

Advanced Power Query and Data Modelling

Refresh

- Customers
Waiting for other queries...
- Sales
Waiting for other queries...
- Product Information Power BI
Waiting for other queries...
- Expanded Merge Table
Waiting for other queries...
- Quarterly Results
Evaluating...

Cancel

Group By

Specify the columns to group by and one or more outputs.

Basic Advanced

Order Type

Product bought

Add grouping

New column name Operation Column

Total Sales Sum Sales

Add aggregation

OK Cancel

A ^B _C Order Type	A ^B _C Product bought	1.2 Total Sales
<ul style="list-style-type: none"> Valid 100% Error 0% Empty 0% 	<ul style="list-style-type: none"> Valid 100% Error 0% Empty 0% 	<ul style="list-style-type: none"> Valid 100% Error 0% Empty 0%
2 distinct, 0 unique	5 distinct, 1 unique	9 distinct, 9 unique
Bulk Order	Pen Set	1475.37
Normal Order	Binder	364.32
Bulk Order	Binder	4637.68
Normal Order	Pen Set	1261.74
Normal Order	Pencil	201.74
Normal Order	Desk	1075
Bulk Order	Pen	726.6
Normal Order	Pen	299.85
Bulk Order	Pencil	86.43

Group By

Specify the columns to group by and one or more outputs.

Basic Advanced

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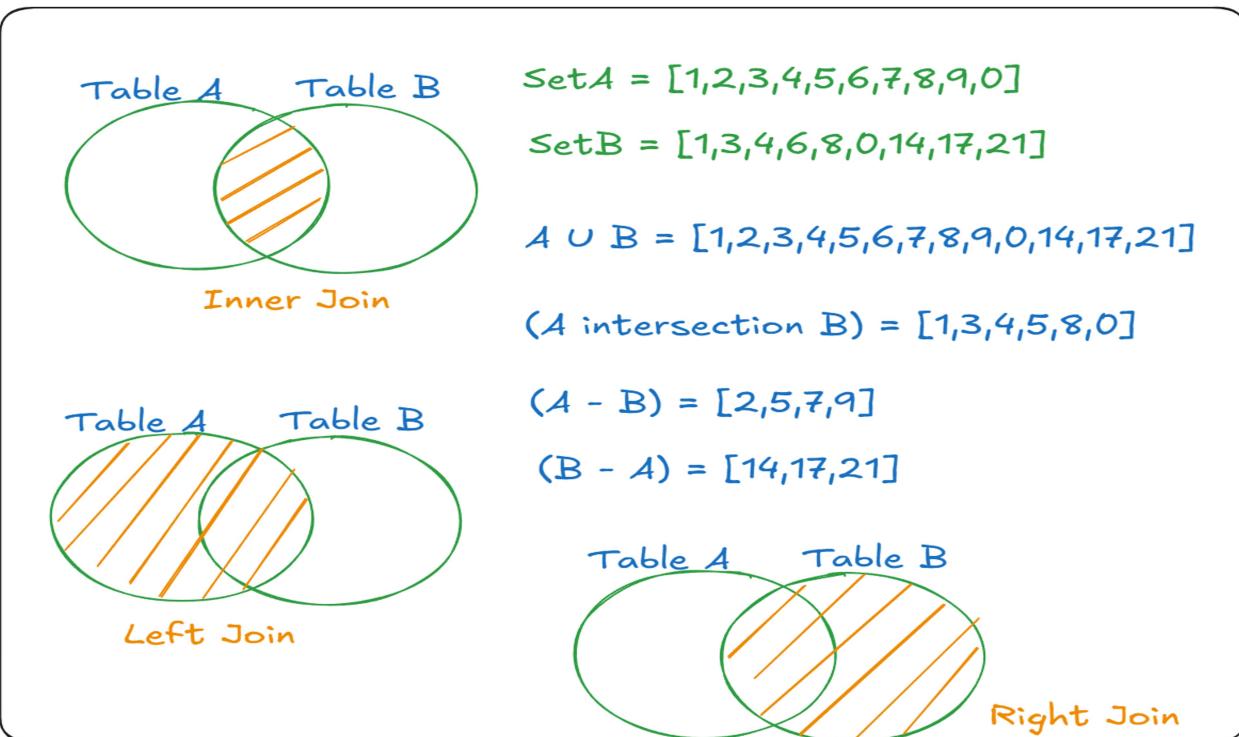
Total Sales	Sum	Sales
Total Quantity Sold	Sum	Qty bought

Add aggregation

OK Cancel

A Product bought	B Order Type	C Total Sales	D Total Quantity Sold
● Valid 100%	● Valid 100%	● Valid 100%	● Valid 100%
● Error 0%	● Error 0%	● Error 0%	● Error 0%
● Empty 0%	● Empty 0%	● Empty 0%	● Empty 0%
			
5 distinct, 1 unique	2 distinct, 0 unique	9 distinct, 9 unique	9 distinct, 9 unique
Pen Set	Bulk Order	1475.37	213
Binder	Normal Order	364.32	68
Binder	Bulk Order	4637.68	232
Pen Set	Normal Order	1261.74	58
Pencil	Normal Order	201.74	56
Desk	Normal Order	1075	5
Pen	Bulk Order	726.6	140
Pen	Normal Order	299.85	15
Pencil	Bulk Order	86.43	67

Joins - SQL [P.K & F.K]





Krishna - Tablet - \$2K
 Krishna - Biscuit - \$50
 Venkat - Chips - \$10
 Venkat - Soda - \$40
 Rafik - Music /Blanket/Purse - 15/0/25.
 Arpit - Choco - \$11.

Select CustomerName , ProductName,
 ProductPrice FROM Customer INNER JOIN
 Sales ON Customer.id = Sales.customerId



Krishna - Tablet - \$2K
 Krishna - Biscuit - \$50
 Lokesh - Null - Null
 Venkat - Chips - \$10
 Venkat - Soda - \$40
 Vaishnavi - Null - Null
 Rafik - Music /Blanket/Purse - 15/50/25.
 Naval - Null - Null
 Arpit - Choco - \$11.
 Shalu - Null - Null

Select CustomerName , ProductName,
 ProductPrice FROM Customer Left JOIN
 Sales ON Customer.id = Sales.customerId



Venkat - Chips - \$10
 Null - Bottle - \$15
 Rafik - Music CD - \$15
 Arpit - Choco - \$11
 Rafik - Blanket - \$50
 Null - Phone - \$1K
 Null - Fruits - \$25
 Krishna - Tablet - \$2K
 Krishna - Biscuit - \$50
 Venkat - Soda - \$40
 Rafik - Purse - \$25

Select CustomerName , ProductName,
 ProductPrice FROM Customer Right JOIN
 Sales ON Customer.id = Sales.customerId

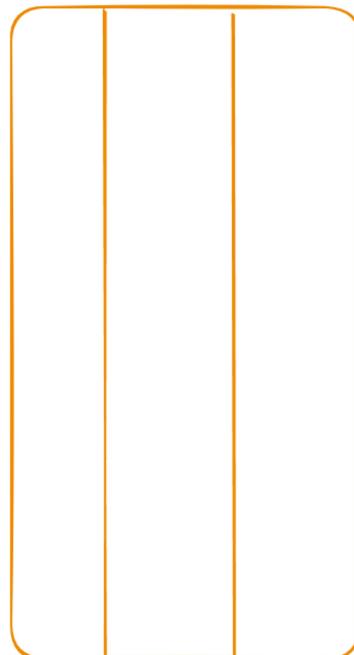
Select CustomerName , ProductName,
 ProductPrice FROM Sales Right JOIN
 Customer ON Sales.CustomerID = Customer.ID
 $A * B = B * A$

Append Query



Make sure all the tables need to be identical

3000 rows



Queries [8]

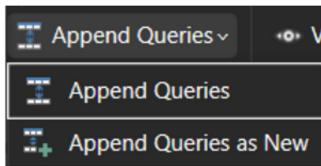
Customer ID	Customer Region	Customer Age	Sales
1	North	10	6,532.00
2	North	28	7,958.00
3	South	56	1,012.00
4	East	38	5,816.00
5	East	22	5,651.00
6	West	22	3,215.00
7	West	58	8,214.00
8	East	11	3,975.00
9	East	43	7,459.00
10	North	45	1,607.00
11	North	14	6,078.00
12	South	27	9,065.00
13	East	57	4,423.00
14	East	17	850.00
15	East	53	3,701.00
16	East	59	5,873.00
17	North	49	4,385.00
18	North	33	9,561.00
19	South	38	2,322.00

Query Settings

- PROPERTIES
 - Name: Sales - 2
- APPLIED STEPS
 - Source
 - Navigation
 - Promoted Headers
 - Changed Type

Customer ID	Customer Region	Customer Age	Sales
Valid 100%	Valid 100%	Valid 100%	Valid 100%
Error 0%	Error 0%	Error 0%	Error 0%
Empty 0%	Empty 0%	Empty 0%	Empty 0%
100 distinct, 100 unique	4 distinct, 0 unique	43 distinct, 15 unique	100 distinct, 100 unique

After removing empty cells, now my dataset is having 100% Valid values



Before Appending Make sure to check whether both tables are identical or not.

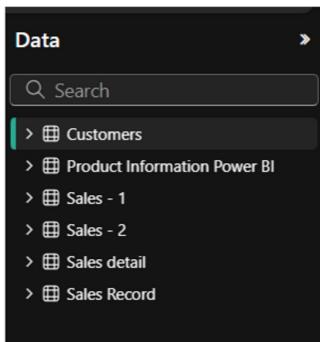
- Same number of columns.
- Same order
- Same Data type.

Queries [9]

	Customer ID	Customer Region	Customer Age	Sales
1	1 North	49	309.38	
2	2 Unknown	10	57.71	
3	3 North	47	686.95	
4	4 South	11	1,619.19	
5	5 East	17	1,005.90	
6	6 Unknown	23	174.65	
7	7 Unknown	21	825.00	
8	8 Unknown	27	250.00	
9	9 Unknown	44	9.03	
10	10 Unknown	10	255.64	
11	11 North	29	151.24	
12	12 South	29	251.72	
13	13 South	42	1,139.43	
14	14 North	12	575.36	
15	15 Unknown	45	18.06	
16	16 Unknown	30	299.85	
17	17 Unknown	35	54.89	
18	18 West	50	479.04	

Queries [10]

	Customer ID	Sales Representative	Date of sale	Sales_Channel
1	1 Naveen Menon	01-01-2024	Online	
2	2 Preeti Khatri	02-01-2024	In-Store	
3	3 Arjun Mehta	03-01-2024	In-Store	
4	4 Alsha Kapoor	04-01-2024	In-Store	
5	5 Siddharth Sharma	05-01-2024	Online	
6	6 Neha Singh	06-01-2024	In-Store	
7	7 Rajiv Verma	07-01-2024	In-Store	
8	8 Roshni Patel	08-01-2024	Online	
9	9 Vikrant Reddy	09-01-2024	Online	
10	10 Anusha Kumar	10-01-2024	In-Store	
11	11 Rahul Kapoor	11-01-2024	In-Store	
12	12 Aishwarya Nair	12-01-2024	In-Store	
13	13 Akshay Mishra	23-01-2024	Online	
14	14 Divya Khurana	27-01-2024	Online	
15	15 Karthik Reddy	05-02-2024	Online	
16	16 Shreya Mehra	16-02-2024	Online	
17	17 Varun Khanna	17-02-2024	In-Store	
18	18 Sneha Kapoor	18-02-2024	Online	



Make sure, you are removing unnecessary Tables.

Overview of Data Modelling.

A screenshot of the Microsoft Power BI desktop application. The ribbon at the top has 'Home' selected. In the center workspace, three tables are visible: 'Sales Record', 'Sales detail', and 'Sales - 2'. A relationship is being established between 'Sales Record' and 'Sales detail' through the 'Customer ID' column. The 'Relationships' icon in the ribbon is highlighted with a green oval. The 'Manage relationships' button in the ribbon is also highlighted with a green oval.

A screenshot of the 'Manage relationships' dialog in Power BI. At the top, there are buttons for '+ New relationship', 'Autodetect', 'Edit', 'Delete', and 'Filter'. The main area shows a list of existing relationships:

From: table (column) ↑	Relationship	To: table (column)	Status
Customers (Customer ID)	1 → 1	Sales Record (Customer ID)	Active
Sales - 1 (Customer ID)	1 → 1	Customers (Customer ID)	Active
Sales detail (Customer ID)	1 → 1	Sales Record (Customer ID)	Active
Sales detail (Customer ID)	1 → 1	Customers (Customer ID)	Inactive

A screenshot of the 'Delete Relationship' confirmation dialog. It asks, 'Do you want to delete this table relationship(s)? Visuals using data from the related tables might be broken.' At the bottom are 'Delete' and 'Cancel' buttons, with 'Delete' highlighted with a green oval.

Main Table

Referenced Table

Data Model View

Data Pane in Report View

What is a Data Model?

Right now, they all are independent tables.

Customer Region	Sum of Sales
East	\$10,128.73
North	\$10,128.73
South	\$10,128.73
Unknown	\$10,128.73
West	\$10,128.73
Total	\$10,128.73

IF, we have independent table with no relationship.
So the values which we are getting is the overall value.

- This is not a Data Model

New relationship

Select tables and columns that are related.

From table
Product Information Power BI

Customer ID	Order Type	Product boug...	Product ID	Qty bought
1	Bulk Order	Pen Set	1	62
2	Normal Order	Binder	2	29
3	Bulk Order	Pen Set	1	55

To table
Sales Record

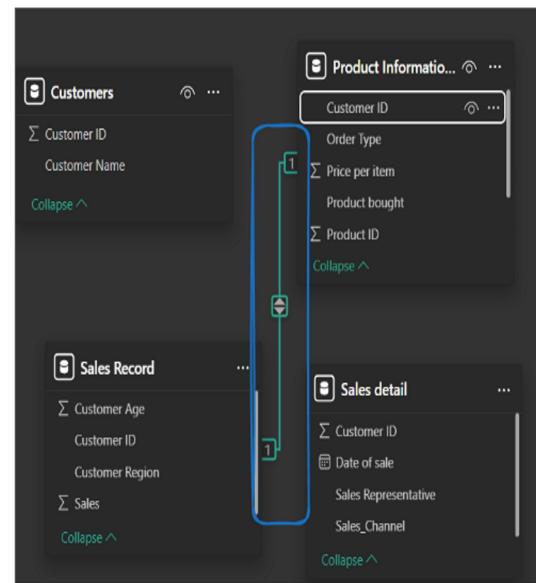
Customer Age	Customer ID	Customer Re...
49	1	North
10	2	Unknown
47	3	North

Cardinality
One to one (1:1)

Cross-filter direction
Both

Many to one (*:1)
 One to one (1:1)
 One to many (1:*)
 Many to many (*:*)

Save **Cancel**



Customer Region Sum of Sales

East	\$1,005.9
North	\$1,722.93
South	\$3,010.34
Unknown	\$3,910.52
West	\$479.04
Total	\$10,128.73

"This is a data Model"

Filter Context