Excel Tables

TABLES: WHAT ARE THEY AND WHY USE THEM?

Ben Howard
DATA CONSULTANT

@ben_project www.applepark.co.uk

Course Agenda

Tables: What Are They and Why Use Them?

Create and Manage Tables

Working with Table Data

Exploring Other Excel Capabilities

Module Agenda

What is a Table and when to use them?

Pros and cons of Tables vs. data ranges

How Tables are constructed

- Table names
- Column names

Excel Table

A container that holds a collection of related data; typically the data is manipulated as a set.

I also use the term Dataset.

What do Tables do?

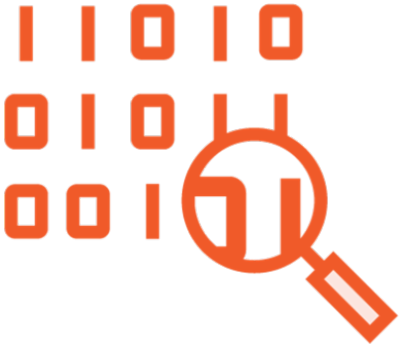
Tables make managing and analyzing a group of related data easier than working with just a range of data.

Because tables are Excel objects, they have properties that make working on the data within them easy.

When Should Tables Be Used?

Data is already related

Often the data already exists in a "neat" tabular format



Analyze and manipulate

Sort the data, add totals, conditional formatting

Pros and Cons

What's good

Visual cue to the dataset

One click totals

One click filters

Slicers

Auto resizing

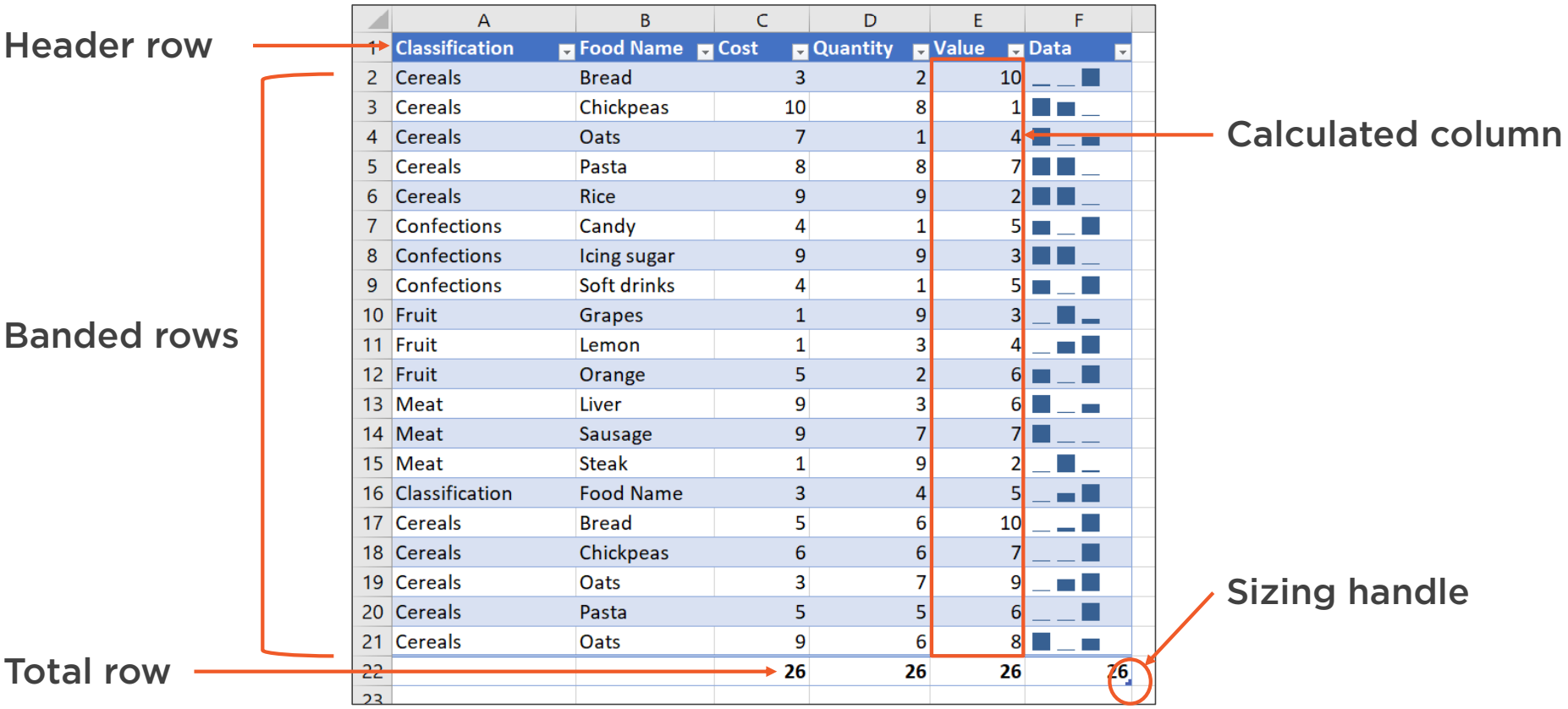
Formulas applied to the full column

Export to SharePoint

What's not so good

No subtotals or auto grouping

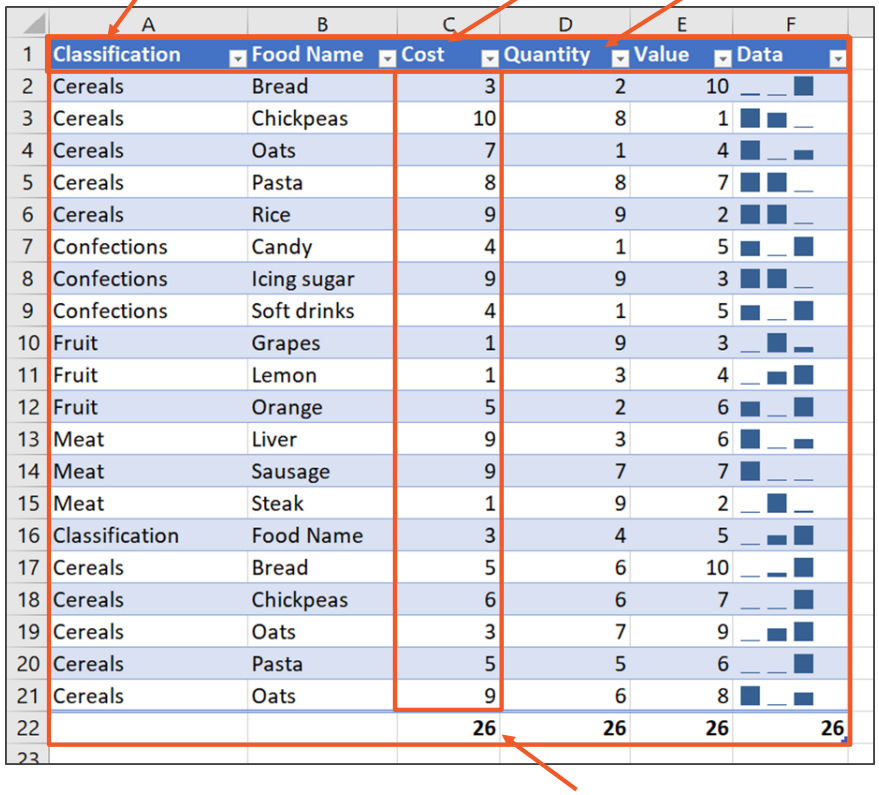
Table Structure



Structured References

Table name

Column name(s)



	A	B	C	D	E	F
1	Classification	Food Name	Cost	Quantity	Value	Data
2	Cereals	Bread	3	2	10	
3	Cereals	Chickpeas	10	8	1	
4	Cereals	Oats	7	1	4	
5	Cereals	Pasta	8	8	7	
6	Cereals	Rice	9	9	2	
7	Confections	Candy	4	1	5	
8	Confections	Icing sugar	9	9	3	
9	Confections	Soft drinks	4	1	5	
10	Fruit	Grapes	1	9	3	
11	Fruit	Lemon	1	3	4	
12	Fruit	Orange	5	2	6	
13	Meat	Liver	9	3	6	
14	Meat	Sausage	9	7	7	
15	Meat	Steak	1	9	2	
16	Classification	Food Name	3	4	5	
17	Cereals	Bread	5	6	10	
18	Cereals	Chickpeas	6	6	7	
19	Cereals	Oats	3	7	9	
20	Cereals	Pasta	5	5	6	
21	Cereals	Oats	9	6	8	
22			26	26	26	26
23						

Table name = Foods

Column name = Cost

Column specifier = Foods[Cost]

Structured references mean that formulas become self describing.

SUM(Foods[Cost]) vs SUM(C2:C27)

Demo

Table structure

Structured references

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Create and Manage Tables

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Module Agenda

Convert an existing data range

Create a table from scratch

Import data

Managing tables

- Resizing
- Renaming
- Formatting
- Finding
- Deleting

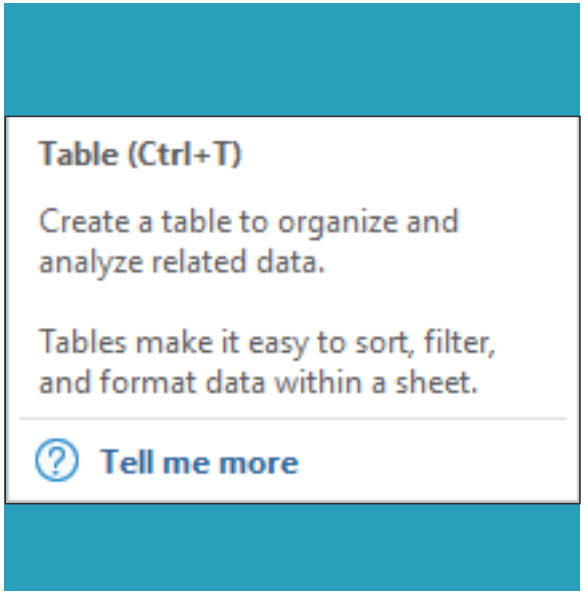
Convert an Existing Data Range

CTRL - T

CTRL – L works too, because Tables used to be called Lists!

Format as Table

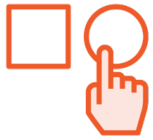
From the Home tab



What Data Is Converted to a Table?

Excel defines the edges of the table where there are blank columns and blank rows

Blank cells within the range are okay



Select the range and then use any of the previously mentioned methods

Creating a Table with No Data

Chances of you doing this

Almost zero

Creating tables using other methods

99+%

Creating a Table with No Data

Chances of you doing this

Almost zero

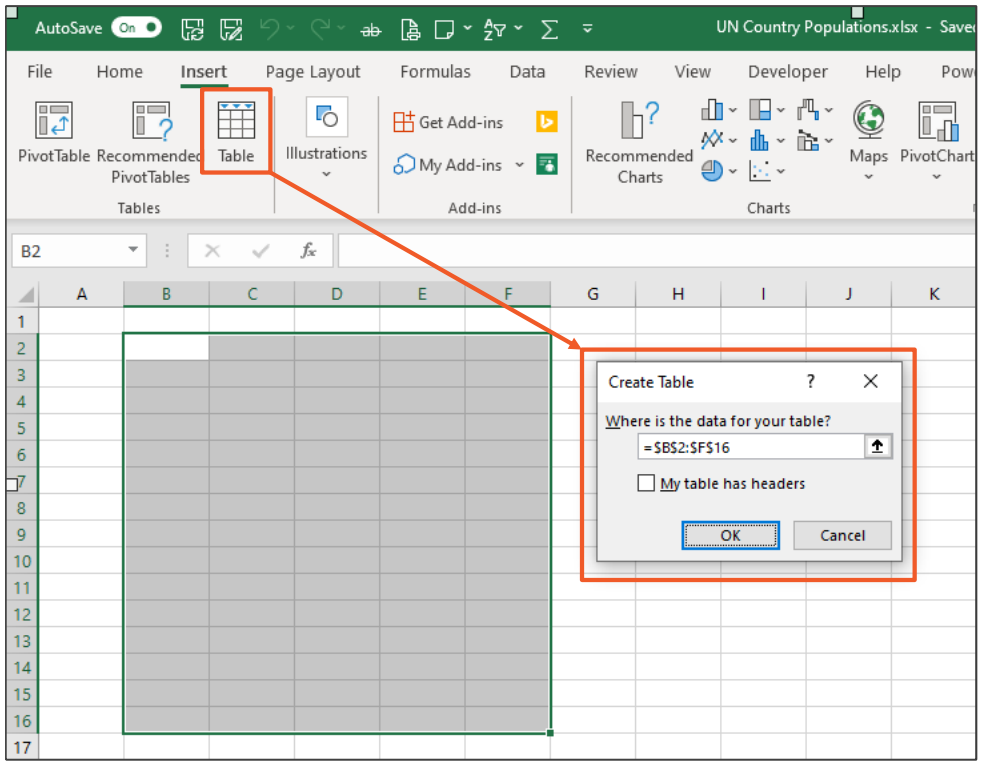
Creating tables using other methods

99+%

You are more likely to convert an existing set of data...

Creating a Table with No Data

1. Select the range of empty cells
2. Use any of the previous 3 methods to create the table



Demo

Creating Tables

Demo

Importing data into a Table

Creating a blank table

Managing Tables

- Naming and renaming a table
- Resizing a table
- Finding a table using the Name Manager
- Deleting a table

Demo

Managing Tables

Formatting Options

Headers & Filters

Bands

Totals

First and last columns

Table styles

Demo

Formatting

Module Summary

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Working with Table Data

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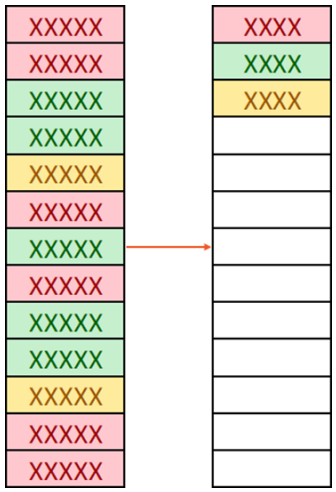
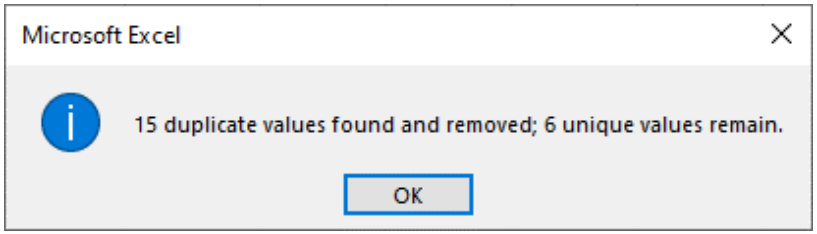
Module Agenda

- Removing duplicates
- Sorting data
- Adding totals to rows and columns
- Using filters and creating slicers
- Referencing table data in other worksheets
- Quick Analysis Tool
- Neat features

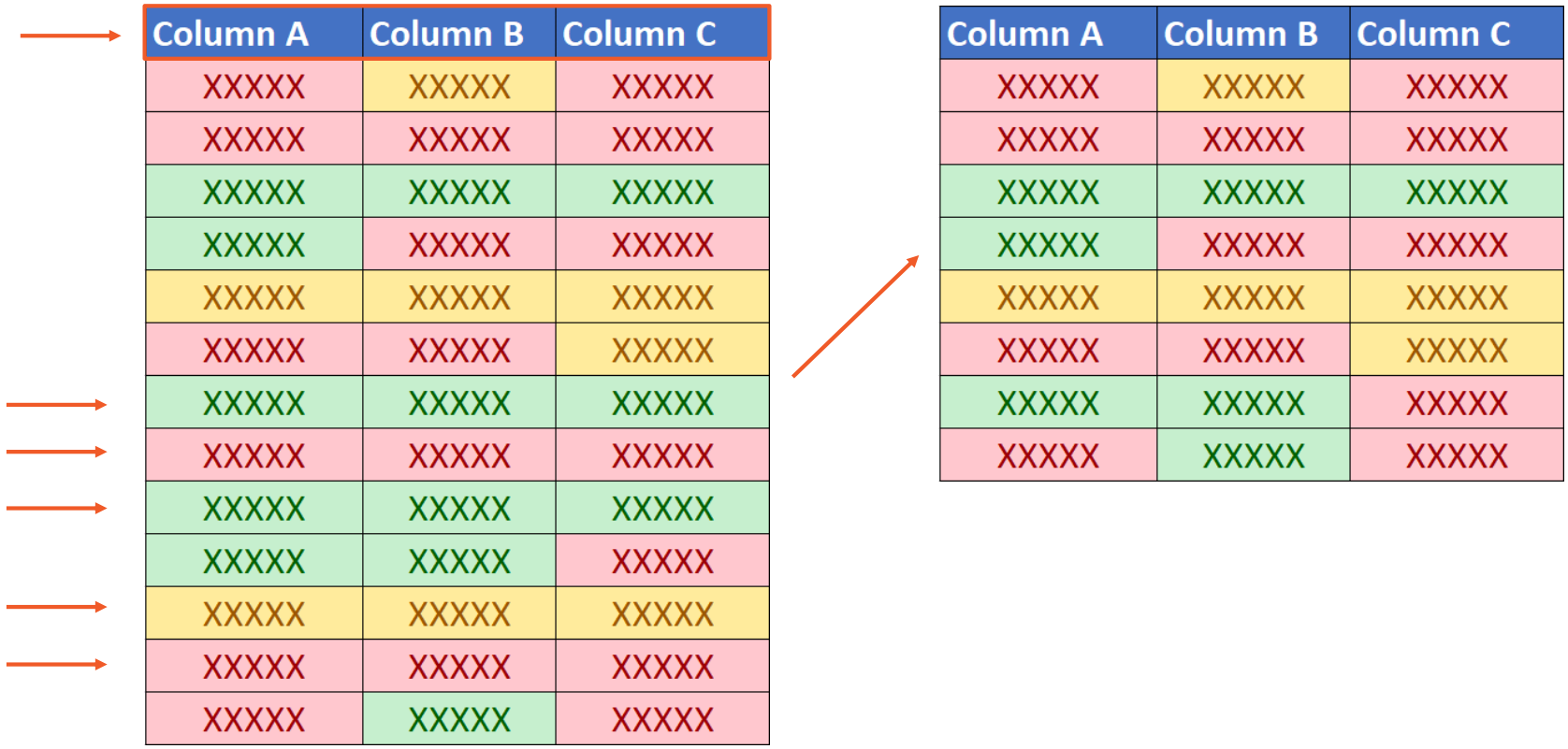
Removing Duplicates and Sorting Data





Choose which column(s) to check for duplicate values

Removing Duplicates and Sorting Data



Removing Duplicates and Sorting Data

Column A	Column B	Column C
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX
XXXXX	XXXXX	XXXXX

Largest to smallest

Smallest to largest

Custom sort

Demo

Removing duplicates

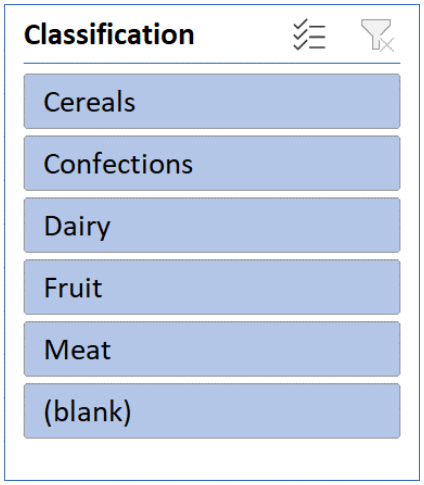
Sorting data

Filters and Slicers

Access via a drop down from the column header

Basic and logical filtering

Filter by color



Visual buttons that float over the data

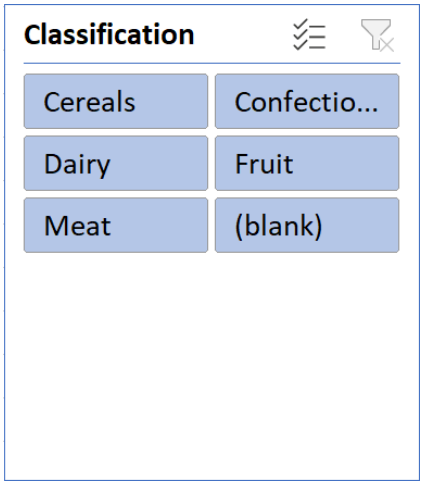
Button values match the column content

Filters and Slicers

Access via a drop down from the column header

Basic and logical filtering

Filter by color



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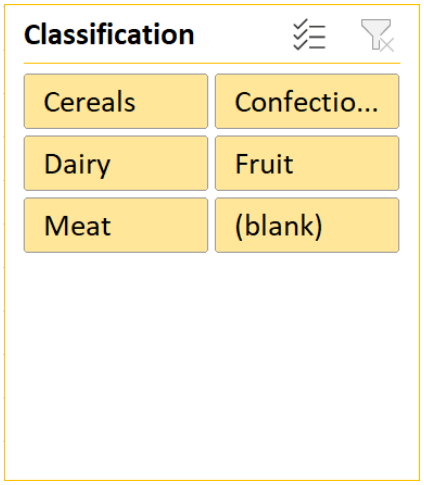

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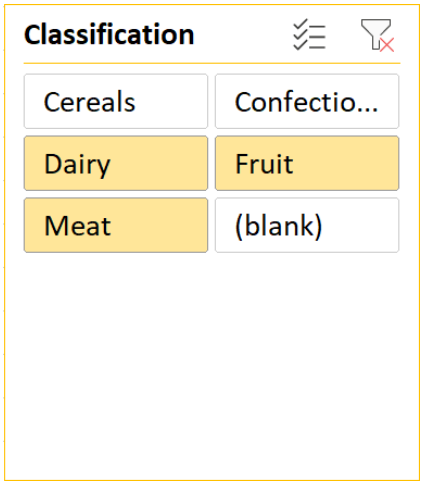
Filters and Slicers

Access via a drop down from the column header

Basic and logical filtering

Filter by color



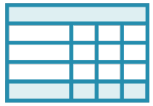
Visual buttons that float over the data

Button values match the column content

Demo

Using filters and creating slicers

Easy Ways to Add Totals to Columns and Rows

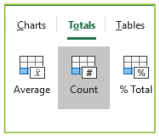


Total Row – available from the Table Design tab

Uses the subtotal function; SUM for numeric values; COUNTA for non-numeric values

AutoSum function – available from the Home tab

Useful for rows



Quick Access Tool – CTRL-Q

Options for Columns and Rows

Demo

Adding totals to Columns and Rows

Referencing Table Data in Other Worksheets

Column1	Column2	Column3	Column4
99	13	61	97
2	76	27	54
64	25	20	45
14	74	25	4
47	28	60	35
42	33	78	42
21	67	35	1
72	93	52	77
12	100	24	88
25	99	15	5
99	17	89	27
14	34	8	3
18	94	38	61

Table 1

Contains 4 columns

Column1	Column2	Column3	Column4
99	13	61	97
2	76	27	54
64	25	20	45
14	74	25	4
47	28	60	35
42	33	78	42
21	67	35	1
72	93	52	77
12	100	24	88
25	99	15	5
99	17	89	27
14	34	8	3
18	94	38	61

Structured reference

=SUM(Table1[Column4])

= 539

Column1	Column2	Column3	Column4
99	13	61	97
2	76	27	54
64	25	20	45
14	74	25	4
47	28	60	35
42	33	78	42
21	67	35	1
72	93	52	77
12	100	24	88
25	99	15	5
99	17	89	27
14	34	8	3
18	94	38	61

Structured reference

=MIN(Table1[#Data])

= 1

```
= ROWS(table)
= COLUMNS(table)
= [@Column1]-[@Column2]
= [@sales]-[@cost]

= SUM(table[ColumnName])
= MAX(table[ColumnName])
```

◀ Returns the # of rows

◀ Returns the # of columns

◀ @ implies the current row, subtracting the cell in Column2 from Column1 – here the formula is inside the table

◀ Returns the SUM of ColumnName

◀ Returns the MAX of ColumnName

Demo

Referencing data from other worksheets

- Structured references

Neat Features

Sizing handle

Scrolling

- The column headings remain visible

Sorting

- Includes all data in the table
- By color

Filters

- By color
- Multiple columns

Neat Features

Auto extension of tables

- Rows or columns

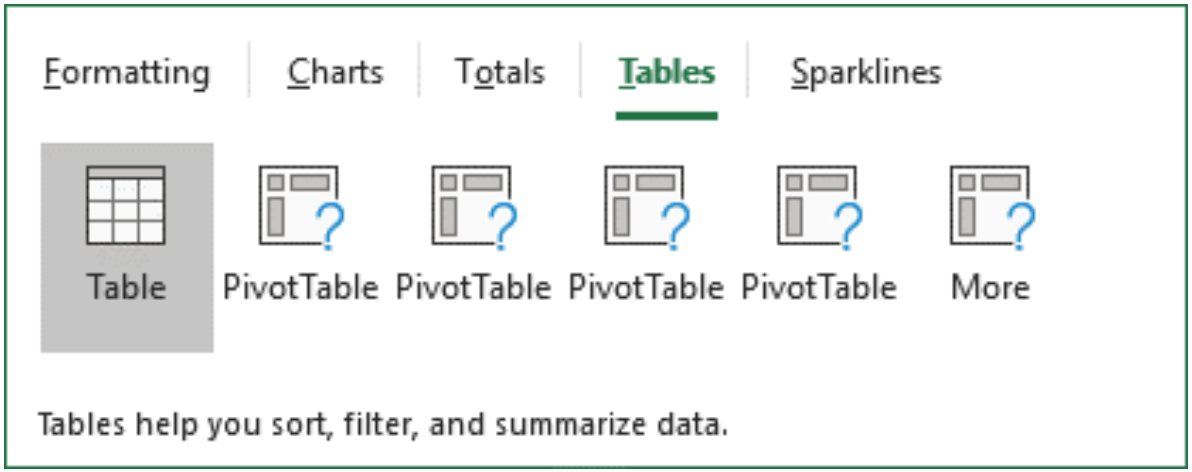
Auto insertion of formulas

Export to SharePoint List

Demo

Neat features

The Quick Analysis Tool



The QAT provides quick access to features

Demo

The Quick Analysis Tool

- CTRL-Q

Module Summary

- Using filters and creating slicers
- Removing duplicates
- Sorting data
- Adding totals to rows and columns
- Referencing table data in other worksheets
- Neat features
- Quick Analysis Tool