the previous screenshot. The formula bar now shows: `= Table.ExpandTableColumn(#"Added Custom", "Custom", {" ID", "Color"}, {"Custom. ID", "Custom.Color"})`. The data table has four columns: 'ID', 'Type', 'Custom. ID', and 'Custom.Color'. The 'Query Settings' pane on the right shows 'LeftTable' as the source and a list of applied steps: 'Navigation', 'Changed Type', 'Added Custom', and 'Expanded Custom'.

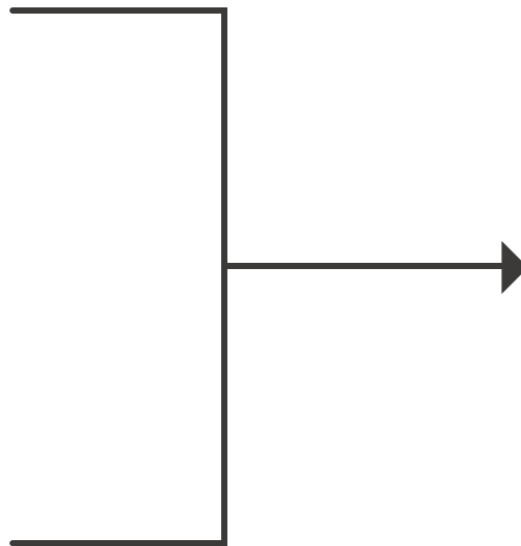
ID	Type	Custom. ID	Custom.Color
1	Hatchback	1	Black
1	Hatchback	2	Red
3	Hatchback	3	Green
4	Hatchback	4	White
1	Hatchback	5	Yellow
6	Hatchback	6	Orange
7	Hatchback	7	Grey
8	Hatchback	8	Silver
9	Crossover	1	Black
10	Crossover	2	Red
11	Crossover	3	Green
12	Crossover	4	White
13	Crossover	5	Yellow
14	Crossover	6	Orange

APPEND

The **append** operation creates a single table by adding the contents of one or more tables to another, and aggregates the column headers from the tables to create the schema for the new table.

A	B	C
1	1	1
2	2	2
3	3	3

A	B	D
4	4	4
5	5	5



A	B	C	D
1	1	1	<i>null</i>
2	2	2	<i>null</i>
3	3	3	<i>null</i>
4	4	<i>null</i>	4
5	5	<i>null</i>	5

DATA

Incident_Append.xlsx

Left Table

Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number	Report Type Code	Report Type Description	Incident Code	Incident Category	Incident Subcate
7/11/2022 23:56	7/11/2022	1/0/1900 23:56	2022	Monday	7/12/2022 0:08	1169842	220458489	221923414 II	Initial	5151 Burglary	5151 Burglary	Burglary - Other	Burglary - Other
7/11/2022 23:55	7/11/2022	1/0/1900 23:55	2022	Monday	7/12/2022 13:31	1169957	220459653	221931658 II	Initial	3071 Robbery	3071 Robbery	Robbery - Other	Robbery - Other
7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373 II	Initial	12110 Weapons Carrying Etc	12110 Weapons Carrying Etc	Weapons Offens	Weapons Offens
7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373 II	Initial	12100 Weapons Carrying Etc	12100 Weapons Carrying Etc	Weapons Offens	Weapons Offens
7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373 II	Initial	12080 Weapons Carrying Etc	12080 Weapons Carrying Etc	Weapons Offens	Weapons Offens
7/11/2022 23:14	7/11/2022	1/0/1900 23:14	2022	Monday	7/11/2022 23:14	1169822	220458439	221923341 II	Initial	6371 Larceny Theft	6371 Larceny Theft	Larceny Theft - O	Larceny Theft - O
7/11/2022 23:14	7/11/2022	1/0/1900 23:14	2022	Monday	7/11/2022 23:14	1169822	220458439	221923341 II	Initial	4134 Assault	4134 Assault	Simple Assault	Simple Assault
7/11/2022 23:00	7/11/2022	1/0/1900 23:00	2022	Monday	7/13/2022 16:32	1170534	220462894	221942045 II	Initial	64070 Suspicious Occ	64070 Suspicious Occ	Suspicious Occ	Suspicious Occ
7/11/2022 23:00	7/11/2022	1/0/1900 23:00	2022	Monday	7/12/2022 7:53	1169910	220459114	221930607 II	Initial	5081 Burglary	5081 Burglary	Burglary - Hot Pro	Burglary - Hot Pro
7/11/2022 22:47	7/11/2022	1/0/1900 22:47	2022	Monday	7/11/2022 22:47	1169826	220458376	221923283 II	Initial	72000 Non-Criminal	72000 Non-Criminal	Non-Criminal	Non-Criminal
7/11/2022 22:46	7/11/2022	1/0/1900 22:46	2022	Monday	7/11/2022 22:46	1169824	220450651	221923280 VS	Vehicle Supplement	7041 Recovered Vehicle	7041 Recovered Vehicle	Recovered Vehicle	Recovered Vehicle
7/11/2022 22:44	7/11/2022	1/0/1900 22:44	2022	Monday	7/11/2022 22:44	1169824	220450651	221923280 VS	Vehicle Supplement	7041 Recovered Vehicle	7041 Recovered Vehicle	Recovered Vehicle	Recovered Vehicle

Right Table

Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number	Report Type Code	Report Type Description	Incident Code	Incident Category	Incident Subcategory
7/12/2022 23:55	7/12/2022	1/0/1900 23:55	2022	Tuesday	7/12/2022 23:55	1170126	220461153	221933372 II	Initial	62050 Warrant	62050 Warrant	Warrant	Warrant
7/12/2022 23:55	7/12/2022	1/0/1900 23:55	2022	Tuesday	7/12/2022 23:55	1170126	220461153	221933372 II	Initial	63010 Warrant	63010 Warrant	Other	Other
7/12/2022 23:46	7/12/2022	1/0/1900 23:46	2022	Tuesday	7/12/2022 23:48	1170116	220461147	221933358 II	Initial	15161 Offences Against The Family And Children	15161 Offences Against The Family And Children	Other	Other
7/12/2022 23:45	7/12/2022	1/0/1900 23:45	2022	Tuesday	7/13/2022 13:23	1170566	220462242	221944324 II	Initial	28160 Malicious Mischief	28160 Malicious Mischief	Vandalism	Vandalism
7/12/2022 23:40	7/12/2022	1/0/1900 23:40	2022	Tuesday	7/12/2022 23:40	1170117	220461119	221933344 II	Initial	4012 Assault	4012 Assault	Aggravated Assault	Aggravated Assault
7/12/2022 23:19	7/12/2022	1/0/1900 23:19	2022	Tuesday	7/12/2022 23:19	1170463	220461012	221933121 IS	Initial Supplement	9320 Fraud	9320 Fraud	Fraud	Fraud
7/12/2022 23:19	7/12/2022	1/0/1900 23:19	2022	Tuesday	7/12/2022 23:19	1170463	220461012	221933121 IS	Initial Supplement	6244 Larceny Theft	6244 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 23:10	7/12/2022	1/0/1900 23:10	2022	Tuesday	7/12/2022 23:17	1170118	220461103	221933296 II	Initial	27195 Other Miscellaneous	27195 Other Miscellaneous	Trespass	Trespass
7/12/2022 23:00	7/12/2022	1/0/1900 23:00	2022	Tuesday	7/13/2022 19:03	1170551	220463375	221942748 VI	Vehicle Initial	7021 Motor Vehicle Theft	7021 Motor Vehicle Theft	Motor Vehicle Theft	Motor Vehicle Theft
7/12/2022 22:50	7/12/2022	1/0/1900 22:50	2022	Tuesday	7/13/2022 9:54	1170162	220461614	221940916 VI	Vehicle Initial	7025 Motor Vehicle Theft	7025 Motor Vehicle Theft	Motor Vehicle Theft	Motor Vehicle Theft
7/12/2022 22:03	7/12/2022	1/0/1900 22:03	2022	Tuesday	7/12/2022 22:03	1170111	220461034	221933177 II	Initial	26031 Arson	26031 Arson	Arson	Arson
7/12/2022 22:00	7/12/2022	1/0/1900 22:00	2022	Tuesday	7/13/2022 9:57	1170384	220461642	221940815 VI	Vehicle Initial	6246 Larceny Theft	6246 Larceny Theft	Larceny Theft - Off	Larceny Theft - Off
7/12/2022 21:35	7/12/2022	1/0/1900 21:35	2022	Tuesday	7/12/2022 21:35	1170107	220461028	221933094 II	Initial	51050 Non-Criminal	51050 Non-Criminal	Non-Criminal	Non-Criminal
7/12/2022 21:30	7/12/2022	1/0/1900 21:30	2022	Tuesday	7/13/2022 11:04	1170393	220461783	221941160 II	Initial	6243 Larceny Theft	6243 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 21:30	7/12/2022	1/0/1900 21:30	2022	Tuesday	7/12/2022 22:37	1170119	220461078	221933111 II	Initial	4144 Assault	4144 Assault	Simple Assault	Simple Assault
7/12/2022 21:30	7/12/2022	1/0/1900 21:30	2022	Tuesday	7/12/2022 23:46	1170114	220461090	221933356 II	Initial	6244 Larceny Theft	6244 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 21:28	7/12/2022	1/0/1900 21:28	2022	Tuesday	7/12/2022 21:28	1170113	220458978	221933077 VS	Vehicle Supplement	7041 Recovered Vehicle	7041 Recovered Vehicle	Recovered Vehicle	Recovered Vehicle
7/12/2022 21:00	7/12/2022	1/0/1900 21:00	2022	Tuesday	7/13/2022 10:30	1170175	220461755	221941086 II	Initial	6242 Larceny Theft	6242 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 20:30	7/12/2022	1/0/1900 20:30	2022	Tuesday	7/13/2022 7:45	1170146	220461410	221940541 VI	Vehicle Initial	7023 Motor Vehicle Theft	7023 Motor Vehicle Theft	Motor Vehicle Theft	Motor Vehicle Theft
7/12/2022 20:47	7/12/2022	1/0/1900 20:47	2022	Tuesday	7/12/2022 20:47	1170104	220460951	221932992 II	Initial	15161 Offences Against The Family And Children	15161 Offences Against The Family And Children	Other	Other
7/12/2022 20:30	7/12/2022	1/0/1900 20:30	2022	Tuesday	7/12/2022 21:44	1170096	220461012	221933121 IS	Initial	6244 Larceny Theft	6244 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 20:25	7/12/2022	1/0/1900 20:25	2022	Tuesday	7/12/2022 21:31	1170108	220461062	221933087 II	Initial	5011 Burglary	5011 Burglary	Burglary - Resident	Burglary - Resident
7/12/2022 20:25	7/12/2022	1/0/1900 20:25	2022	Tuesday	7/12/2022 21:31	1170108	220461062	221933087 II	Initial	28150 Malicious Mischief	28150 Malicious Mischief	Vandalism	Vandalism
7/12/2022 20:15	7/12/2022	1/0/1900 20:15	2022	Tuesday	7/12/2022 21:39	1170188	226118641	II	Cologic Initial	6244 Larceny Theft	6244 Larceny Theft	Larceny - From Veh	Larceny - From Veh
7/12/2022 20:05	7/12/2022	1/0/1900 20:05	2022	Tuesday	7/12/2022 20:06	1170486	220460876	221932884 II	Initial	4013 Assault	4013 Assault	Aggravated Assault	Aggravated Assault
7/12/2022 20:01	7/12/2022	1/0/1900 20:01	2022	Tuesday	7/13/2022 15:26	1170486	220462684	221941927 II	Initial	15161 Offences Against The Family And Children	15161 Offences Against The Family And Children	Other	Other
7/12/2022 20:01	7/12/2022	1/0/1900 20:01	2022	Tuesday	7/13/2022 15:26	1170486	220462684	221941927 II	Initial	15200 Offences Against The Family And Children	15200 Offences Against The Family And Children	Other	Other
7/12/2022 20:00	7/12/2022	1/0/1900 20:00	2022	Tuesday	7/12/2022 20:30	1170082	220460945	221933017 II	Initial	72000 Non-Criminal	72000 Non-Criminal	Non-Criminal	Non-Criminal
7/12/2022 20:00	7/12/2022	1/0/1900 20:00	2022	Tuesday	7/12/2022 20:10	1170102	220460960	221932898 II	Initial	64010 Non-Criminal	64010 Non-Criminal	Other	Other
7/12/2022 19:30	7/12/2022	1/0/1900 19:30	2022	Tuesday	7/13/2022 17:18	1170504	220462991	221942331 II	Initial	74000 Missing Person	74000 Missing Person	Missing Adult	Missing Adult
7/12/2022 19:26	7/12/2022	1/0/1900 19:26	2022	Tuesday	7/12/2022 19:26	1170078	220449416	221891011 VS	Vehicle Supplement	7041 Recovered Vehicle	7041 Recovered Vehicle	Recovered Vehicle	Recovered Vehicle
7/12/2022 19:26	7/12/2022	1/0/1900 19:26	2022	Tuesday	7/12/2022 19:26	1170087	220451944	221900942 VS	Vehicle Supplement	71012 Other Offenses	71012 Other Offenses	Other Offenses	Other Offenses
7/12/2022 19:15	7/12/2022	1/0/1900 19:15	2022	Tuesday	7/12/2022 21:12	1170105	220460989	221932838 II	Initial	6363 Larceny Theft	6363 Larceny Theft	Larceny Theft - Shc	Larceny Theft - Shc
7/12/2022 19:00	7/12/2022	1/0/1900 19:00	2022	Tuesday	7/12/2022 22:47	1170247	226118663	II	Cologic Initial	28150 Malicious Mischief	28150 Malicious Mischief	Vandalism	Vandalism

APPEND - EXAMPLE

File Home Transform Add Column View

Close & Load Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Date/Time Use First Row as Headers Merge Queries Append Queries Append Queries as New Data source settings Recent Sources Enter Data New Source New Query

Queries [2] Left Right

fx = Table.TransformColumnTypes(#"Promoted Headers",{{"Incident Datetime", type datetime}, {"Incident Date", type date}, {"Incident Time", type datetime}, {"Incident Year", Int64.Type}, {"Incident Day of Week", type text}, {"Incident Year", Int64.Type}, {"Incident Day of Week", type text}, {"Report Datetime", type datetime}, {"Incident ID", type text}, {"Incident Number", type text}, {"CAD Number", type text}}

	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number
1	7/12/2022 11:55:00 PM	7/12/2022	12/31/1899 11:55:00 PM	2022	Tuesday	7/12/2022 11:55:00 PM	1170126	220461153	2219
2	7/12/2022 11:55:00 PM	7/12/2022	12/31/1899 11:55:00 PM	2022	Tuesday	7/12/2022 11:55:00 PM	1170126	220461153	2219
3	7/12/2022 11:46:00 PM	7/12/2022	12/31/1899 11:46:00 PM	2022	Tuesday	7/12/2022 11:48:00 PM	1170116	220461147	2219
4	7/12/2022 11:45:00 PM	7/12/2022	12/31/1899 11:45:00 PM	2022	Tuesday	7/13/2022 1:23:00 PM	1170566	220462242	2219
5	7/12/2022 11:40:00 PM	7/12/2022	12/31/1899 11:40:00 PM	2022	Tuesday	7/12/2022 11:40:00 PM	1170117	220461119	2219
6	7/12/2022 11:19:00 PM	7/12/2022	12/31/1899 11:19:00 PM	2022	Tuesday	7/12/2022 11:19:00 PM	1170463	220461012	2219
7	7/12/2022 11:19:00 PM	7/12/2022	12/31/1899 11:19:00 PM	2022	Tuesday	7/12/2022 11:19:00 PM	1170463	220461012	2219
8	7/12/2022 11:10:00 PM	7/12/2022	12/31/1899 11:10:00 PM	2022	Tuesday	7/12/2022 11:17:00 PM	1170118	220461103	2219
9	7/12/2022 11:00:00 PM	7/12/2022	12/31/1899 11:00:00 PM	2022	Tuesday	7/13/2022 7:03:00 PM	1170551	220463375	2219
10	7/12/2022 10:50:00 PM	7/12/2022	12/31/1899 10:50:00 PM	2022	Tuesday	7/13/2022 9:54:00 AM	1170162	220461614	2219
11	7/13/2022 10:08:00 PM	7/13/2022	12/31/1899 10:08:00 PM	2022	Tuesday	7/13/2022 10:08:00 PM	1170114	220461024	2219
12									

Query Settings

PROPERTIES Name Right All Properties

APPLIED STEPS Source Navigation Promoted Headers Changed Type

Close & Load Refresh Preview Advanced Editor Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column Group By Data Type: Date/Time Use First Row as Headers Merge Queries Append Queries Combine Files Manage Parameters Data source settings Recent Sources Enter Data New Source New Query

Close Query Manage Columns Reduce Rows Sort Transform Combine Parameters Data Sources New Query

Queries [2] Left Right

fx = Table.TransformColumnTypes(#"Promoted Headers",{{"Incident Datetime", type datetime}, {"Incident Date", type date}, {"Incident Time", type datetime}, {"Incident Year", Int64.Type}, {"Incident Day of Week", type text}, {"Incident Year", Int64.Type}, {"Incident Day of Week", type text}, {"Report Datetime", type datetime}, {"Incident ID", type text}, {"Incident Number", type text}, {"CAD Number", type text}}

	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number
1	7/11/2022 11:56:00 PM	7/11/2022	12/31/1899 11:56:00 PM	2022	Monday	7/12/2022 12:08:00 AM			1169842
2	7/11/2022 11:55:00 PM	7/11/2022	12/31/1899 11:55:00 PM	2022	Monday	7/12/2022 1:31:00 PM			1169957
3	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM			1169825
4	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM			1169825
5	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM			1169825
6	7/11/2022 11:14:00 PM	7/11/2022	12/31/1899 11:14:00 PM	2022	Monday	7/11/2022 11:14:00 PM			1169822
7	7/11/2022 11:14:00 PM	7/11/2022	12/31/1899 11:14:00 PM	2022	Monday	7/11/2022 11:14:00 PM			1169822
8	7/11/2022 11:00:00 PM	7/11/2022	12/31/1899 11:00:00 PM	2022	Monday	7/13/2022 4:32:00 PM			1170534
9	7/11/2022 11:00:00 PM	7/11/2022	12/31/1899 11:00:00 PM	2022	Monday	7/12/2022 7:53:00 AM			1169910
10	7/11/2022 10:47:00 PM	7/11/2022	12/31/1899 10:47:00 PM	2022	Monday	7/11/2022 10:47:00 PM			1169826
11	7/11/2022 10:46:00 PM	7/11/2022	12/31/1899 10:46:00 PM	2022	Monday	7/11/2022 10:46:00 PM			1169824
12	7/11/2022 10:44:00 PM	7/11/2022	12/31/1899 10:44:00 PM	2022	Monday	7/11/2022 10:44:00 PM			1169824
13	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/11/2022 10:30:00 PM			1169945
14	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/11/2022 10:30:00 PM			1169936
15	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/11/2022 10:30:00 PM			170095
16	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/11/2022 10:30:00 PM			170095
17	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/11/2022 10:30:00 PM			170095
18	7/11/2022 10:24:00 PM	7/11/2022	12/31/1899 10:24:00 PM	2022	Monday	7/11/2022 10:24:00 PM			1169817
19	7/11/2022 10:24:00 PM	7/11/2022	12/31/1899 10:24:00 PM	2022	Monday	7/11/2022 10:24:00 PM			1169817
20	7/11/2022 10:24:00 PM	7/11/2022	12/31/1899 10:24:00 PM	2022	Monday	7/11/2022 10:24:00 PM			1169816
21	7/11/2022 10:22:00 PM	7/11/2022	12/31/1899 10:22:00 PM	2022	Monday	7/11/2022 10:22:00 PM			1169816
22	7/11/2022 10:22:00 PM	7/11/2022	12/31/1899 10:22:00 PM	2022	Monday	7/11/2022 10:22:00 PM			1169816
23	7/11/2022 10:15:00 PM	7/11/2022	12/31/1899 10:15:00 PM	2022	Monday	7/11/2022 10:15:00 PM			170101
24	7/11/2022 10:15:00 PM	7/11/2022	12/31/1899 10:15:00 PM	2022	Monday	7/11/2022 10:15:00 PM			170101
25	7/11/2022 10:00:00 PM	7/11/2022	12/31/1899 10:00:00 PM	2022	Monday	7/11/2022 10:00:00 PM			1169977
26	7/11/2022 9:50:00 PM	7/11/2022	12/31/1899 9:50:00 PM	2022	Monday	7/11/2022 9:57:00 PM			1169827
27	7/11/2022 9:48:00 PM	7/11/2022	12/31/1899 9:48:00 PM	2022	Monday	7/11/2022 9:48:00 PM			1169826

Append

Concatenate rows from two tables into a single table.

Two tables Three or more tables

First table
Left

Second table
Right

OK Cancel

APPEND - EXAMPLE

File Home Transform Add Column View

Close & Load Refresh Preview Properties Advanced Editor Manage Choose Columns Remove Columns Keep Rows Remove Rows Split Column Group By Data Type: Date Use First Row as Headers Replace Values Merge Queries Append Queries Combine Files Manage Parameters Data source settings New Source Recent Sources Enter Data

Queries [3] = Table.Combine((Left, Right))

	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number
1	7/11/2022 11:56:00 PM	7/11/2022	12/31/1899 11:56:00 PM	2022	Monday	7/12/2022 12:08:00 AM	1169842	220458489	2219
2	7/11/2022 11:55:00 PM	7/11/2022	12/31/1899 11:55:00 PM	2022	Monday	7/12/2022 1:31:00 PM	1169957	220459653	2219
3	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM	1169825	220458451	2219
4	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM	1169825	220458451	2219
5	7/11/2022 11:36:00 PM	7/11/2022	12/31/1899 11:36:00 PM	2022	Monday	7/11/2022 11:36:00 PM	1169825	220458451	2219
6	7/11/2022 11:14:00 PM	7/11/2022	12/31/1899 11:14:00 PM	2022	Monday	7/11/2022 11:14:00 PM	1169822	220458439	2219
7	7/11/2022 11:14:00 PM	7/11/2022	12/31/1899 11:14:00 PM	2022	Monday	7/11/2022 11:14:00 PM	1169822	220458439	2219
8	7/11/2022 11:00:00 PM	7/11/2022	12/31/1899 11:00:00 PM	2022	Monday	7/13/2022 4:32:00 PM	1170534	220462894	2219
9	7/11/2022 11:00:00 PM	7/11/2022	12/31/1899 11:00:00 PM	2022	Monday	7/12/2022 7:53:00 AM	1169910	220459114	2219
10	7/11/2022 10:47:00 PM	7/11/2022	12/31/1899 10:47:00 PM	2022	Monday	7/11/2022 10:47:00 PM	1169826	220458376	2219
11	7/11/2022 10:46:00 PM	7/11/2022	12/31/1899 10:46:00 PM	2022	Monday	7/12/2022 10:46:00 PM	1169824	220450651	2219
12	7/11/2022 10:44:00 PM	7/11/2022	12/31/1899 10:44:00 PM	2022	Monday	7/11/2022 10:46:00 PM	1169821	220458417	2219
13	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/12/2022 9:14:00 AM	1169945	220459073	2219
14	7/11/2022 10:30:00 PM	7/11/2022	12/31/1899 10:30:00 PM	2022	Monday	7/12/2022 9:17:00 AM	1169936	220459089	2219

File Home Insert Page Layout Formulas Data Review View Developer Add-ins Help Acrobat Table Design Query

Table Name: Append1

Summarize with PivotTable Remove Duplicates Convert to Range

Header Row Total Row Banded Rows First Column Last Column Banded Columns Filter Button

Table Styles

A1

	Incident Datetime	Incident Date	Incident Time	Incident Year	Incident Day of Week	Report Datetime	Incident ID	Incident Number	CAD Number	Report Type Code	Report Type Description	Incident Code	Incident
1	7/11/2022 23:56	7/11/2022	1/0/1900 23:56	2022	Monday	7/12/2022 0:08	1169842	220458489	221923414	II	Initial	5151	Burgle
2	7/11/2022 23:55	7/11/2022	1/0/1900 23:55	2022	Monday	7/12/2022 13:31	1169957	220459653	221931658	II	Initial	3071	Robbe
3	7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373	II	Initial	12110	Weap
4	7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373	II	Initial	12100	Weap
5	7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373	II	Initial	12080	Weap
6	7/11/2022 23:36	7/11/2022	1/0/1900 23:36	2022	Monday	7/11/2022 23:36	1169825	220458451	221923373	II	Initial	6371	Larcen
7	7/11/2022 23:14	7/11/2022	1/0/1900 23:14	2022	Monday	7/11/2022 23:14	1169822	220458439	221923341	II	Initial	4134	Assau
8	7/11/2022 23:14	7/11/2022	1/0/1900 23:14	2022	Monday	7/11/2022 23:14	1169822	220458439	221923341	II	Initial	64070	Suspici
9	7/11/2022 23:00	7/11/2022	1/0/1900 23:00	2022	Monday	7/13/2022 16:32	1170534	220462894	221942045	II	Initial	5081	Burgle
10	7/11/2022 23:00	7/11/2022	1/0/1900 23:00	2022	Monday	7/12/2022 7:53	1169910	220459114	221930607	II	Initial	72000	Non-C
11	7/11/2022 22:47	7/11/2022	1/0/1900 22:47	2022	Monday	7/11/2022 22:47	1169826	220458376	221923283	II	Initial	7041	Recov
12	7/11/2022 22:46	7/11/2022	1/0/1900 22:46	2022	Monday	7/11/2022 22:46	1169824	220450651	221923280	VS	Vehicle Supplement	3071	Robbe
13	7/11/2022 22:44	7/11/2022	1/0/1900 22:44	2022	Monday	7/11/2022 22:46	1169821	220458417	221923281	II	Initial	28160	Multip
14	7/11/2022 22:40	7/11/2022	1/0/1900 22:40	2022	Monday	7/12/2022 9:14	1169945	220459073	221923081	II	Initial		

Queries & Connections

Queries Connections

3 queries

- LeftTable 65,352 rows loaded.
- RightTable 253 rows loaded.
- Append1 65,605 rows loaded.

NEXT WEBINAR

Introduction to Power Query M Formula Language

- ✓ *Introduction*
- ✓ *Where to Start*
- ✓ *Examples*

- ✓ *Bonus: End-to-end example*
 - ✓ *Download data*
 - ✓ *Clean data*
 - ✓ *Merge data*
 - ✓ *Report*
 - ✓ *Updating dataset*
 - ✓ *See the result!!!*

CONCLUSIONS & QUESTIONS

Svetlana Gubin, Oakland PD

Sgubin@OaklandCA.gov

