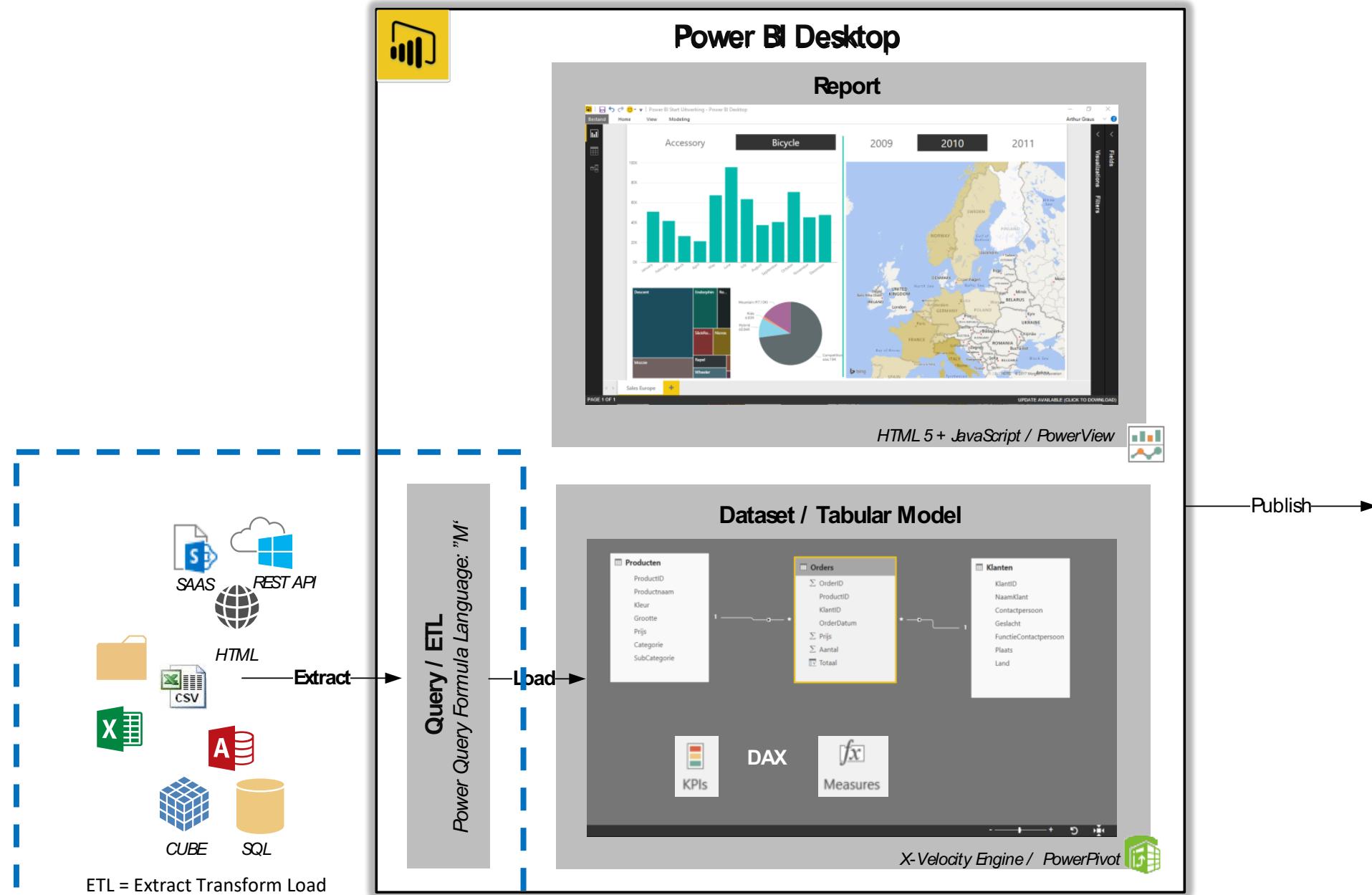
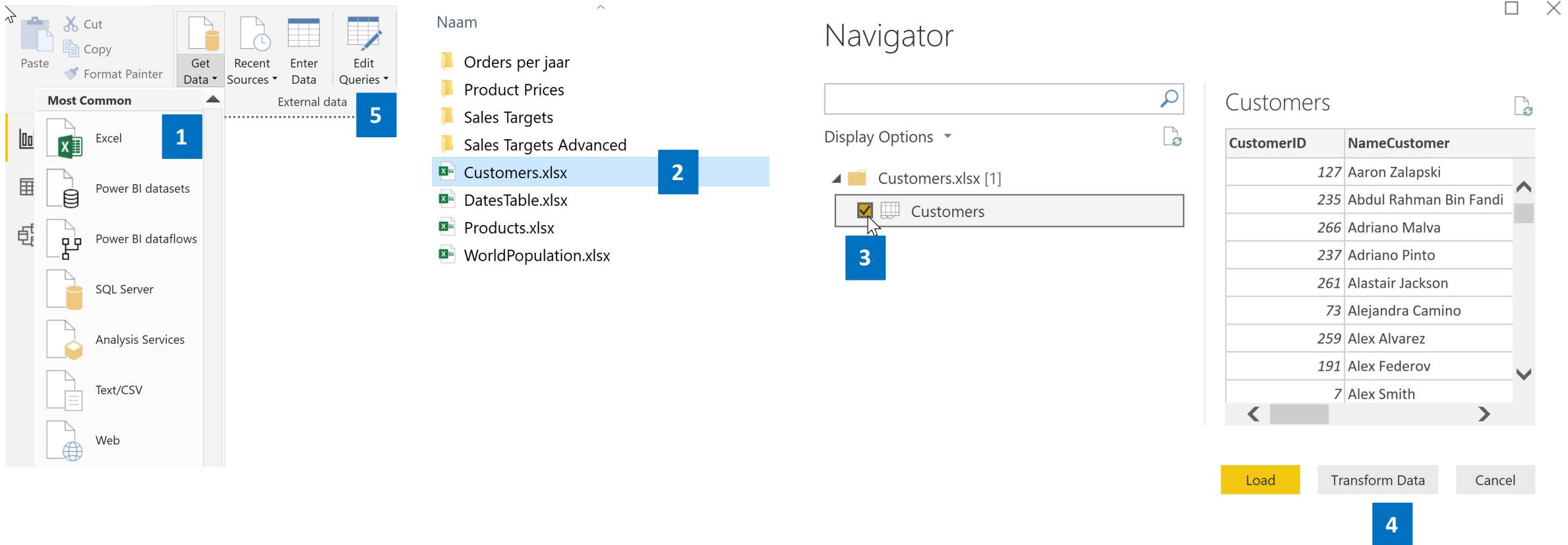


# ETL – Power Query

# Power Query



# Power Query Import Excel Sheet: Step by step



1. Click on Get Data and select Excel
2. Browse for Excel sheet and double click the file to load
3. Select checkbox for Worksheet to import
4. Click on Transform Data to change the Power Query Script
5. To change the Query after import click "Edit Queries"

3

# Power Query: Editor

Run | Exercise 02 - Reports - Solution - Power Query Editor

Bestand Home Transform Add Column View Help

Close & Apply New Source Recent Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Advanced Editor

New Query Data Sources Parameters Queries [3] M Code: = Table.RenameColumns(#"Replaced Value",{{"NameCustomer", "Customer"}})

CustomerID Customer Gender BirthDate

	CustomerID	Customer	Gender	BirthDate
1	127	Aaron Zalapski	Male	2-1-1955
2	235	Abdul Rahman Bin Fandi	Male	26-2-1955
3	266	Adriano Malva	Male	22-4-1955
4	237	Adriano Pinto	Male	16-6-1955
5	261	Alastair Jackson	Male	10-8-1955
6	73	Alejandra Camino	Female	4-10-1955
7	259	Alex Alvarez	Female	28-11-1955
8	191	Alex Federov	Male	22-1-1956
9	7	Alex Smith	Male	17-3-1956
10	40	Alexa Quartermaine	Miss	11-5-1956
11	4	Alexander Mast	Male	5-7-1956
12	9	Alexandra Burris	Mrs.	29-8-1956
13	238	Americo Machado	Male	23-10-1956
14	257	Ana Maria Fernandez	Female	17-12-1956
15	240	André da Silva	Male	10-2-1957
16	241	André Fontes		6-4-1957

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

Query Settings

PROPERTIES Name: Customers All Properties

APPLIED STEPS Source Navigation Promoted Headers Changed Type Renamed Columns Replaced Value1 Replaced Value Renamed Columns1

Script Steps

6 COLUMNS, 270 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED AT 12:45

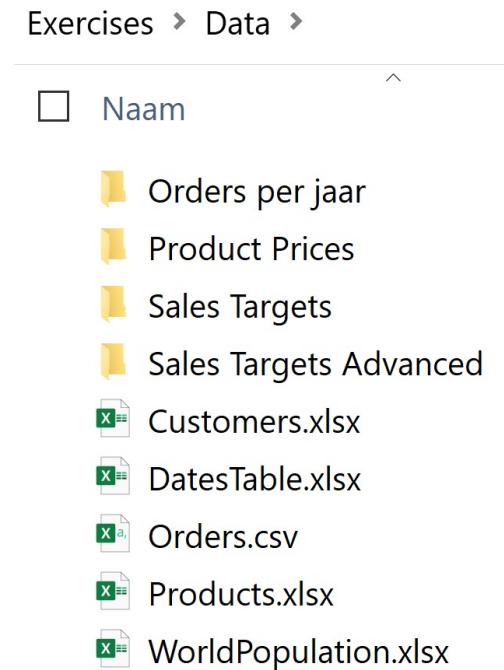
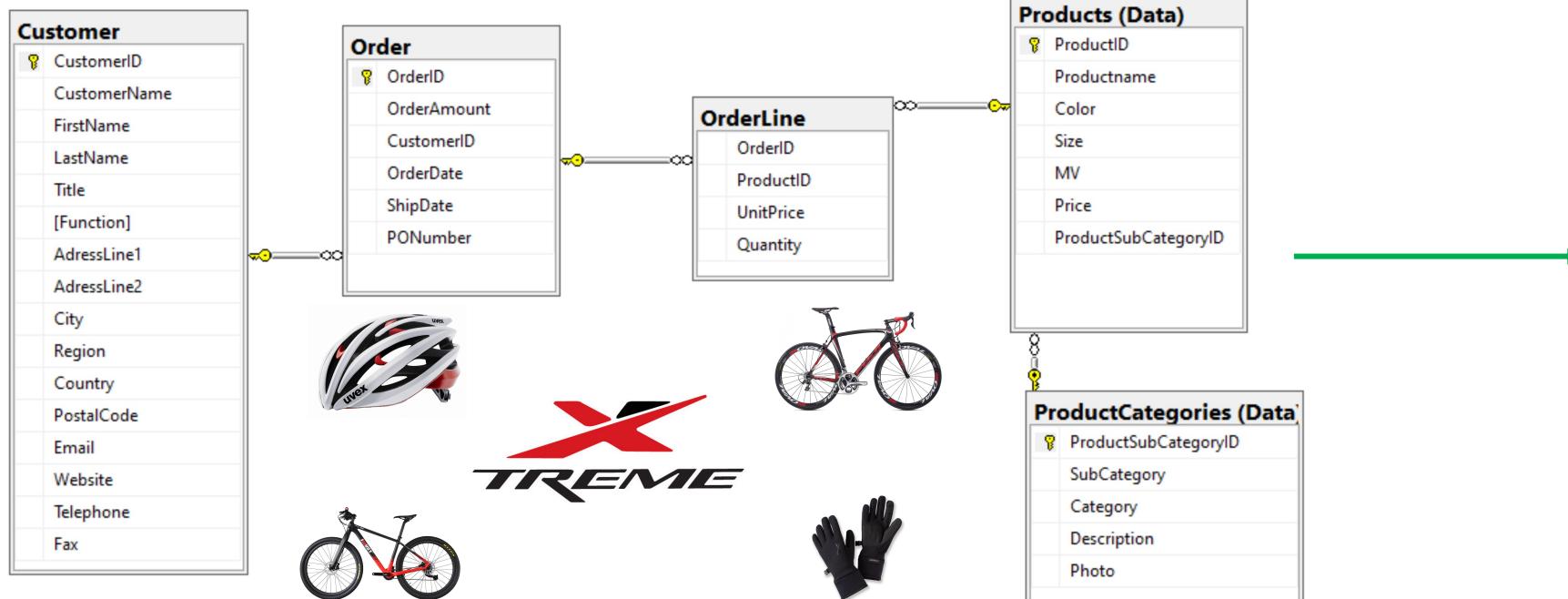
# Excercise 00 – Download files + install

- Create a folder: C:\TrainingPowerBI
- Extract ZIP file to folder: C:\TrainingPowerBI
- Open Power BI Report:  
C:\TrainingPowerBI\Exercises\Starter\Exercise 01 - Starter.pbix

no spaces, same  
capital letters

# Case: Xtreme Sales Report

- Xtreme is a fictitious company that sells bicycles and cycling accessories.
- The Sales team has asked us to create some Reports in Power BI for them to analyze the sales trends and compare the Revenue with their Sales Targets.
- As an input they gave us some Excel and CSV downloads from their Database. You can find these files in the Exercises\Data folder:



# Excercise 01A – Power Query – Import Customers.xlsx

- Import the Excel sheet:  
\Exercises\Data\Customers.xlsx
- Rename the columns and replace values to get this output:

	CustomerID	Customer	Gender	BirthDate	City	Country
1	127	Aaron Zalapski	Male	2-1-1955	Raleigh	United States
2	235	Abdul Rahman Bin Fandi	Male	8-3-1955	Singapore	Singapore
3	266	Adriano Malva	Male	12-5-1955	Lisbon	Portugal
4	237	Adriano Pinto	Male	16-7-1955	Rio Grande	Brazil
5	261	Alastair Jackson	Male	19-9-1955	Hamilton	New Zealand
6	73	Alejandra Camino	Female	23-11-1955	Madrid	Spain
7	259	Alex Alvarez	Female	27-1-1956	Ciudad de Mexico	Mexico
8	191	Alex Federov	Male	1-4-1956	Moscow	Russia
9	7	Alex Smith	Male	5-6-1956	Eden Prairie	United States
10	40	Alexa Quartermaine	Female	9-8-1956	Sterling Heights	United States
11	4	Alexander Mast	Male	13-10-1956	Huntsville	United States
12	9	Alexandra Burris	Female	17-12-1956	Madison	United States
13	238	Americo Machado	Male	20-2-1957	Minas Gerais	Brazil
14	257	Ana Maria Fernandez	Female	26-4-1957	Cancun	Mexico
15	240	André da Silva	Male	30-6-1957	São Paulo	Brazil
16	241	André Fontes	Male	3-9-1957	São Paulo	Brazil

# Data types

Data type	Samples	Description
1.2	<b>Decimal Number</b>	1,23456789112345 1.234.567.891,12345
%	<b>Percentage</b>	Range: -1,79E +308 through -2,23E -308 to 2,23E -308 through 1,79E + 308
\$	<b>Fixed Decimal / Currency</b>	Precision: 15 decimal digits. 12,3456789112345 %
1 <sup>2</sup> 3		64 bit integer value divided by 10.000 Range: -922.337.203.685.477,5808 to 922.337.203.685.477,5807
		Precision: 19 decimal digits with 4 decimal digits behind the comma.
Whole Number	123 1.234.567.890	64 bit integer value Range: -9.223.372.036.854.775.808 (-2^63) to 9.223.372.036.854.775.807 (2^63-1)
✗✓	<b>True / False</b>	Power Query: true, false DAX: True(), False()
ABC	<b>Text</b>	A Unicode character data string. Can be strings, numbers or dates represented in a text format. Maximum string length is 268.435.456 Unicode characters or 536.870.912 bytes.

# Excercise 01B1 – Power Query – Import Products.xlsx

- Import Excel sheet: \Exercises\Data\Products.xlsx

	123 ProductID	A <sup>B</sup> <sub>C</sub> Productname	A <sup>B</sup> <sub>C</sub> Color	A <sup>B</sup> <sub>C</sub> Size	1.2 Price	A <sup>B</sup> <sub>C</sub> ProductClass
48	303201	Nicros	red	20	329,85	Bicycle-Mountain
49	303202	Nicros	blue	20	329,85	Bicycle-Mountain
50	303221	Nicros	red	22	329,85	Bicycle-Mountain
51	303222	Nicros	blue	22	329,85	Bicycle-Mountain
52	401001	Mini Nicros	blue	24	281,85	Bicycle-Kids
53	401002	Mini Nicros	purple	24	281,85	Bicycle-Kids
54	402001	Micro Nicros	red	20	274,35	Bicycle-Kids
55	402002	Micro Nicros	purple	20	274,35	Bicycle-Kids
56	1101	Active Outdoors Crochet Glove	NULL	xsm	14,5	Accessory-Gloves

- Choose the correct Data Type for each column and split the ProductClass column in two columns Category + SubCategory.

	123 ProductID	A <sup>B</sup> <sub>C</sub> Productname	A <sup>B</sup> <sub>C</sub> Color	A <sup>B</sup> <sub>C</sub> Size	\$ Price	A <sup>B</sup> <sub>C</sub> Category	A <sup>B</sup> <sub>C</sub> SubCategory
48	303201	Nicros	red	20	329,85	Bicycle	Mountain
49	303202	Nicros	blue	20	329,85	Bicycle	Mountain
50	303221	Nicros	red	22	329,85	Bicycle	Mountain
51	303222	Nicros	blue	22	329,85	Bicycle	Mountain
52	401001	Mini Nicros	blue	24	281,85	Bicycle	Kids
53	401002	Mini Nicros	purple	24	281,85	Bicycle	Kids
54	402001	Micro Nicros	red	20	274,35	Bicycle	Kids
55	402002	Micro Nicros	purple	20	274,35	Bicycle	Kids
56	1101	Active Outdoors Crochet Glove	NULL	xsm	14,5	Accessory	Gloves
57	1102	Active Outdoors Crochet Glove	NULL	sm	14,5	Accessory	Gloves

# Excercise 01B2 – Power Query – Import Products.xlsx (Advanced)

- Duplicate the Size column in the Products query and change the Type to Decimal Number. Replace the Error values by null.

The screenshot shows the Power Query Editor interface with two tables side-by-side.

**Products Table:**

	ProductID	Productname	Color	SizeText
47	303182	Nicros	blue	18
48	303201	Nicros	red	20
49	303202	Nicros	blue	20
50	303221	Nicros	red	22
51	303222	Nicros	blue	22
52	401001	Mini Nicros	blue	24
53	401002	Mini Nicros	purple	24
54	402001	Micro Nicros	red	20
55	402002	Micro Nicros	purple	20
56	1101	Active Outdoors Crochet Glove	NULL	xsm
57	1102	Active Outdoors Crochet Glove	NULL	sm
58	1103	Active Outdoors Crochet Glove	NULL	med
59	1104	Active Outdoors Crochet Glove	NULL	lrg
60	1105	Active Outdoors Crochet Glove	NULL	xlrg
61	1106	Active Outdoors Lycra Glove	NULL	xxsm
62	1107	Active Outdoors Lycra Glove	NULL	xsm
63	1108	Active Outdoors Lycra Glove	NULL	sm

**SizeValue Table:**

SizeValue
18
20
20
22
22
22
24
24
24
20
20
null

# Excercise 01C – Power Query – Import Orders.csv

- Import CSV File: \Exercises\Data\Orders.csv
- Add extra column LineTotal ( [Price] \* [Quantity] ). Hint: Look in the "Add Column" ribbon
- Choose the correct Data Type for each column!
- Errors in the OrderDate column? Change the Import Locale to English - USA: File - Options and settings - Options - Current File - Regional Settings. Refresh preview!

OrderID	ProductID	CustomerID	OrderDate	Price	Quantity	LineTotal
1	2201	1	2-12-2017	41,905	1	41,905
1002	5205	41	2-12-2017	33,9	3	101,7
1002	102181	41	2-12-2017	1652,86	3	4958,58
1003	2213	77	2-12-2017	48,51	3	145,53
1003	5402	77	2-12-2017	13,78	3	41,34
1004	402002	18	2-12-2017	274,35	3	823,05
1005	1101	64	3-12-2017	14,5	2	29
1006	1107	7	3-12-2017	16,5	1	16,5
1006	5208	7	3-12-2017	33,9	1	33,9
1006	5402	7	3-12-2017	14,5	1	14,5
1007	1109	32	3-12-2017	16,5	3	49,5
1008	301161	11	3-12-2017	726,61	2	1453,22
1008	302201	11	3-12-2017	431,87	1	431,87
1008	303201	11	3-12-2017	329,85	1	329,85
1009	1101	25	3-12-2017	14,5	2	29