

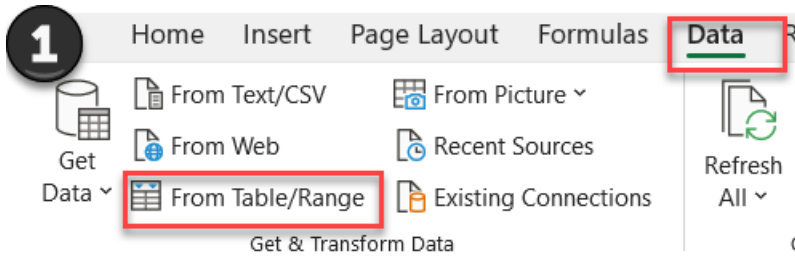
POWER QUERY EXERCISES

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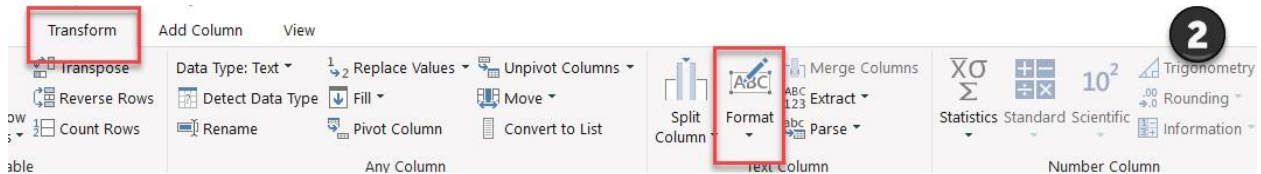
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Exercise One – Transforming Text

1. Open the file called **Text_Transform**
2. Click anywhere in the table of data e.g. A3. This data has already been converted to a table (DataClean)
3. Click on **Data | From Table Range**



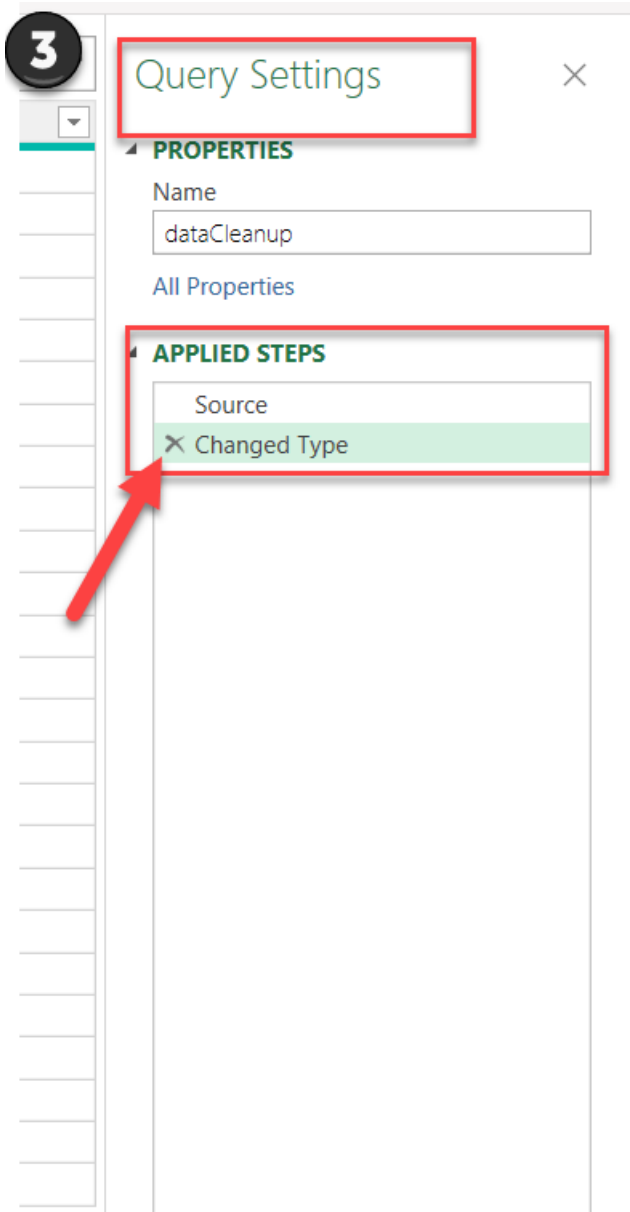
4. This loads the data into Power Query
5. Note that most of what you will be doing here will be under the **Transform** Ribbon



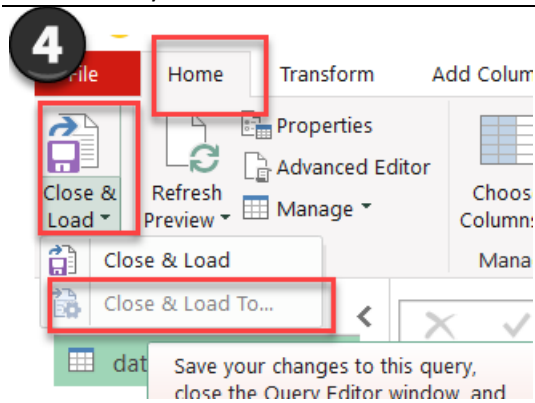
6. The heading of each column will tell you what you need to do e.g. lowercase – you must convert the data to lowercase.
- 7.

Name of column	Where to go
lowercase	Transform Format lowercase
Uppercase	Transform Format UPPERCASE
Split Column - Space	Transform Split Column By Delimiter
AddPrefix of 100-	Transform Format Add Prefix
AddSuffix – Extra Word	Transform Format Add Suffix
Random – Split at colon	Transform Split Column By Delimiter
First Three characters	Transform Extract First Characters
Last two characters	Transform Extract Last Characters
Combine Two columns	Highlight First Name column, then press the Shift key and highlight Last Name column. Transform Merge Columns Choose space as separator and call the new column Merged

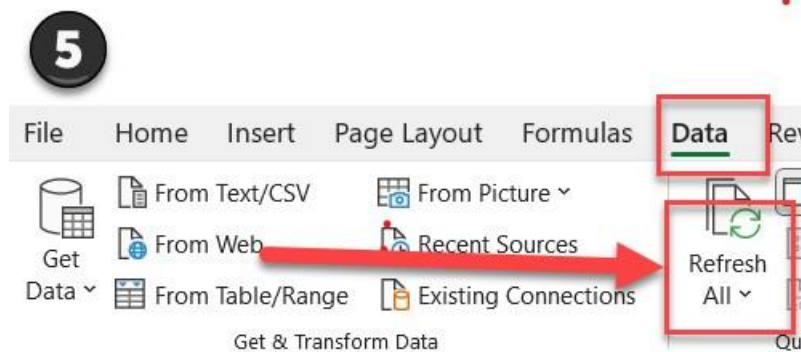
8. Note that each step will appear on the **Query Settings** option on the right-hand side. If you wish to delete or undo a step – you need to click on the X beside the step.



9. When you are finished, click on **Home | Close and Load | Close and Load to Table**.
10. This brings it back into Excel



10. Note you will now have two sheets: **Text Clean up** (which is the original) and a new one called **DataClean**
11. Click in cell A3 in **Text clean up** and amend it to your name.
12. Then click on **Data | Refresh All**.



13. When you check in the new sheet – you should see your name in lowercase.

Exercise Two – File Clean up

Aim of this exercise.

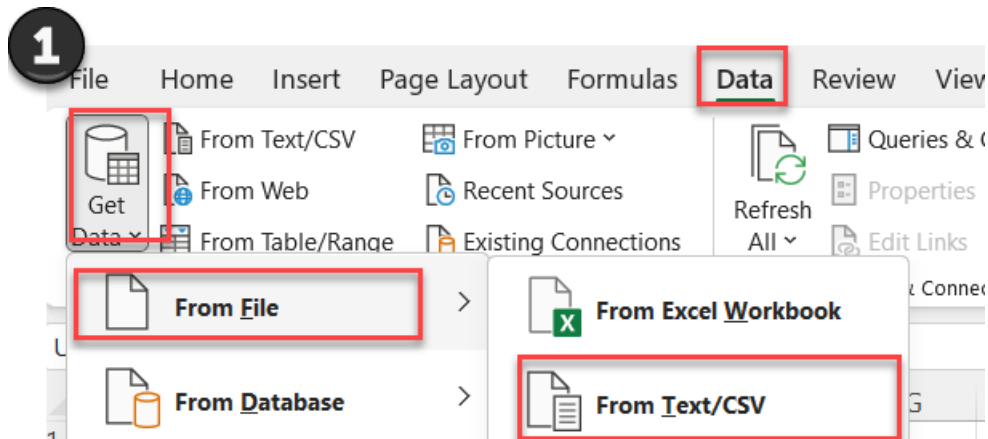
- Load a file into Power Query
- Do the cleansing
- Then apply this cleansing to a new file.

Note that what you need to do in this file is:

- Fill down Customer names
- Remove Totals (using filters)
- Remove unwanted columns.
- Replace Values

You also want to set this up so that you can update it with a new file in the following month.

1. Open a blank Excel file
2. Click on **Data | Get Data | From file | From Text/CSV**



3. Open the file called **File Clean up One** and click on **Import**
4. Click on **Transform Data**

2

File Clean up v9.csv

File Origin: 1252: Western European (Windows) | Delimiter: Comma | Data Type Detection: Based on first 200 rows

	Type	Date	Num	Memo	Account	Clr	Split	Amount	Balance
Brijesh Jain								null	null
	Cheque	05/01/2014	37	Utilities	Utilities		Current	297.87	297.87
	Cheque	05/02/2014	38	Utilities	Utilities		Current	297.87	595.74
	Cheque	05/03/2014	39	Utilities	Utilities		Current	297.87	893.61
	Cheque	05/04/2014	40	Utilities	Utilities		Current	297.87	1191.48
	Cheque	05/05/2014	41	Utilities	Utilities		Current	297.87	1489.35
	Cheque	05/06/2014	42	Utilities	Utilities		Current	297.87	1787.22
	Cheque	05/07/2014	43	Utilities	Utilities		Current	297.87	2085.09
	Cheque	05/08/2014	44	Utilities	Utilities		Current	297.87	2382.96
	Cheque	05/09/2014	45	Utilities	Utilities		Current	297.87	2680.83
	Cheque	05/10/2014	46	Utilities	Utilities		Current	297.87	2978.7
	Cheque	05/11/2014	47	Utilities	Utilities		Current	297.87	3276.57
	Cheque	05/12/2014	48	Utilities	Utilities		Current	297.87	3574.44
Total Brijesh Jain								3574.44	3574.44
Brittney Hughes								null	null
	Cheque	23/01/2014	85	Monthly Phone	Telephone		Current	145	145
	Cheque	23/02/2014	86	Monthly Phone	Telephone		Current	145	290
	Cheque	23/03/2014	87	Monthly Phone	Telephone		Current	145	435
	Cheque	23/04/2014	88	Monthly Phone	Telephone		Current	145	580
	Cheque	23/05/2014	89	Monthly Phone	Telephone		Current	145	725

The data in the preview has been truncated due to size limits.

Load | Transform Data | Cancel

5. This brings it into Power Query

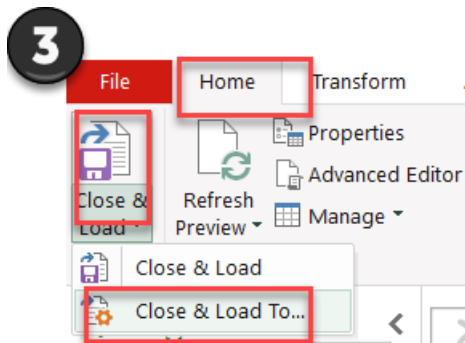
6. Perform the following tasks

Location	Action	How
First column	Rename first column (Brijesh Jain) to Customer	Right click on Column name and choose Rename
Fill down customer names	Highlight first column	Transform Fill Fill Down Note: If for some reason it does not fill down, choose Transform Replace values . Leave the Value to Find blank. In the Replace With box, type in <i>null</i> (null is case sensitive) and then click OK . Now try the Fill Down
Remove Totals	Filter Customers	Text Filters Does not begin with Enter Total (note Total is case-sensitive) Remove the entry for TOTAL as well.

Location	Action	How
Remove nulls from Date	Highlight Date Column	Filter to exclude null. Check that it is the Date Type (Transform Data Type Date)
Location	Action	How
Replace Values	Highlight Memo column	Transform Replace Values Leave Value To Find blank Type in <i>No Memo</i> in Replace With.
Clr Column	Remove Column	Right click on Clr column and click on Remove
Balance	Remove Column	Right click on Balance column and click on Remove

7. **To bring it back into Excel**

8. Click on **Home | Close and Load | Close and Load To** and choose **Table**



9. It is now pivot table ready.

10. Save the file as **Number Clean up ONE**

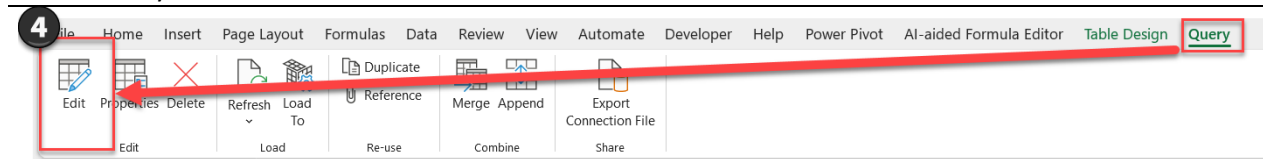
11. Check the total for **Amount** column (you can do this by using Autosum or checking the value in the status bar.

12. It should read **107842.7**

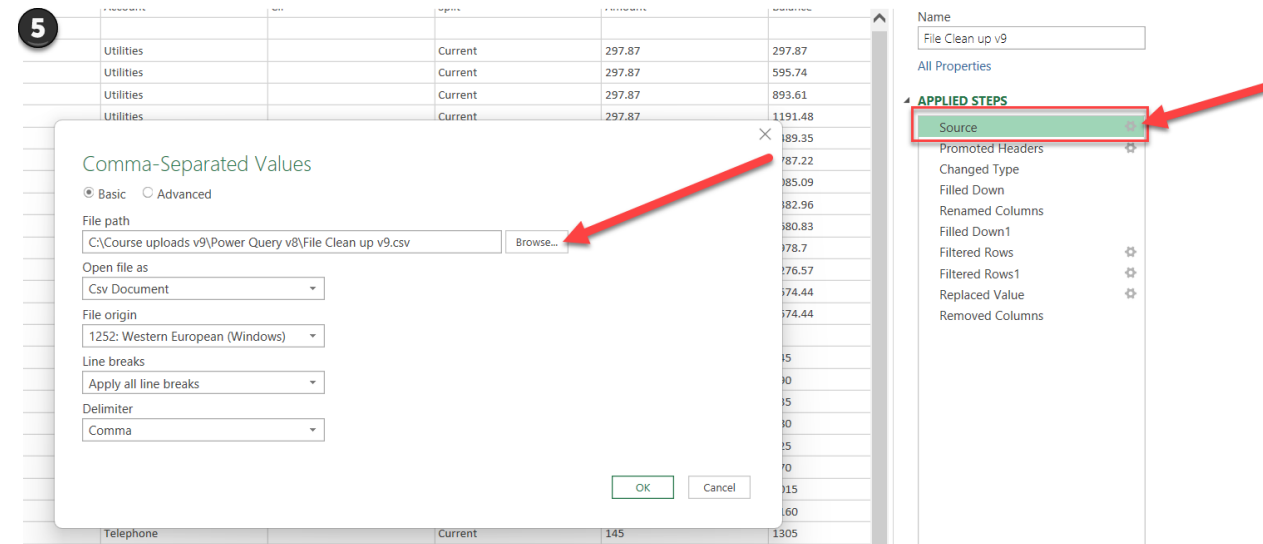
Step Two – reusing the steps

1. Using the file called **Number Clean Up One**
2. Click in the cleaned data
3. Click on **Query | Edit**

Power Query Exercises



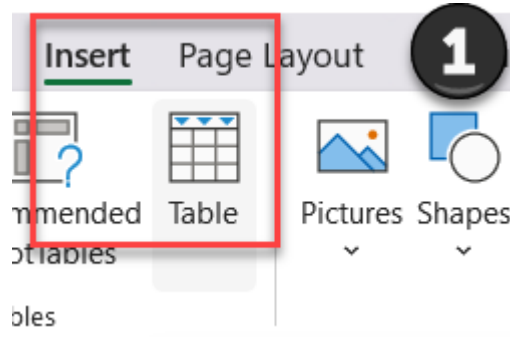
4. Check **Applied Steps** on the right hand side
5. Click on the cog beside **Source** and then click on **Browse**



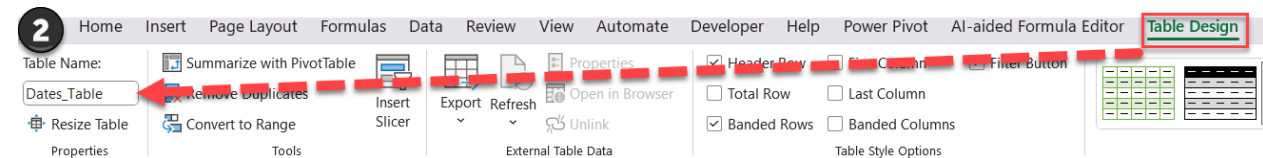
6. Navigate to the file called **File Clean up Two** and click **Import**
7. Do a **Close and Load** and you will see that you have new data and new customer names e.g. Menegilda Puddifoot and Peregrine Took.
The total of your new file should read 115668.27
8. Save this file as **Second file clean up**

Exercise Three – Formatting dates in Power Query

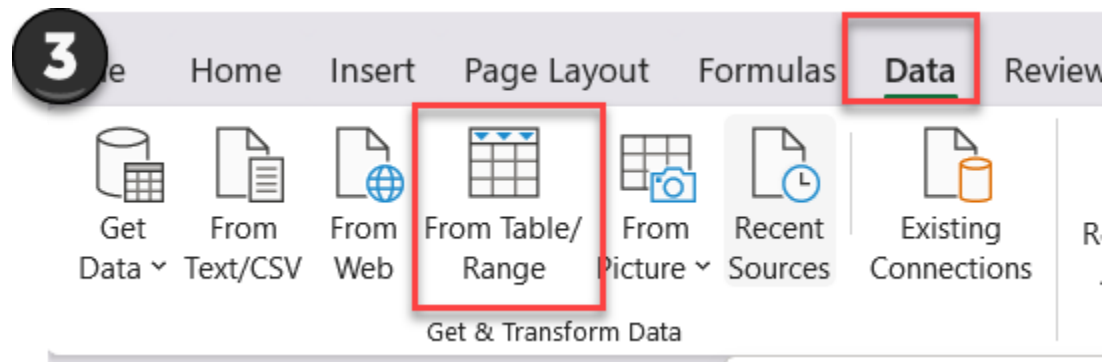
1. Open up the file called **Dates_Exercise**
2. Convert the data in A4:A94 into a table (**Insert | Table**)



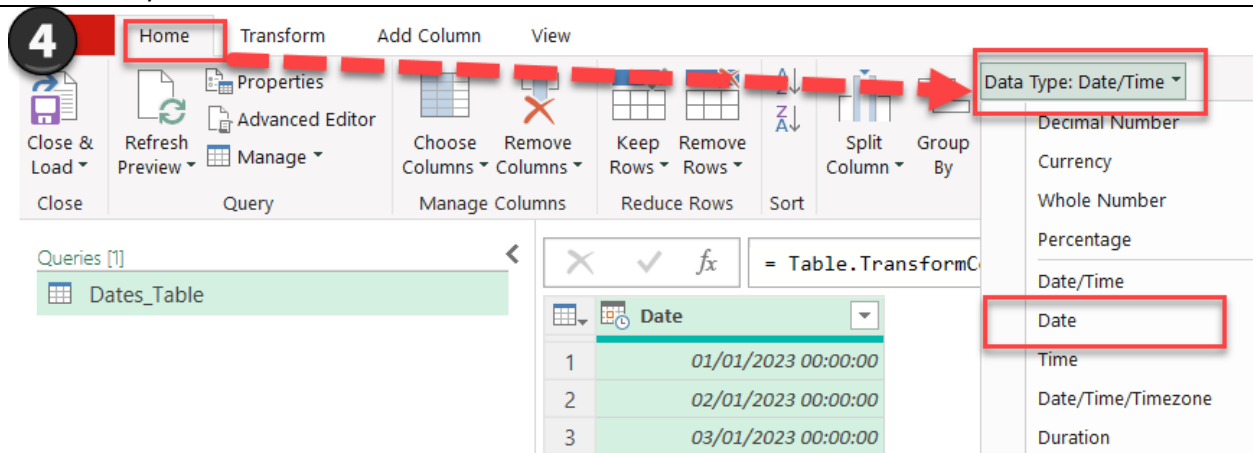
3. Call it **Dates_Table** (this is so you know what it refers to in Power Query). Note that spaces are not allowed in table names.



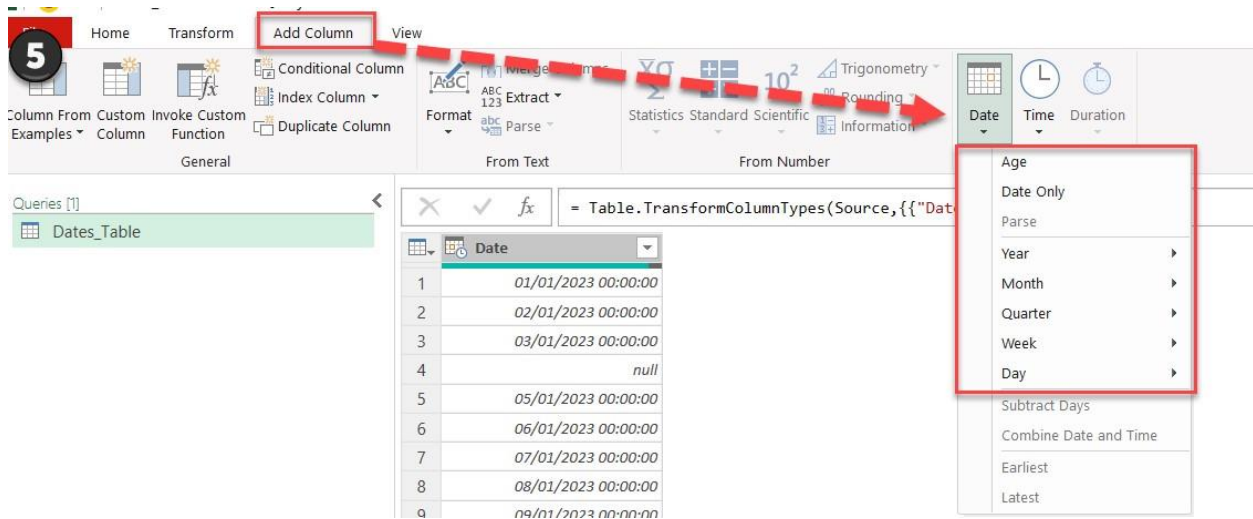
4. **Data | From Table/Range** - load into Power Query (make sure you are clicked in the table)



5. Convert the dates into Date (**Home - Data Type - Date**). If you get a prompt, click on **Replace Current**



6. Choose Add Column and locate Date

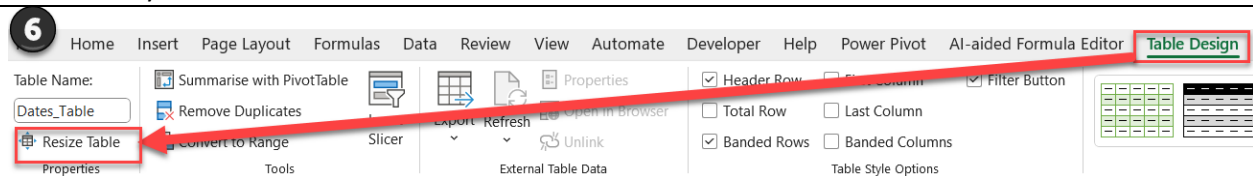


- Experiment with the following:
- Note that you must click back into the Date column before you do any of these – otherwise these Date options will not be available to you.
- Showing the year, name of month, quarter, week of year, week of month, day name etc.

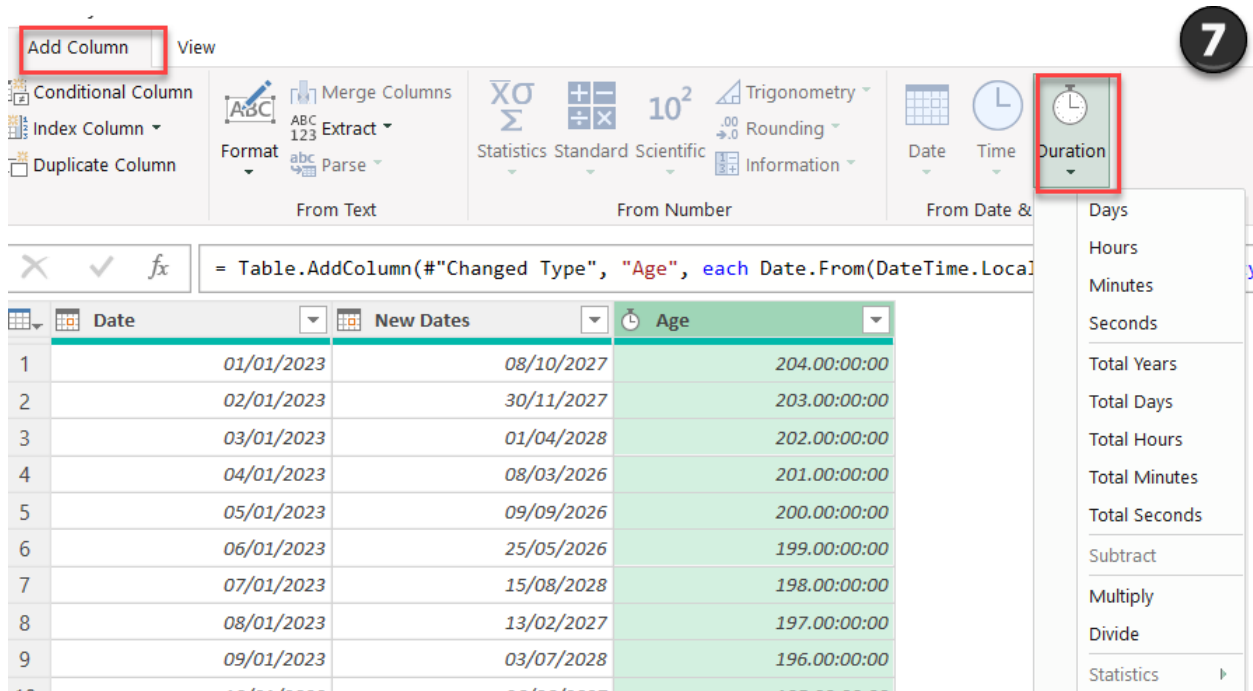
Stretch One – Calculating the Age

- We want to add some more dates so click on **Home | Close and Load and load as table**
- In the **Stretch** sheet copy and paste the list of New dates from the Stretch sheet into the Dates sheet (starting in B4).
- We need to expand our table to include these.
- Click in the original table e.g. A6
- Click on **Table Design | Resize Table**

Power Query Exercises



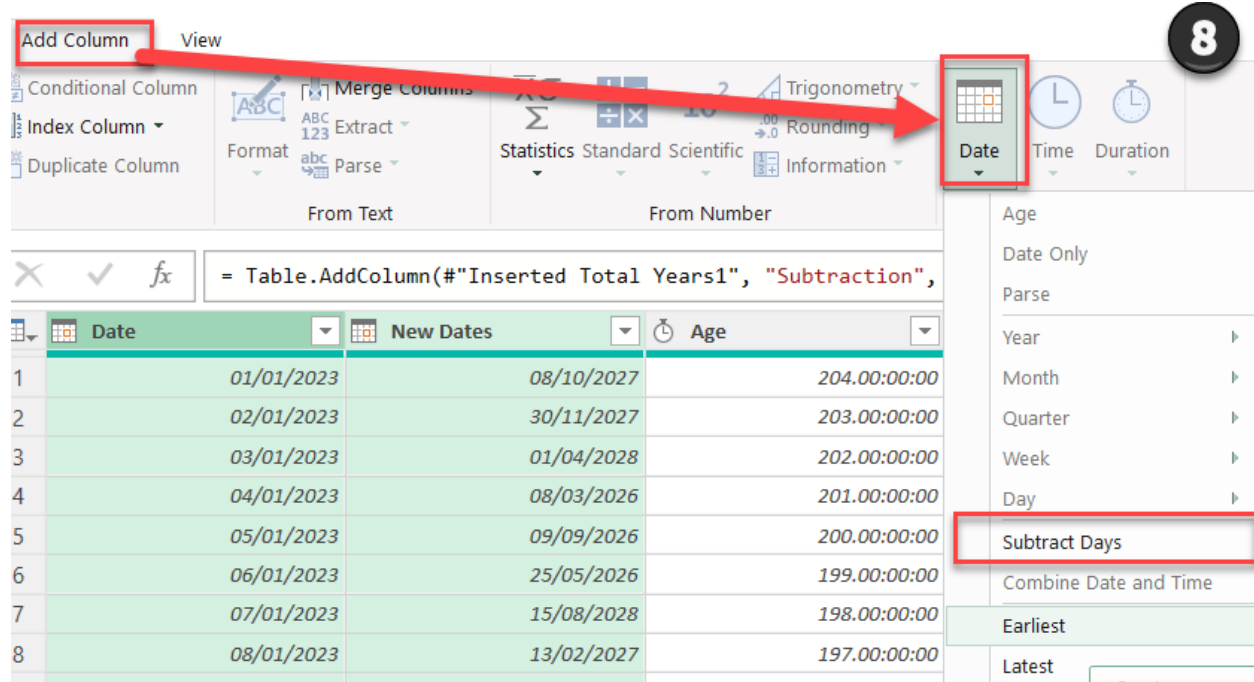
6. Resize the table to include the new column
7. Click on **Data | From Table Range** and reload into Power Query
8. Note you will probably have to change both columns to **Date** again (step 4)
9. If you are prompted, click on **Replace current**
10. To calculate the Age, click on the Date column.
11. Choose **Add Column | Date | Age**
12. You will get a new column that will look weird. This is because it will show the duration in days.
13. Click on this Age column and from the **Add Column** ribbon, choose **Duration**



14. Experiment with the different options you get.

Stretch Two – Calculating the difference between two dates

1. Highlight **New Dates** first, then highlight Date (note we do this because we want to start with our later dates which are in the New Dates column)
2. Click on **Add Column | Date | Subtract Days**
3. This will give us the value in days between the two dates



The screenshot shows the Power Query Editor interface. The 'Add Column' tab is selected, and the 'Date' dropdown menu is open. The 'Subtract Days' option is highlighted. A red arrow points from the 'Add Column' button to the 'Date' dropdown. A red box highlights the 'Subtract Days' option. A black circle with the number 8 is in the top right corner.

	Date	New Dates	Age
1	01/01/2023	08/10/2027	204.00:00:00
2	02/01/2023	30/11/2027	203.00:00:00
3	03/01/2023	01/04/2028	202.00:00:00
4	04/01/2023	08/03/2026	201.00:00:00
5	05/01/2023	09/09/2026	200.00:00:00
6	06/01/2023	25/05/2026	199.00:00:00
7	07/01/2023	15/08/2028	198.00:00:00
8	08/01/2023	13/02/2027	197.00:00:00

Exercise Four – Unpivoting columns

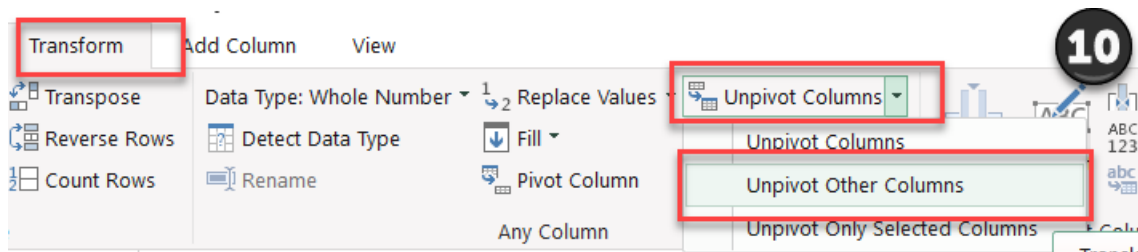
We often get our data in a pivoted format e.g. headings on left and dates across from left to right

Column	01/01/2019	02/01/2019	03/01/2019	04/01/2019	05/01/2019	06/01/2019	07/01/2019	08/01/2019	09/01/2019	10/01/2019	11/01/2019	12/01/2019	13/01/2019	14/01/2019	15/01/2019	16/01/2019	17/01/2019	18/01/2019	19/01/2019	20/01/2019	21/01/2019
Apples	25	90	4	63	92	91	80	21	27	48	1	82	88	64	22	54	2	42	88	37	83
Oranges	18	90	31	91	38	100	14	27	78	11	62	89	49	45	0	72	73	87	50	83	90
Bananas	77	4	97	74	88	75	39	20	53	84	17	51	97	24	81	80	49	47	27	46	7

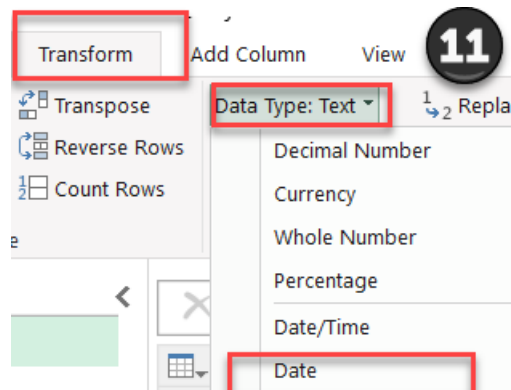
However, if we need to analyse this in a different way, we often need to unpivot it. i.e. get the heading, date and amount on one row.

The easiest way to do this is in Power Query with Unpivot.

1. Open the file called **Unpivot_Columnns**.
2. Navigate to the sheet called **Unpivot Columns**
3. Note that this table has already been renamed to *UnpivotOne*
4. Click anywhere in the data and choose *Data | From Table/Range*
5. This loads it into Power Query
6. Rename *Column 1* to *Fruit*
7. Make sure you have selected the new *Fruit* column.
8. Click on **Transform | Unpivot columns | Unpivot Other Columns**



9. Rename the new **Attribute** column to Date
10. Highlight it and make sure it has the data type Date (otherwise it will not function as a date if you need to run a pivot from it)



11. Rename the *Value* column to *Amount*.
12. Then click on **Home | Close and Load | Close and Load to Table**
13. This brings it back into Excel – where it can be manipulated in any way you wish.

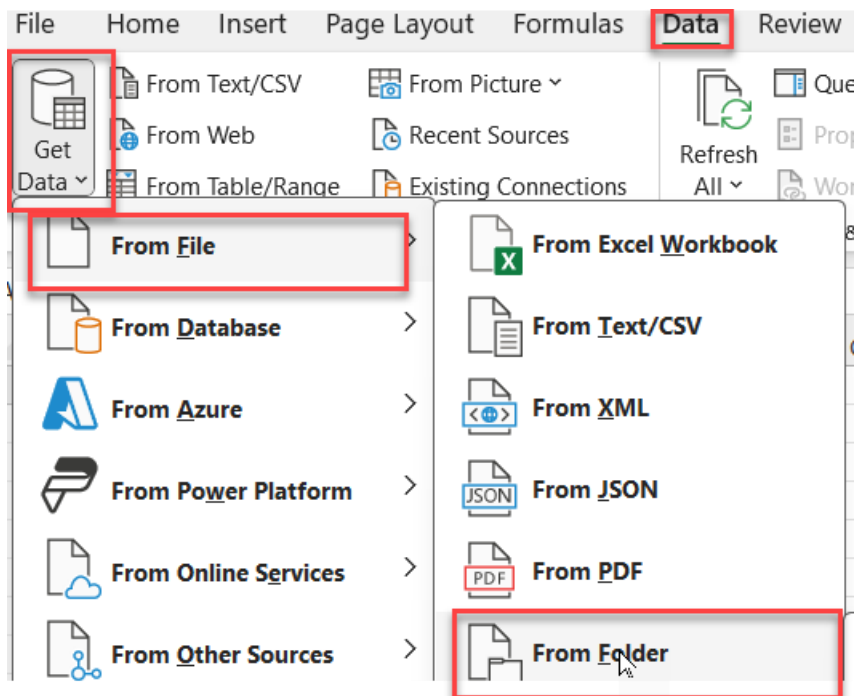
Stretch – Unpivot the data in the Actuals sheet

1. Load the table into Power Query
2. Note you will need to do a fill down on Costs, remove rows that start with Total and then do an unpivot

Exercise Four – combining data in a folder.

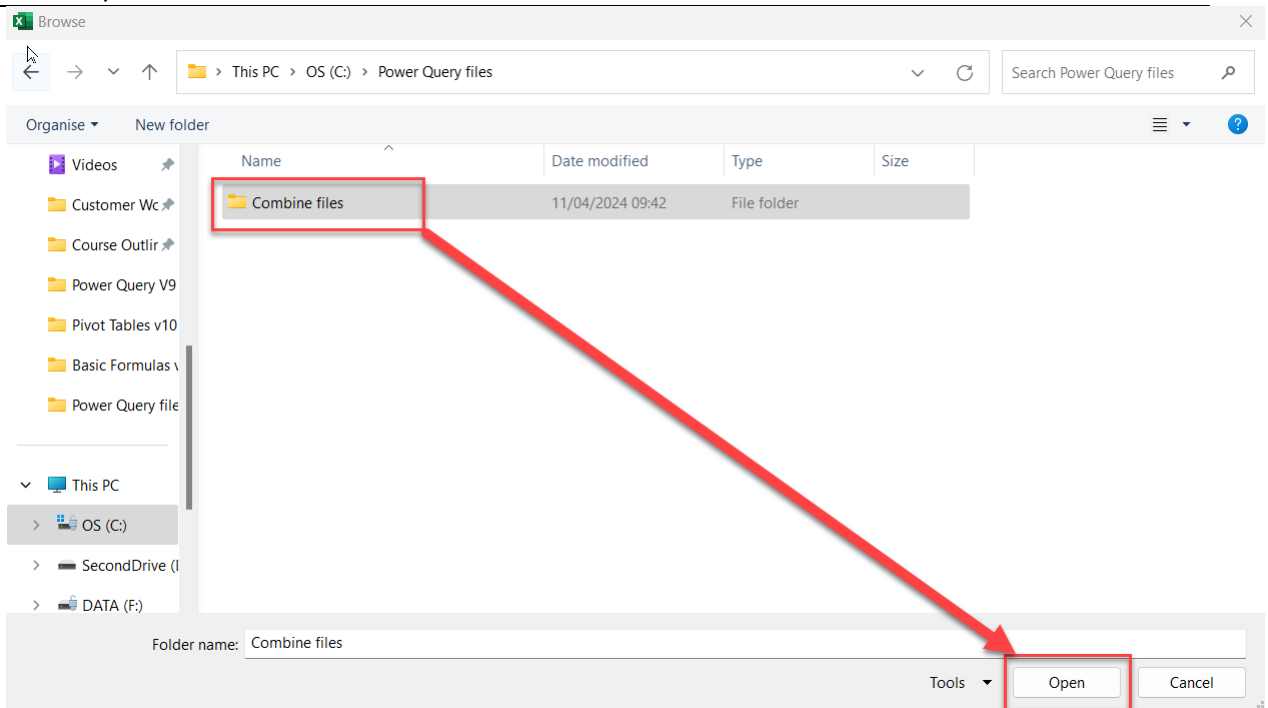
In this exercise we are going to combine the data from two files in a folder, create a pivot table and then update our pivot table after we add a new file.

1. Open a new blank file in Excel
2. Navigate to **Data | Get Data | From File | From Folder**

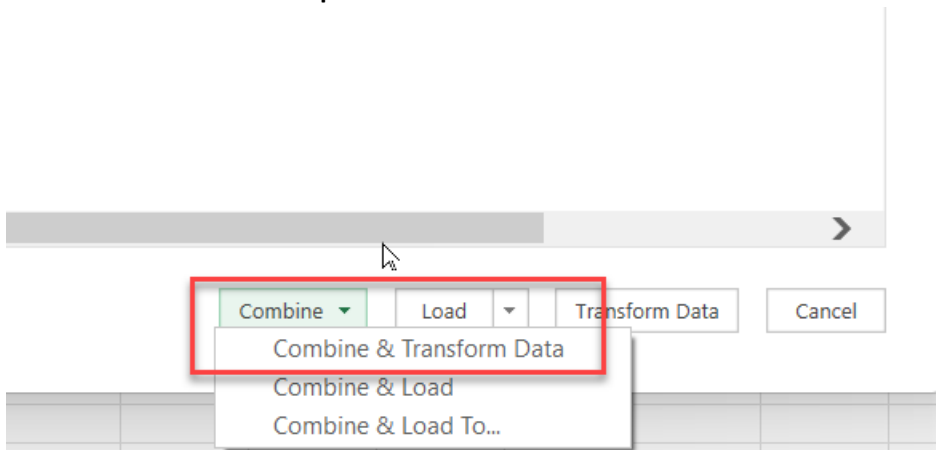


3. Navigate to the folder called **Combine Files**
4. Click on the folder and click on **Open**

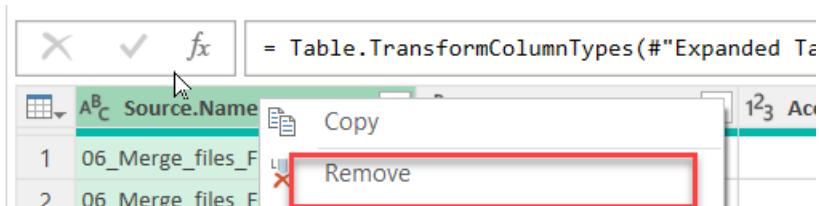
Power Query Exercises



5. Click on **Combine** | **Combine and Transform Data**

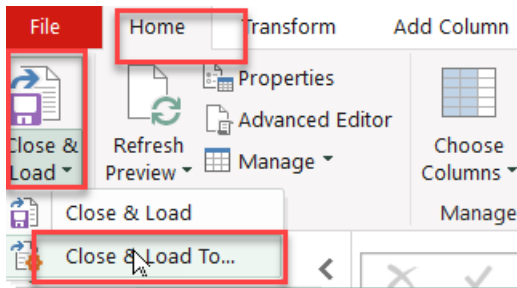


6. You will see a sample of the data
7. Click OK
8. This will load both files into Power Query
9. Check the Source.Name column and it should reference a January and February file only
10. Remove the column **Source.Name**
11. Right click on the heading and choose **Remove**

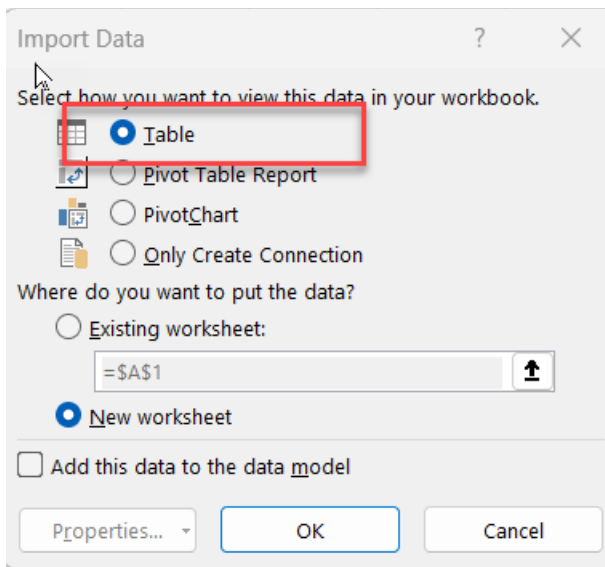


12. Check the Month to see that it references January and February.

13. Then click **Home | Close and Load | Close and Load To**



14. Choose Table and click OK



15. You should now see the data combined.

16. Save this file as January and February

17. Close the file.

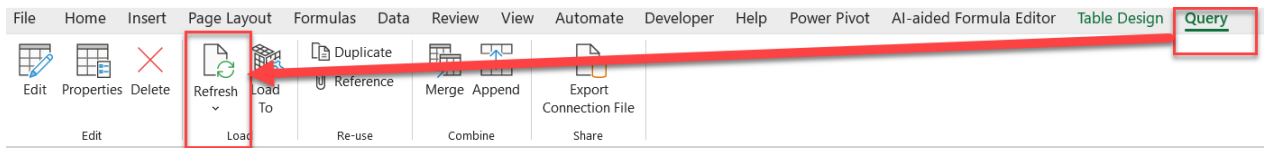
18. Copy and paste Merge April into the Combine Files folder.

19. Navigate back to January and February file.

20. Open the file.

21. Click in the Combine Files table.

22. Click on **Query | Refresh**



23. Check the filter for Month and you will see that April is now there.

Contact

If you wish to get in contact with me..

- Email me at anne@the-excel-lady.com
- Sign up for my newsletter at www.the-excel-lady.com
- Or link with me on LinkedIn
- <https://www.linkedin.com/in/theexcellady/>