Beginner to Pro in Excel: Financial Modeling and Valuation

365 Careers

365 Careers

II. Excel’s functions

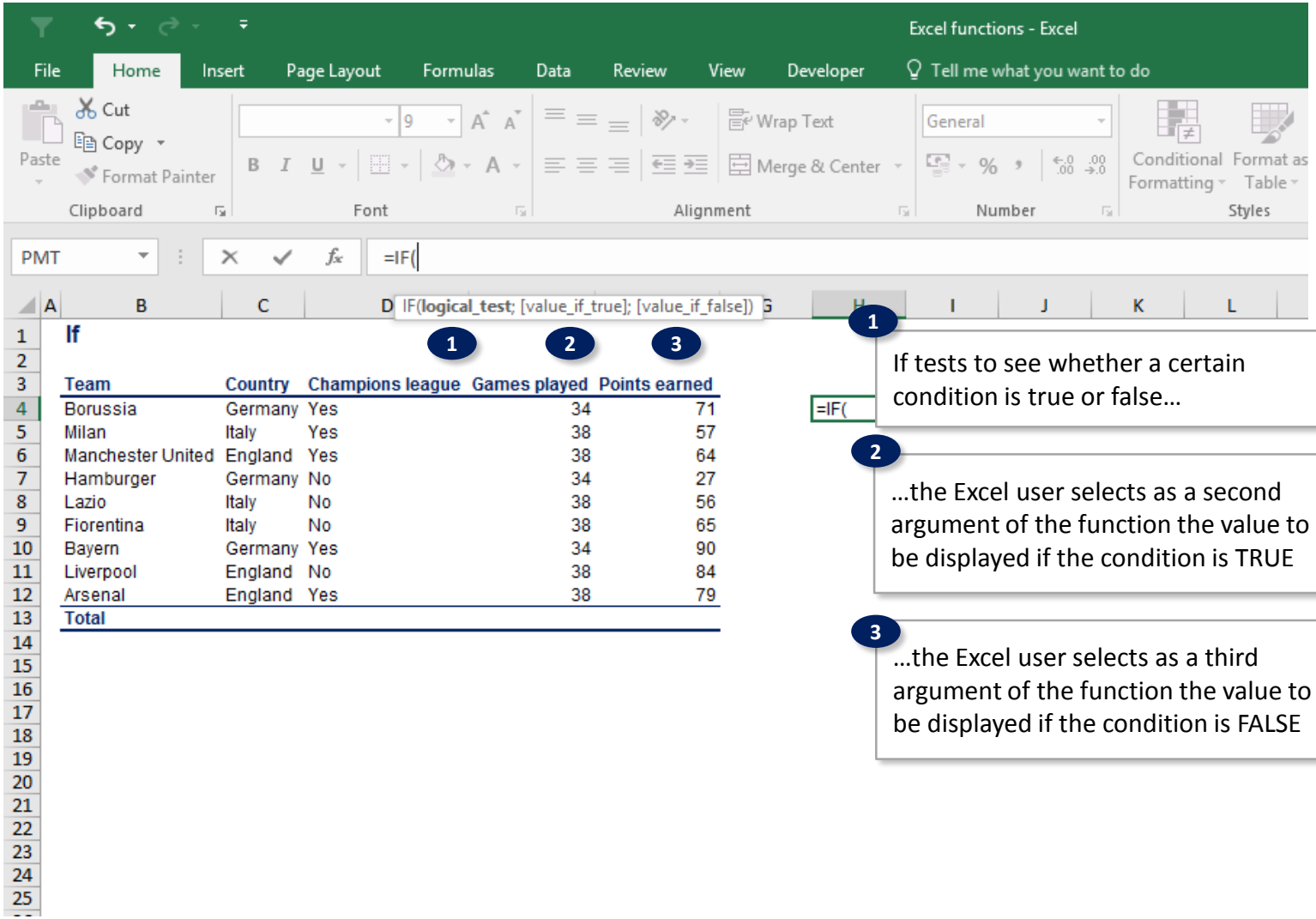
Index

365 Careers

365 Careers

If

IF

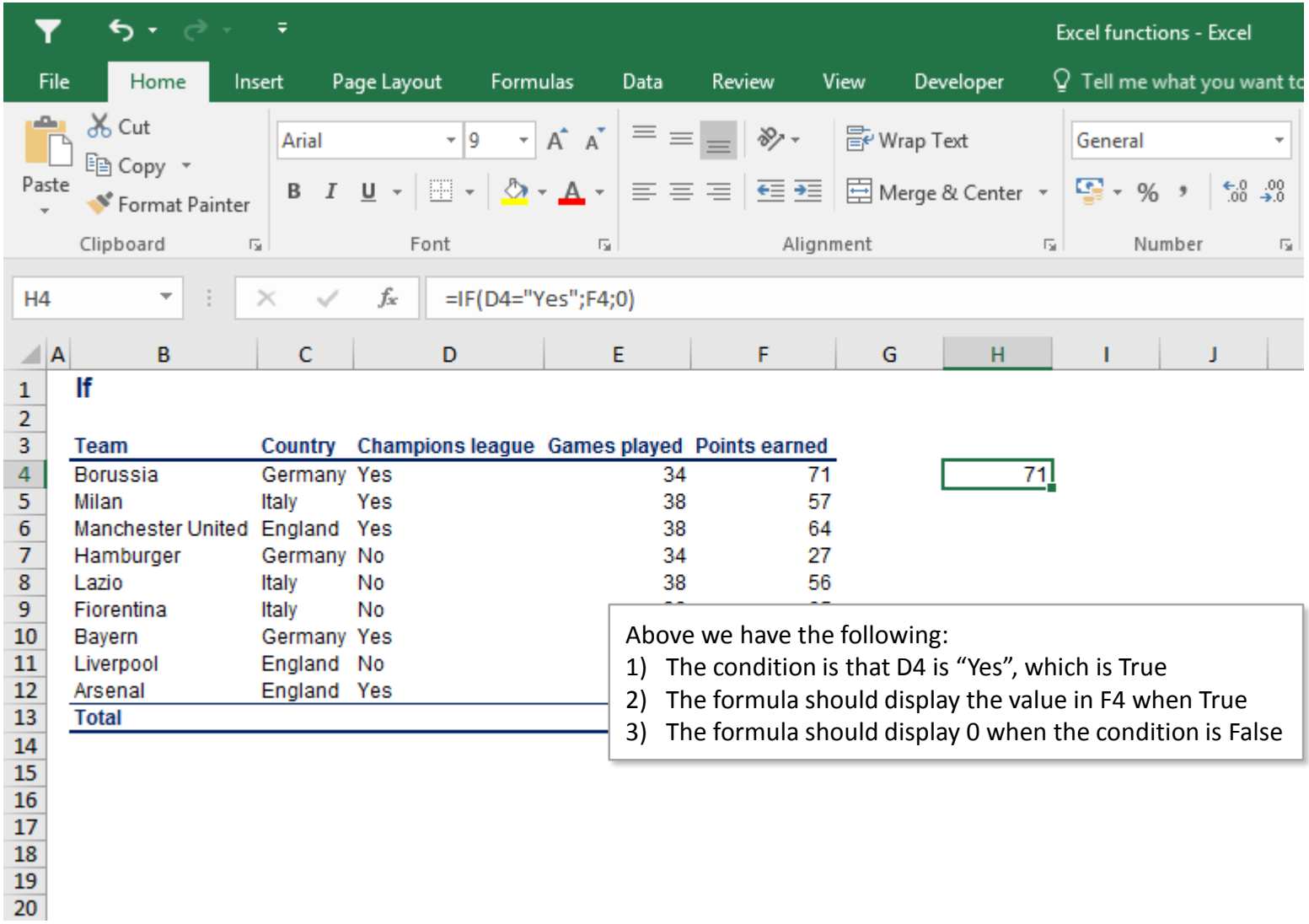


1. If tests to see whether a certain condition is true or false…

2. …the Excel user selects as a second argument of the function the value to be displayed if the condition is TRUE

3. …the Excel user selects as a third argument of the function the value to be displayed if the condition is FALSE

IF

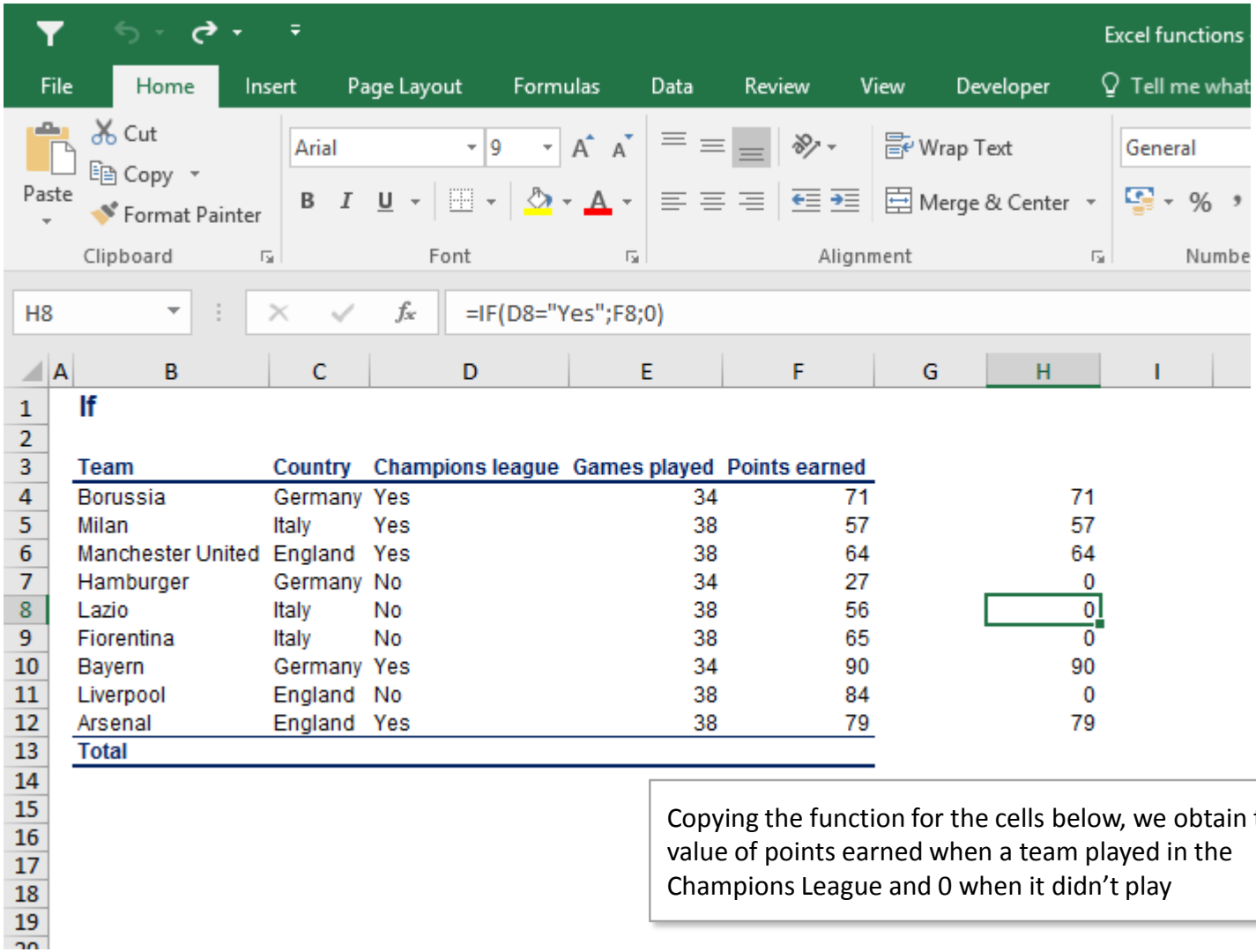


Above we have the following:

1) The condition is that D4 is “Yes”, which is True
2) The formula should display the value in F4 when True
3) The formula should display 0 when the condition is False

IF

365 Careers



If

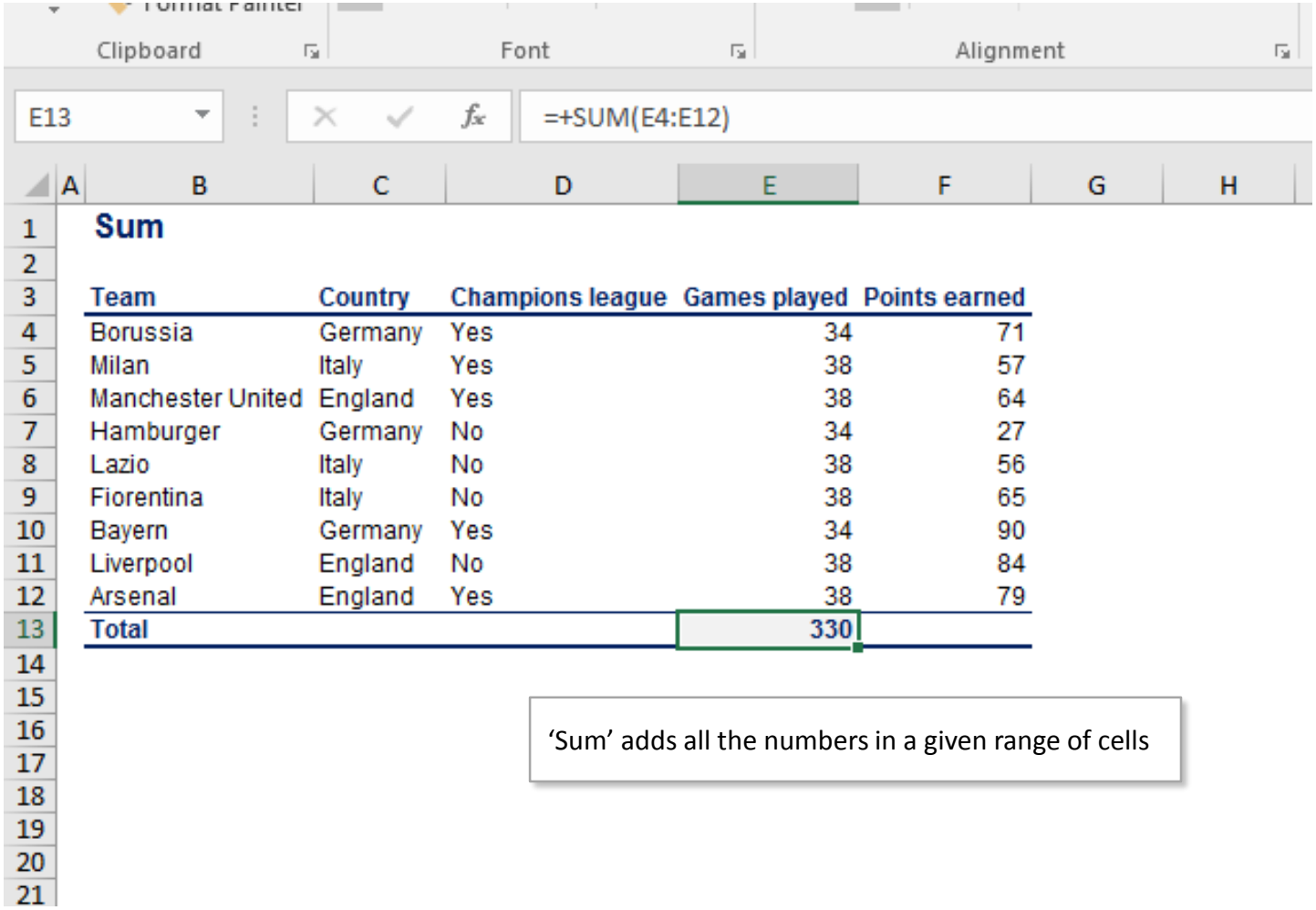
	Team	Country	Champions league	Games played	Points earned	
4	Borussia	Germany	Yes	34	71	71
5	Milan	Italy	Yes	38	57	57
6	Manchester United	England	Yes	38	64	64
7	Hamburger	Germany	No	34	27	0
8	Lazio	Italy	No	38	56	0
9	Fiorentina	Italy	No	38	65	0
10	Bayern	Germany	Yes	34	90	90
11	Liverpool	England	No	38	84	0
12	Arsenal	England	Yes	38	79	79
13	Total					

Copying the function for the cells below, we obtain the value of points earned when a team played in the Champions League and 0 when it didn't play

365 Careers

SUM Functions: Sum, Sumif & Sumifs

SUM

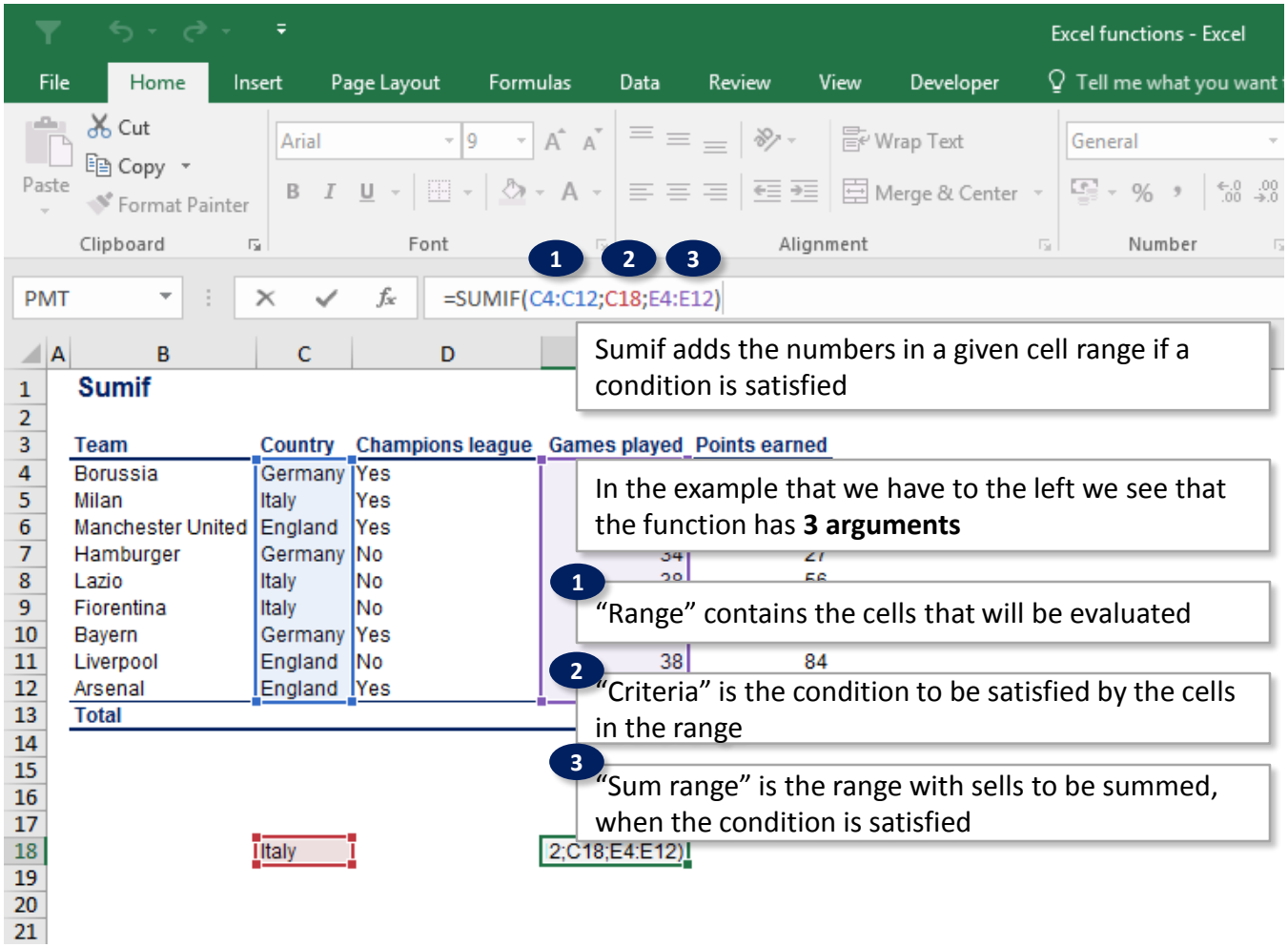


Sum

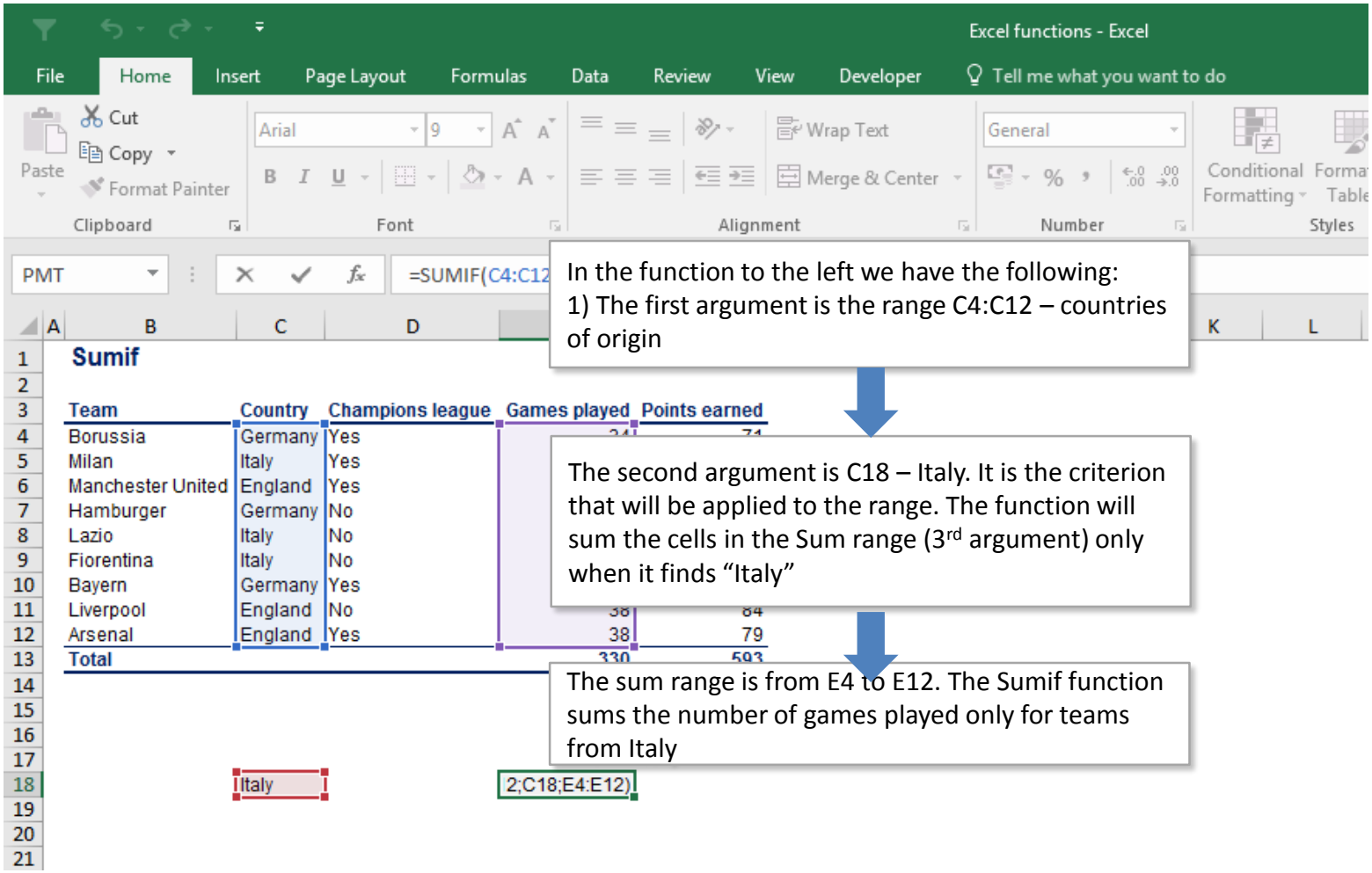
Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79
Total			**330**	

'Sum' adds all the numbers in a given range of cells

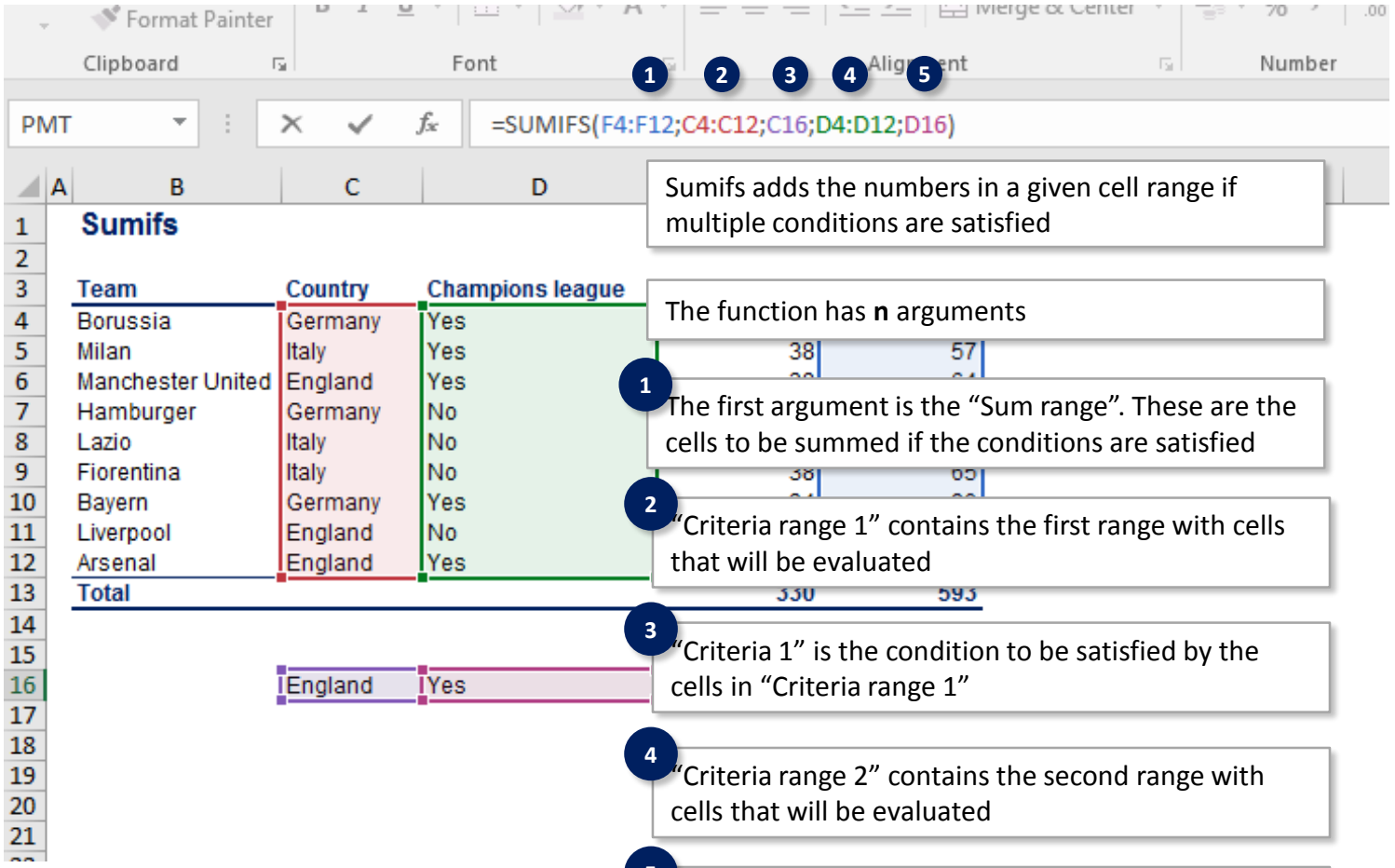
SUMIF


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
PMT
=SUMIF(C4:C12;C18;E4:E12)
1
2
3
Sumif
Team
Country
Champions league
Games played
Points earned
Borussia
Germany
Yes
Milan
Italy
Yes
Manchester United
England
Yes
Hamburger
Germany
No
Lazio
Italy
No
Fiorentina
Italy
No
Bayern
Germany
Yes
Liverpool
England
No
Arsenal
England
Yes
Total
38
84
Italy
2;C18;E4:E12)
Sumif adds the numbers in a given cell range if a condition is satisfied
In the example that we have to the left we see that the function has 3 arguments
1
"Range" contains the cells that will be evaluated
2
"Criteria" is the condition to be satisfied by the cells in the range
3
"Sum range" is the range with sells to be summed, when the condition is satisfied

SUMIF


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Styles
PMT
=SUMIF(C4:C12
Sumif
Team
Country
Champions league
Games played
Points earned
Borussia
Germany
Yes
Milan
Italy
Yes
Manchester United
England
Yes
Hamburger
Germany
No
Lazio
Italy
No
Fiorentina
Italy
No
Bayern
Germany
Yes
Liverpool
England
No
Arsenal
England
Yes
38
79
Total
330
593
Italy
2;C18;E4:E12)
In the function to the left we have the following:
1) The first argument is the range C4:C12 – countries of origin
The second argument is C18 – Italy. It is the criterion that will be applied to the range. The function will sum the cells in the Sum range (3rd argument) only when it finds "Italy"
The sum range is from E4 to E12. The Sumif function sums the number of games played only for teams from Italy

SUMIFS



Sumifs adds the numbers in a given cell range if multiple conditions are satisfied

The function has **n** arguments

1 The first argument is the “Sum range”. These are the cells to be summed if the conditions are satisfied

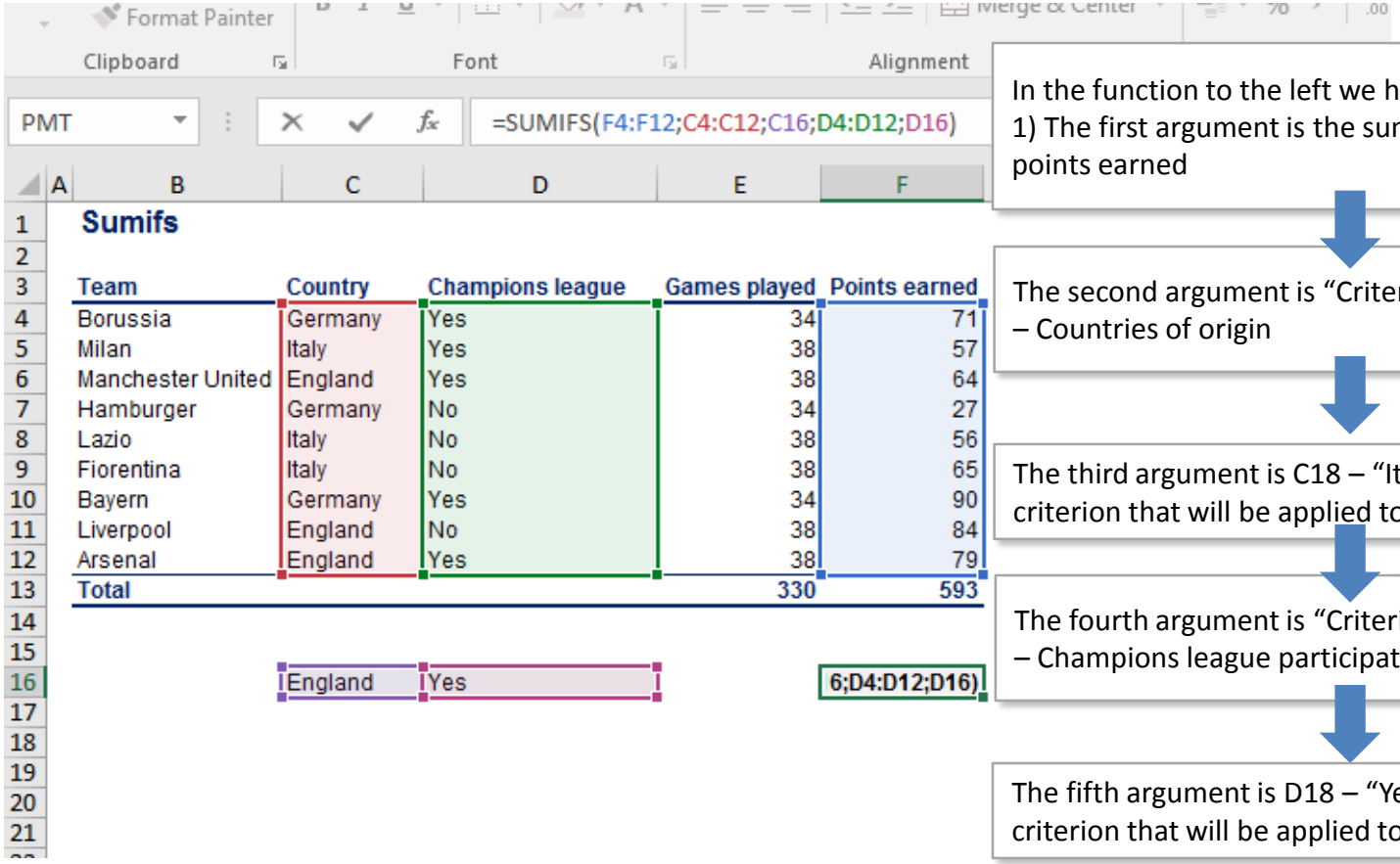
2 “Criteria range 1” contains the first range with cells that will be evaluated

3 “Criteria 1” is the condition to be satisfied by the cells in “Criteria range 1”

4 “Criteria range 2” contains the second range with cells that will be evaluated

5 “Criteria 2” is the condition to be satisfied by the cells in “Criteria range 2”

SUMIFS



In the function to the left we have the following:
1) The first argument is the sum range F4:F12 – points earned

The second argument is “Criteria range 1” C4:C12 – Countries of origin

The third argument is C18 – “Italy”. It is the criterion that will be applied to the first range

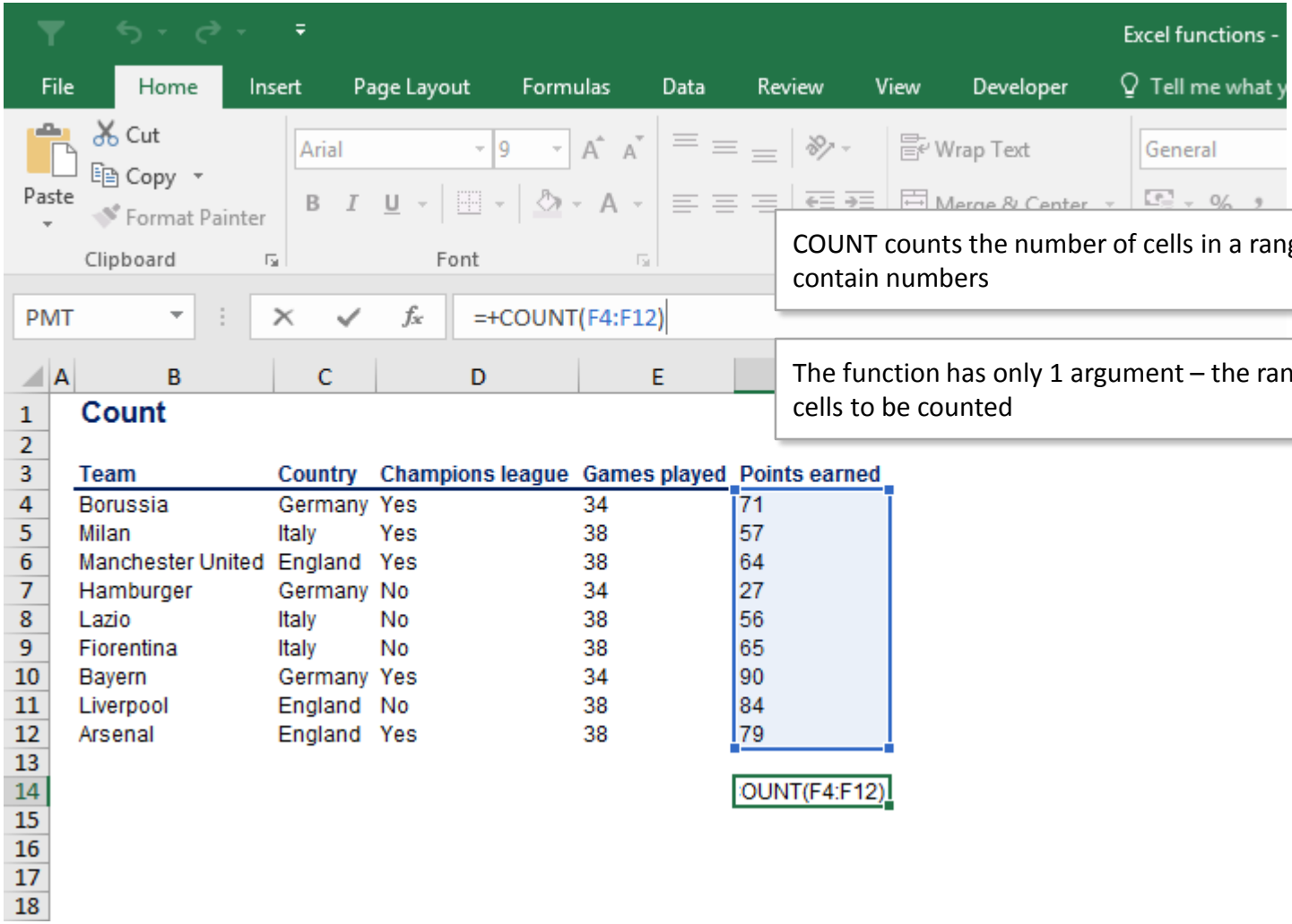
The fourth argument is “Criteria range 2” D4:D12 – Champions league participation

The fifth argument is D18 – “Yes”. It is the criterion that will be applied to the second range

365 Careers

COUNT Functions: Count, Counta, Countif, Countifs

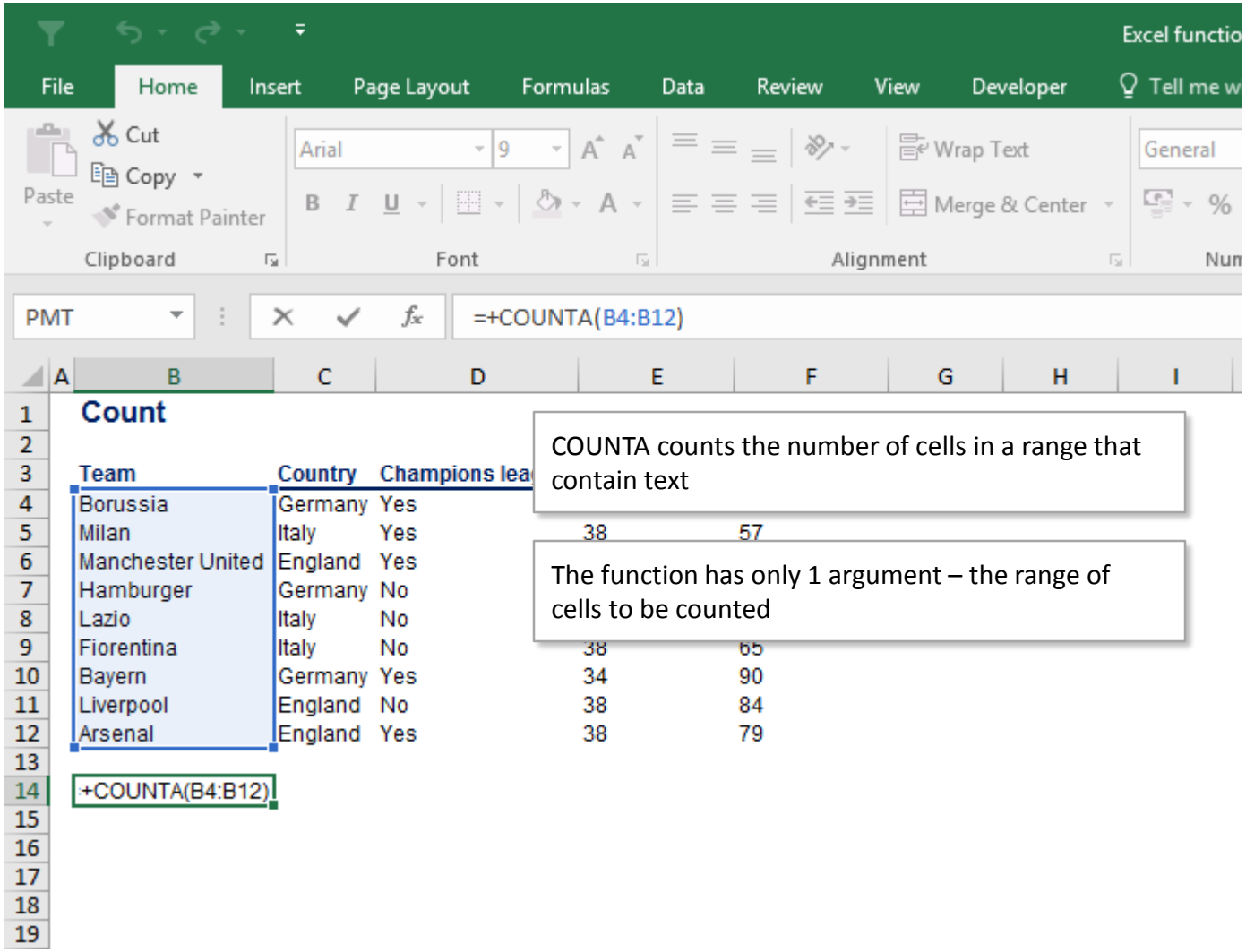
COUNT



COUNT counts the number of cells in a range that contain numbers

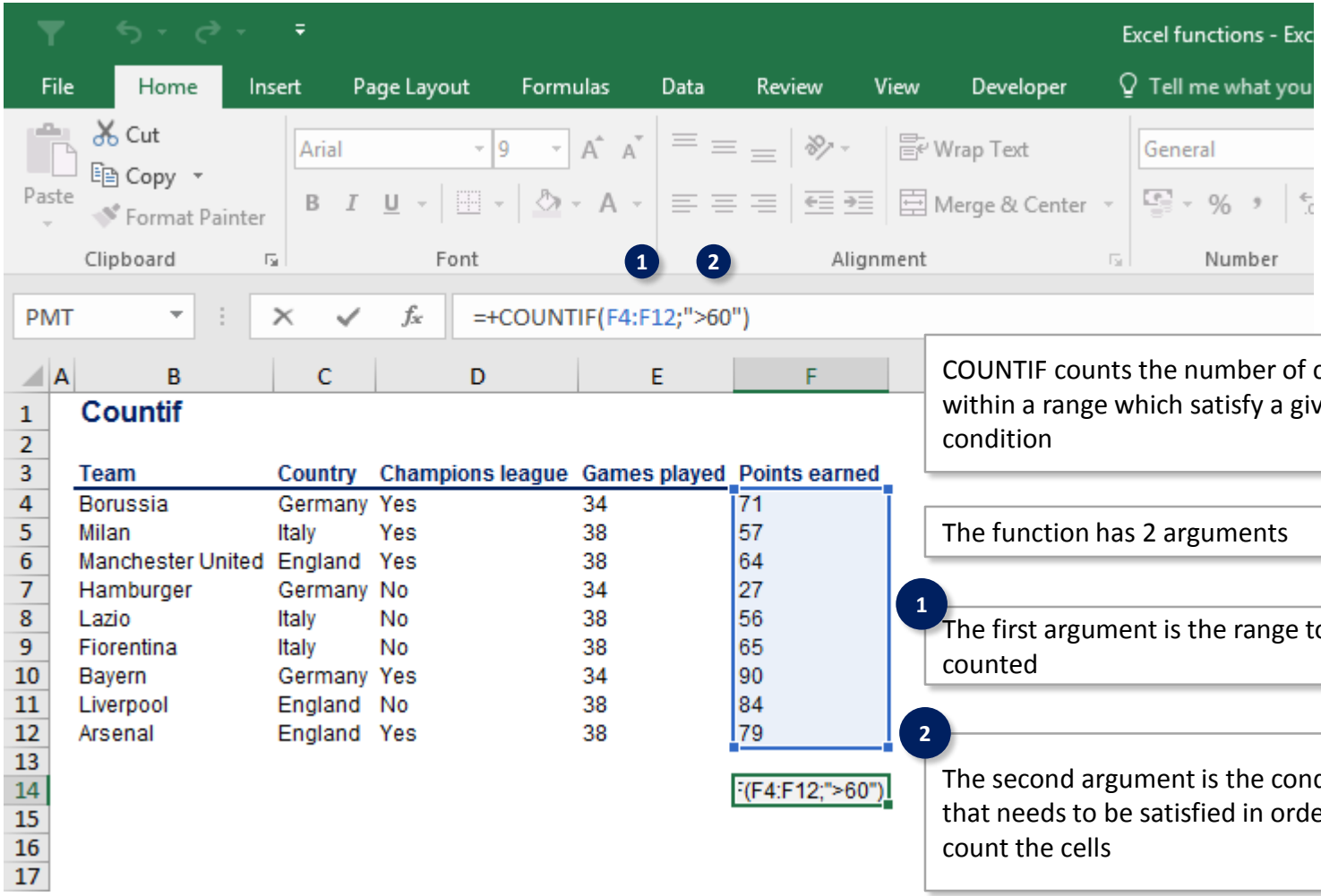
The function has only 1 argument – the range of cells to be counted

COUNTA


Excel functio
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me w
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Num
PMT
=+COUNTA(B4:B12)
Count
Team
Country
Champions lea
Borussia
Germany
Yes
Milan
Italy
Yes
38
57
Manchester United
England
Yes
Hamburger
Germany
No
Lazio
Italy
No
Fiorentina
Italy
No
38
65
Bayern
Germany
Yes
34
90
Liverpool
England
No
38
84
Arsenal
England
Yes
38
79
+COUNTA(B4:B12)
COUNTA counts the number of cells in a range that contain text
The function has only 1 argument – the range of cells to be counted

COUNTIF

365 Careers



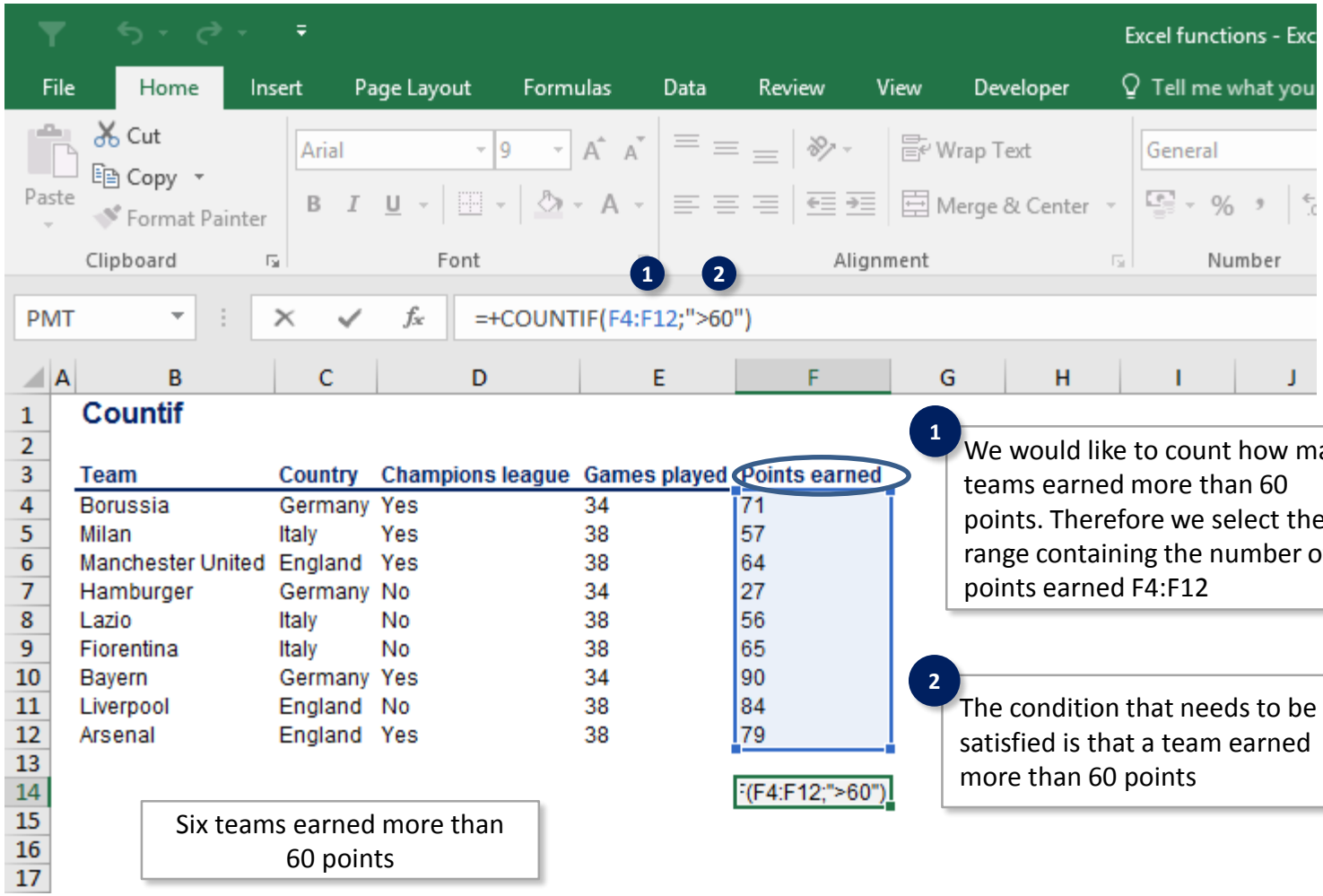
COUNTIF counts the number of cells within a range which satisfy a given condition

The function has 2 arguments

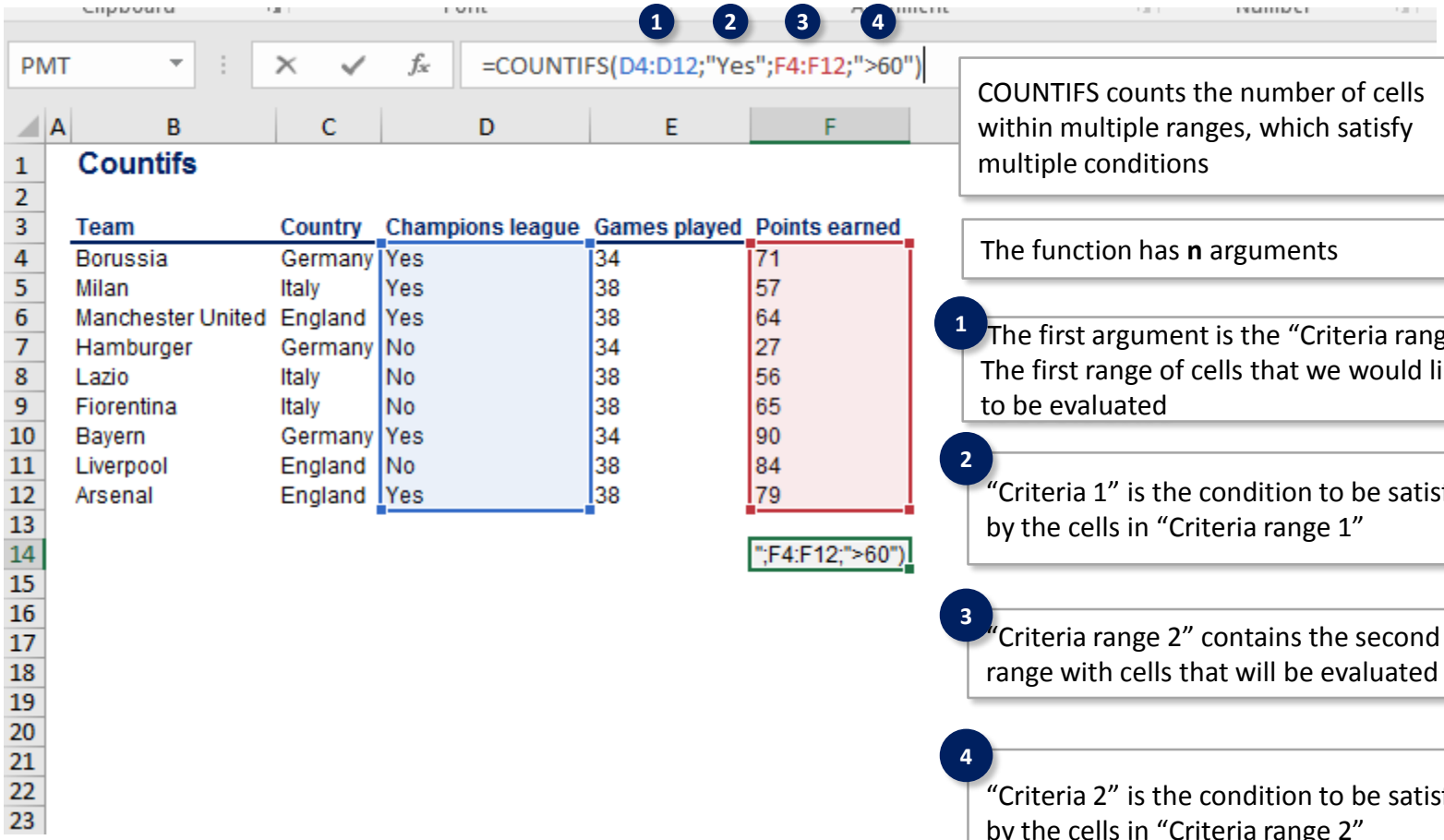
1 The first argument is the range to be counted

2 The second argument is the condition that needs to be satisfied in order to count the cells

COUNTIF


Excel functions - Exc
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
1
2
PMT
=+COUNTIF(F4:F12;">60")
Countif
Team
Country
Champions league
Games played
Points earned
Borussia Germany Yes 34 71
Milan Italy Yes 38 57
Manchester United England Yes 38 64
Hamburger Germany No 34 27
Lazio Italy No 38 56
Fiorentina Italy No 38 65
Bayern Germany Yes 34 90
Liverpool England No 38 84
Arsenal England Yes 38 79
=(F4:F12;">60")
Six teams earned more than 60 points
1
We would like to count how many teams earned more than 60 points. Therefore we select the range containing the number of points earned F4:F12
2
The condition that needs to be satisfied is that a team earned more than 60 points

COUNTIFS



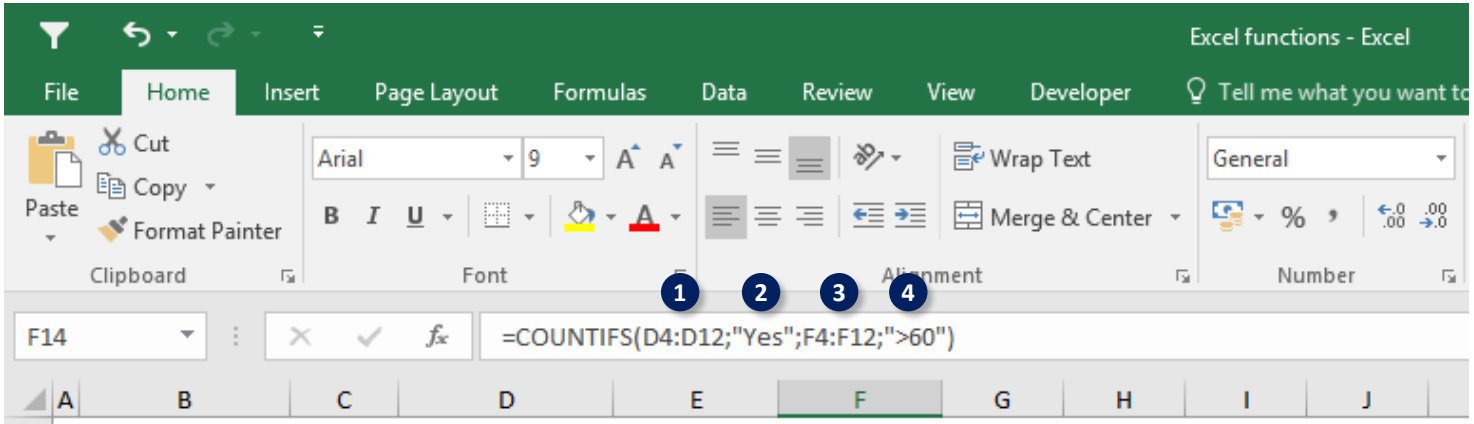
COUNTIFS counts the number of cells within multiple ranges, which satisfy multiple conditions

The function has **n** arguments

1. The first argument is the "Criteria range 1". The first range of cells that we would like to be evaluated
2. "Criteria 1" is the condition to be satisfied by the cells in "Criteria range 1"
3. "Criteria range 2" contains the second range with cells that will be evaluated
4. "Criteria 2" is the condition to be satisfied by the cells in "Criteria range 2"

COUNTIFS

365 Careers



Countifs

Team	Country	Champions league	Games played	Points
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

We would like to count the teams that satisfy two conditions:

1) Participated in the Champions league (“Yes”)
2) Earned more than 60 Points

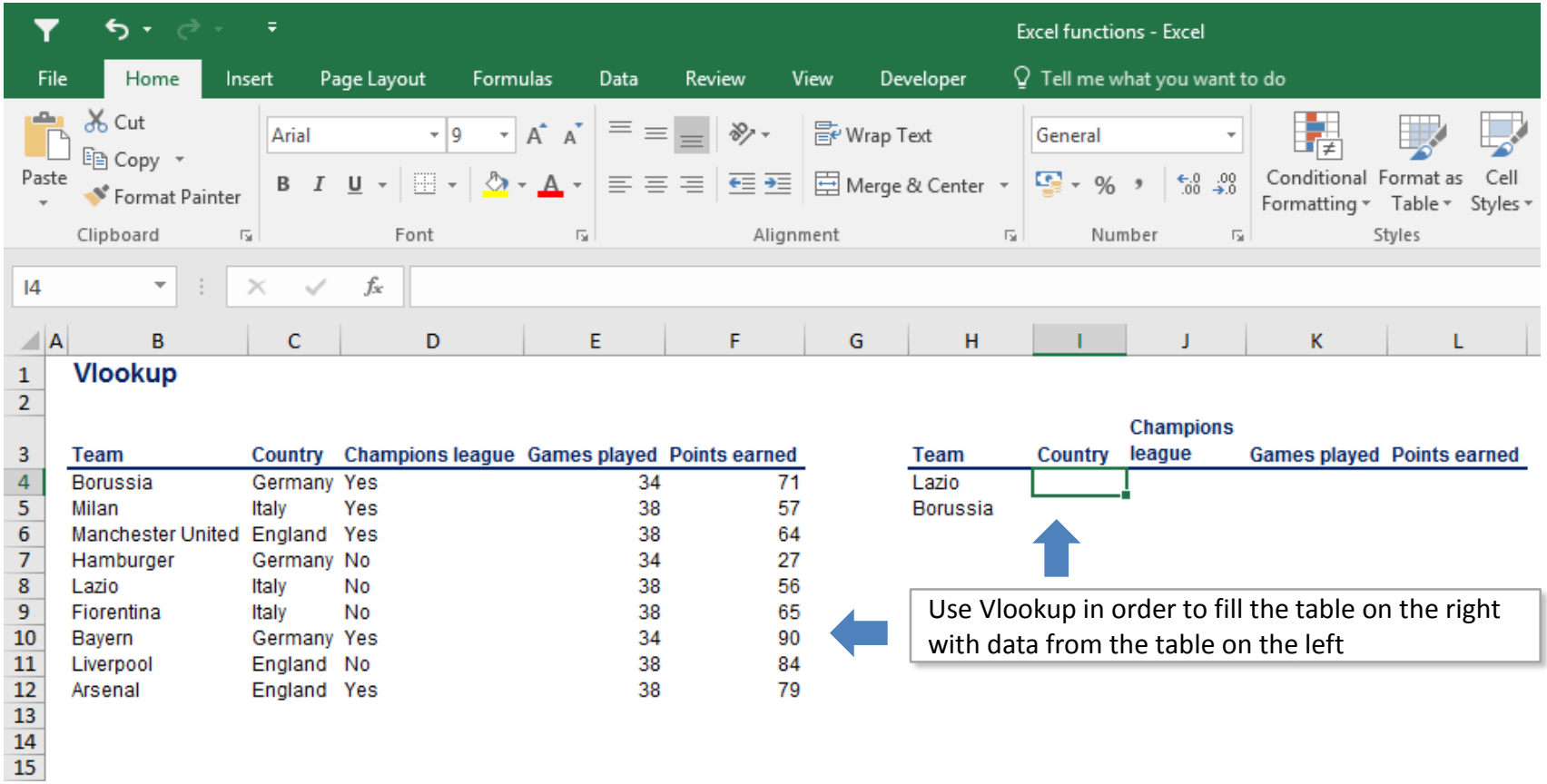
1. The first argument is the range indicating whether a team played in the Champions league (“Yes” or “No”)
2. Then we have the condition that needs to be satisfied: “Yes” as we want to count only the teams which participated in the Champions league
3. The third argument is the range which contains the number of points earned by each team
4. We want to count only teams that earned more than 60 points

365 Careers

Lookup Functions: Vlookup & Hlookup

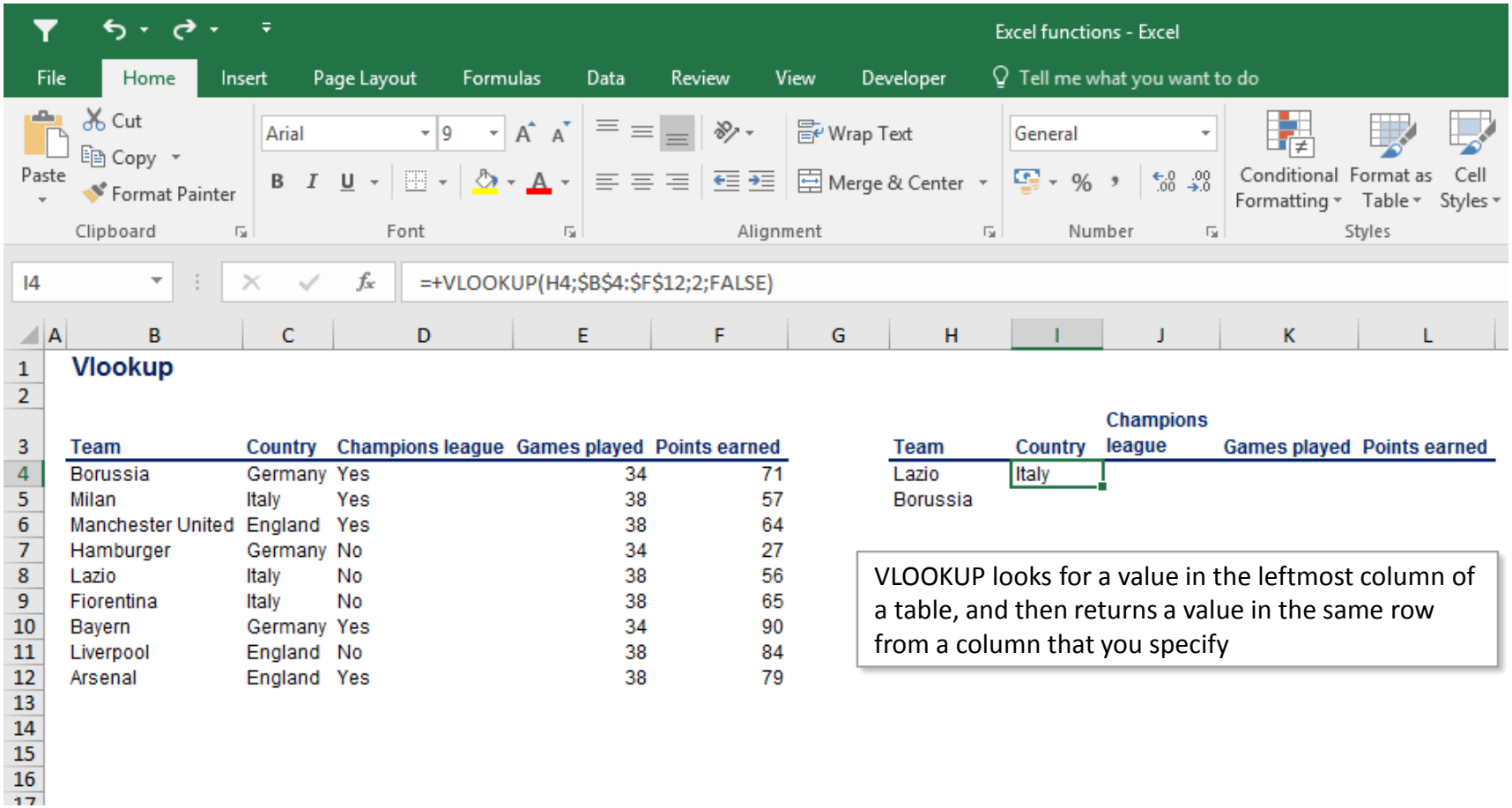
VLOOKUP

365 Careers



VLOOKUP

365 Careers



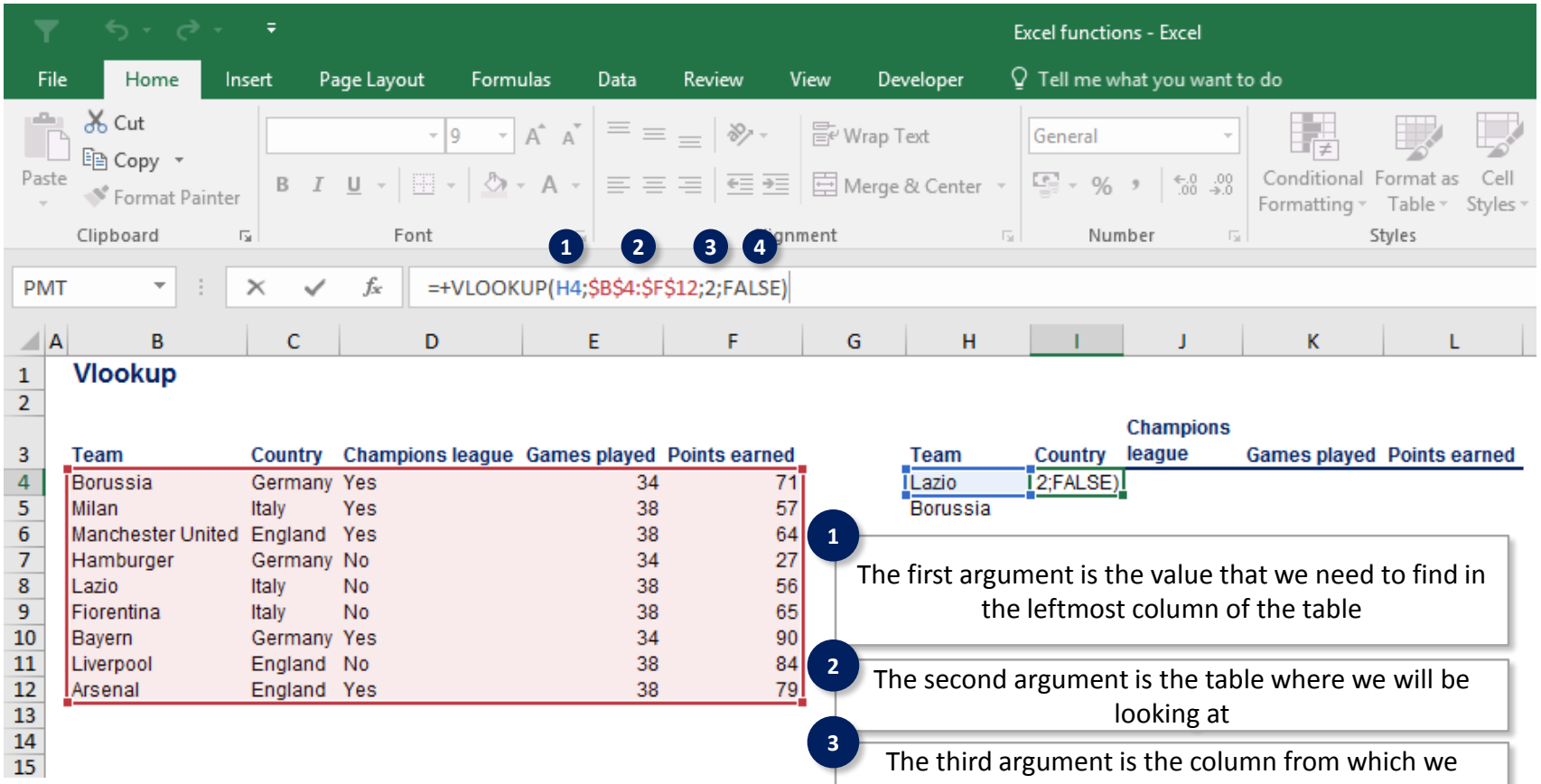
Vlookup

Team	Country	Champions league	Games played	Points earned
Borussia	Germany	Yes	34	71
Milan	Italy	Yes	38	57
Manchester United	England	Yes	38	64
Hamburger	Germany	No	34	27
Lazio	Italy	No	38	56
Fiorentina	Italy	No	38	65
Bayern	Germany	Yes	34	90
Liverpool	England	No	38	84
Arsenal	England	Yes	38	79

Team	Country	Champions league	Games played	Points earned
Lazio	Italy			
Borussia				

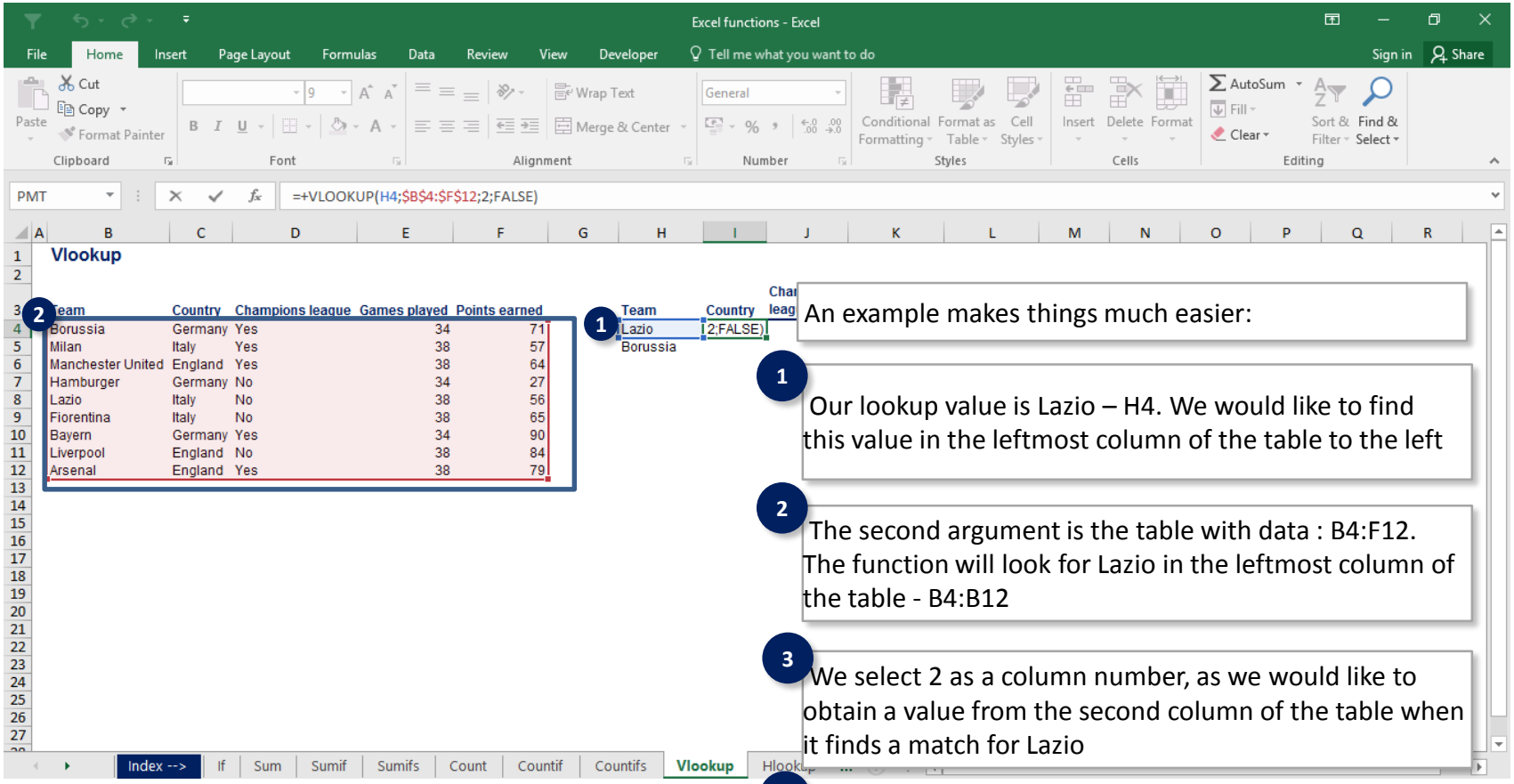
VLOOKUP looks for a value in the leftmost column of a table, and then returns a value in the same row from a column that you specify

VLOOKUP



1. The first argument is the value that we need to find in the leftmost column of the table
2. The second argument is the table where we will be looking at
3. The third argument is the column from which we would like to make an extraction
4. Fourth argument is a logical value; we indicate whether we want the closest match (“TRUE”) or an exact match (“FALSE”)

VLOOKUP



An example makes things much easier:

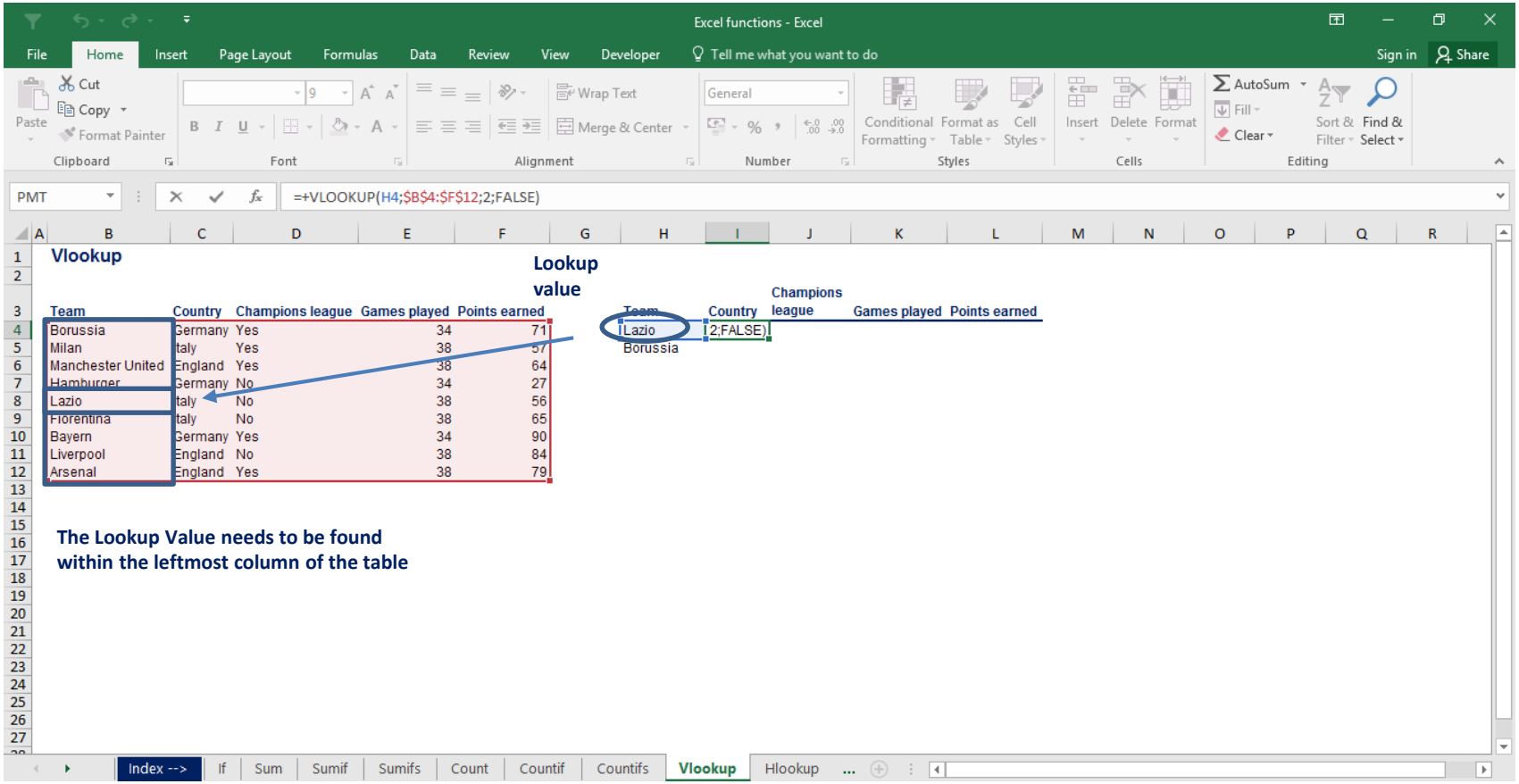
1. Our lookup value is Lazio – H4. We would like to find this value in the leftmost column of the table to the left

2. The second argument is the table with data : B4:F12. The function will look for Lazio in the leftmost column of the table - B4:B12

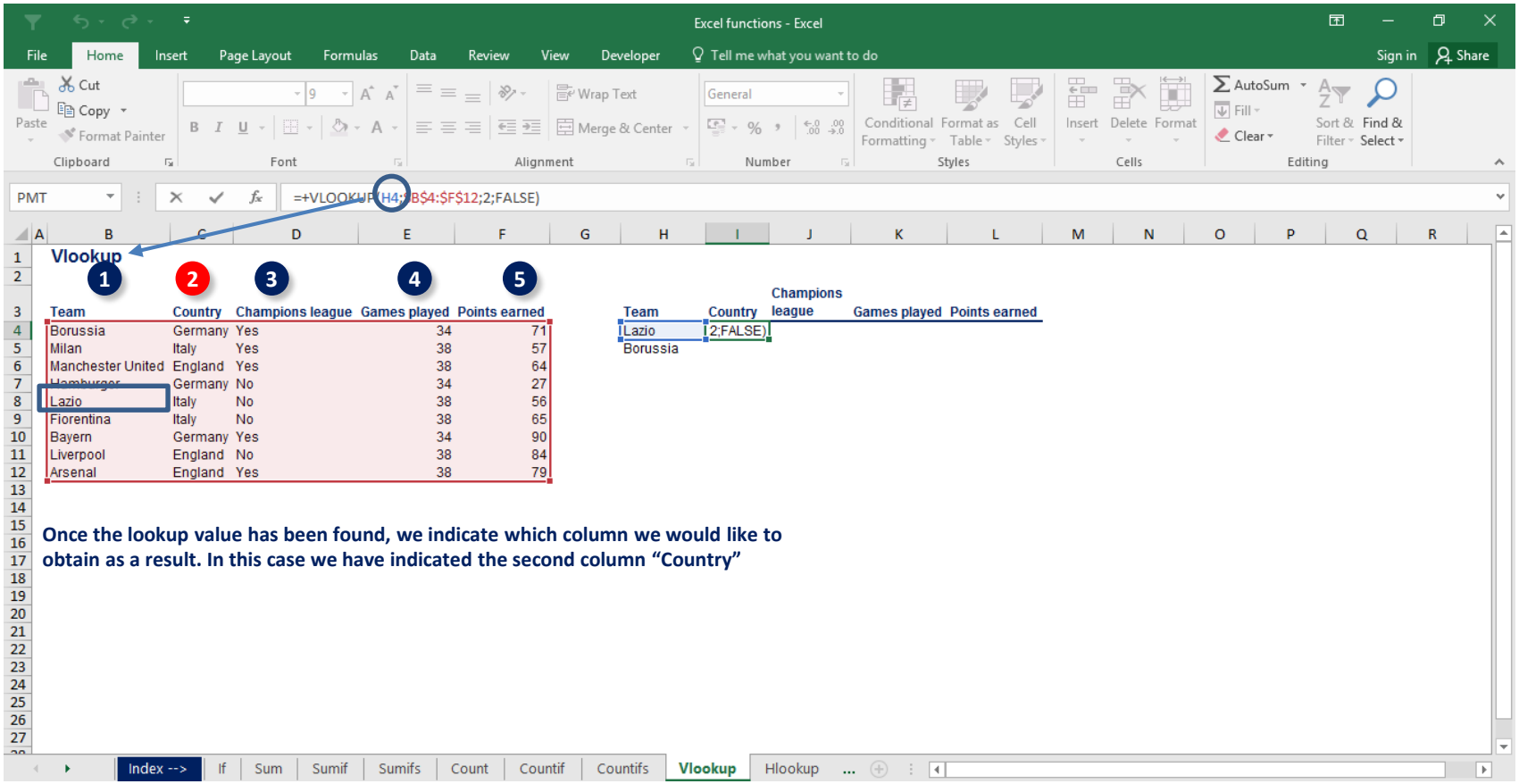
3. We select 2 as a column number, as we would like to obtain a value from the second column of the table when it finds a match for Lazio

4. The fourth argument is “FALSE” because we need an exact match

VLOOKUP

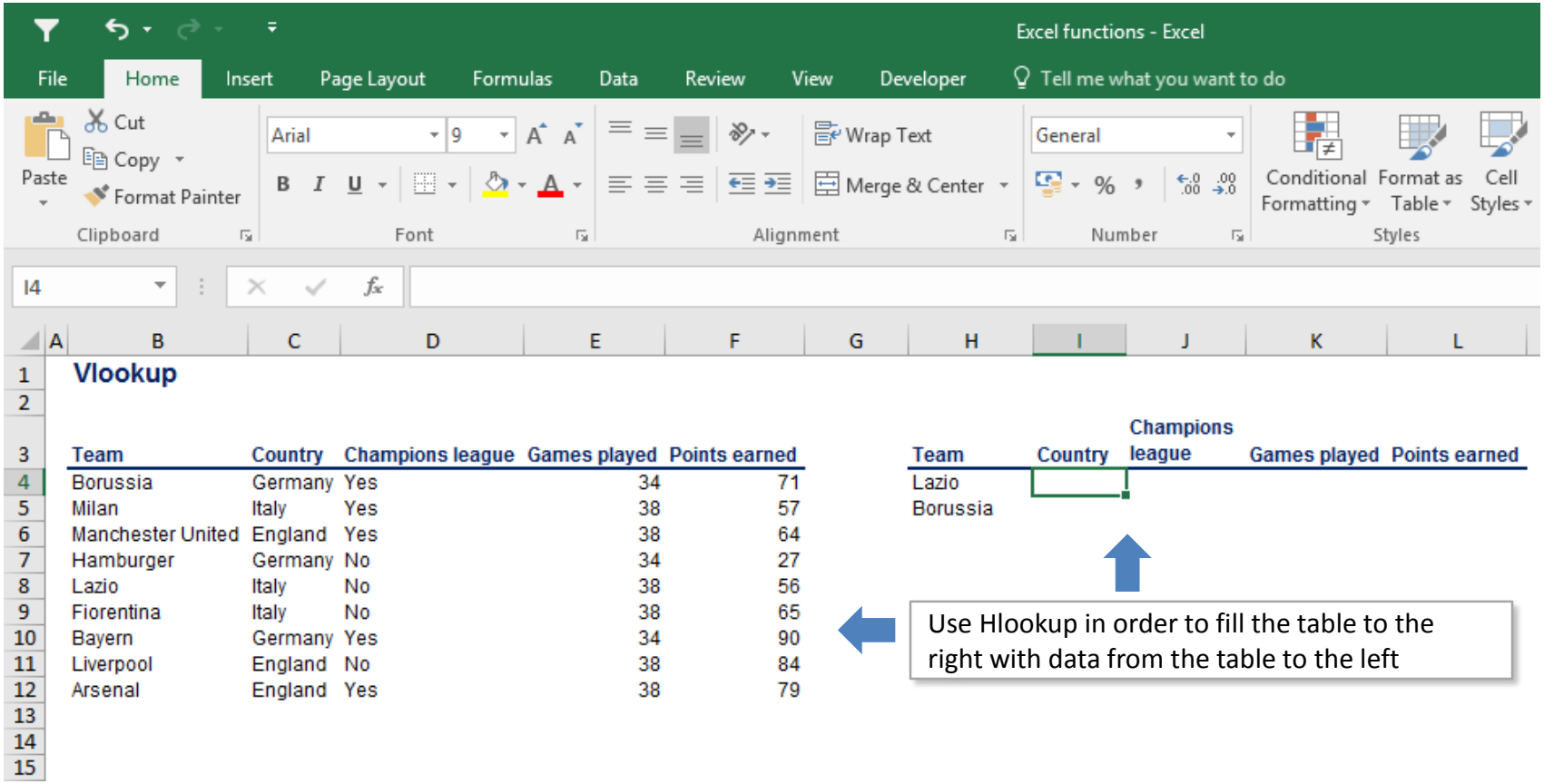

Excel functions - Excel
=+VLOOKUP(H4;$B$4:$F$12;2;FALSE)
Vlookup
Lookup value
Team Country Champions league Games played Points earned
Borussia Germany Yes 34 71
Milan Italy Yes 38 57
Manchester United England Yes 38 64
Hamburger Germany No 34 27
Lazio Italy No 38 56
Fiorentina Italy No 38 65
Bayern Germany Yes 34 90
Liverpool England No 38 84
Arsenal England Yes 38 79
Lazio
Borussia
2;FALSE)
The Lookup Value needs to be found within the leftmost column of the table
Index --> If Sum Sumif Sumifs Count Countif Countifs Vlookup Hlookup

VLOOKUP


Excel functions - Excel
=+VLOOKUP(H4;B$4:$F$12;2;FALSE)
Vlookup
1
2
3
4
5
Team
Country
Champions league
Games played
Points earned
Borussia Germany Yes 34 71
Milan Italy Yes 38 57
Manchester United England Yes 38 64
Hamburger Germany No 34 27
Lazio Italy No 38 56
Fiorentina Italy No 38 65
Bayern Germany Yes 34 90
Liverpool England No 38 84
Arsenal England Yes 38 79
Team
Country
Champions league
Games played
Points earned
Lazio
2;FALSE)
Borussia
Once the lookup value has been found, we indicate which column we would like to obtain as a result. In this case we have indicated the second column "Country"
Index -->
If
Sum
Sumif
Sumifs
Count
Countif
Countifs
Vlookup
Hlookup

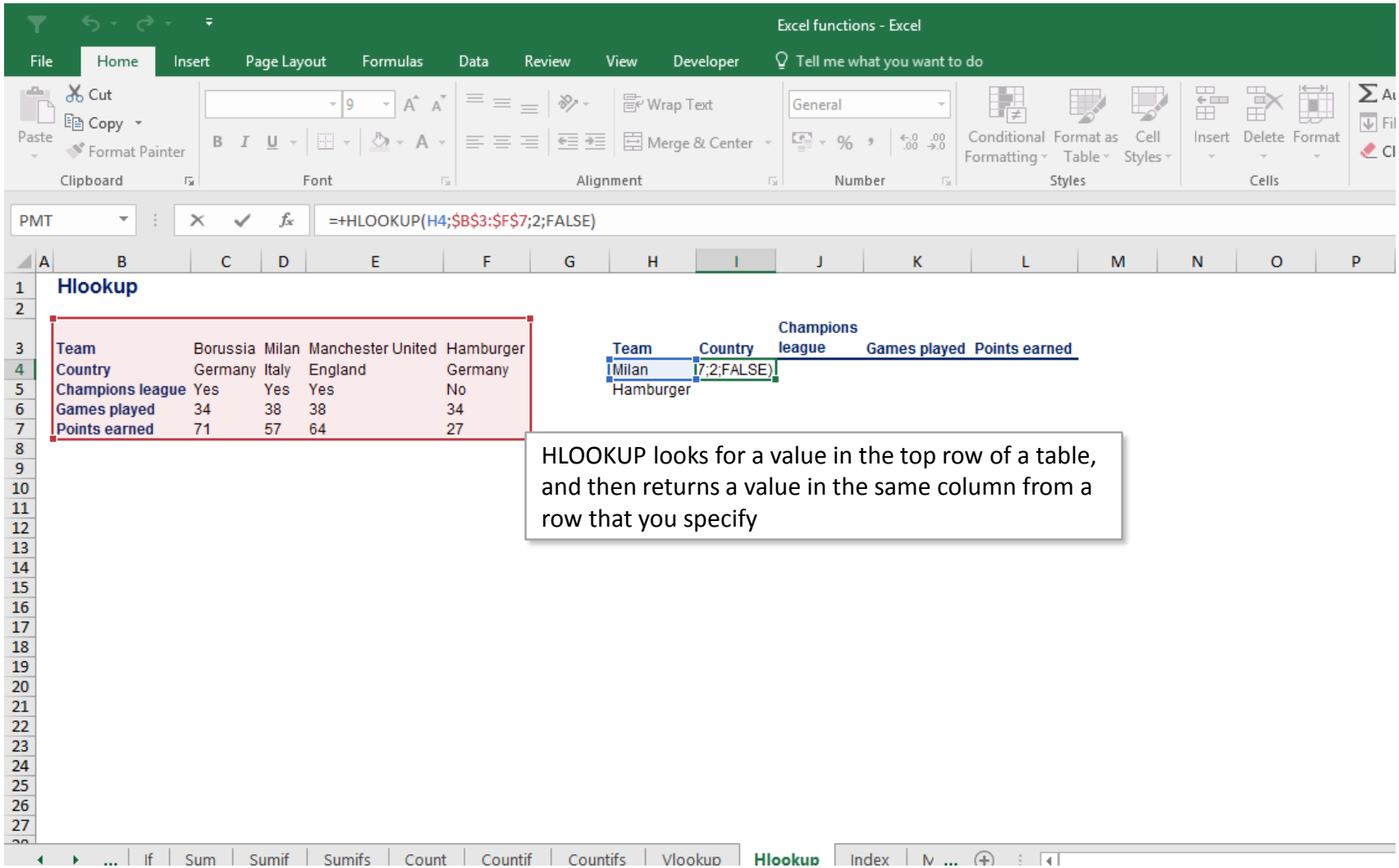
HLOOKUP

365 Careers

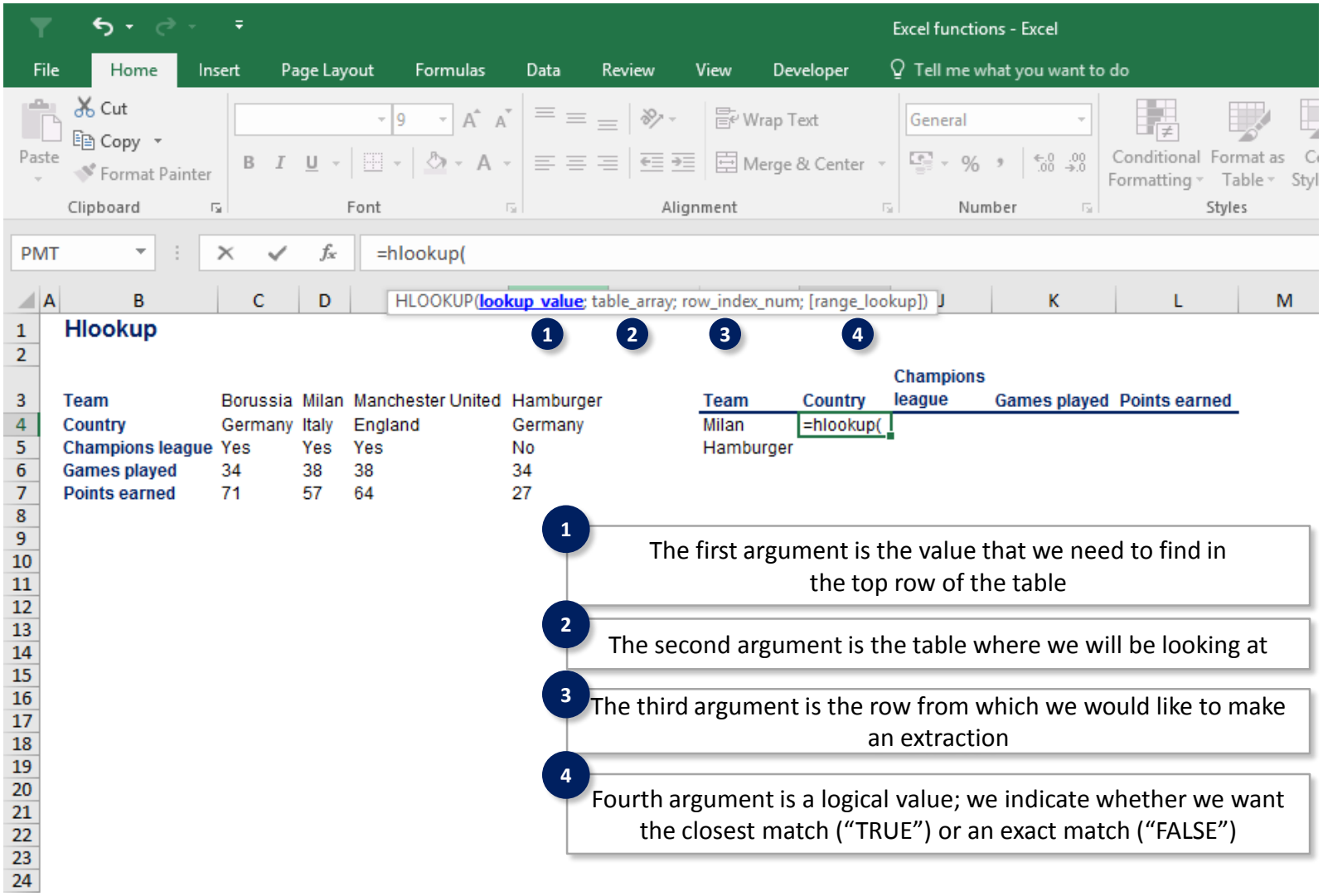


HLOOKUP

365 Careers

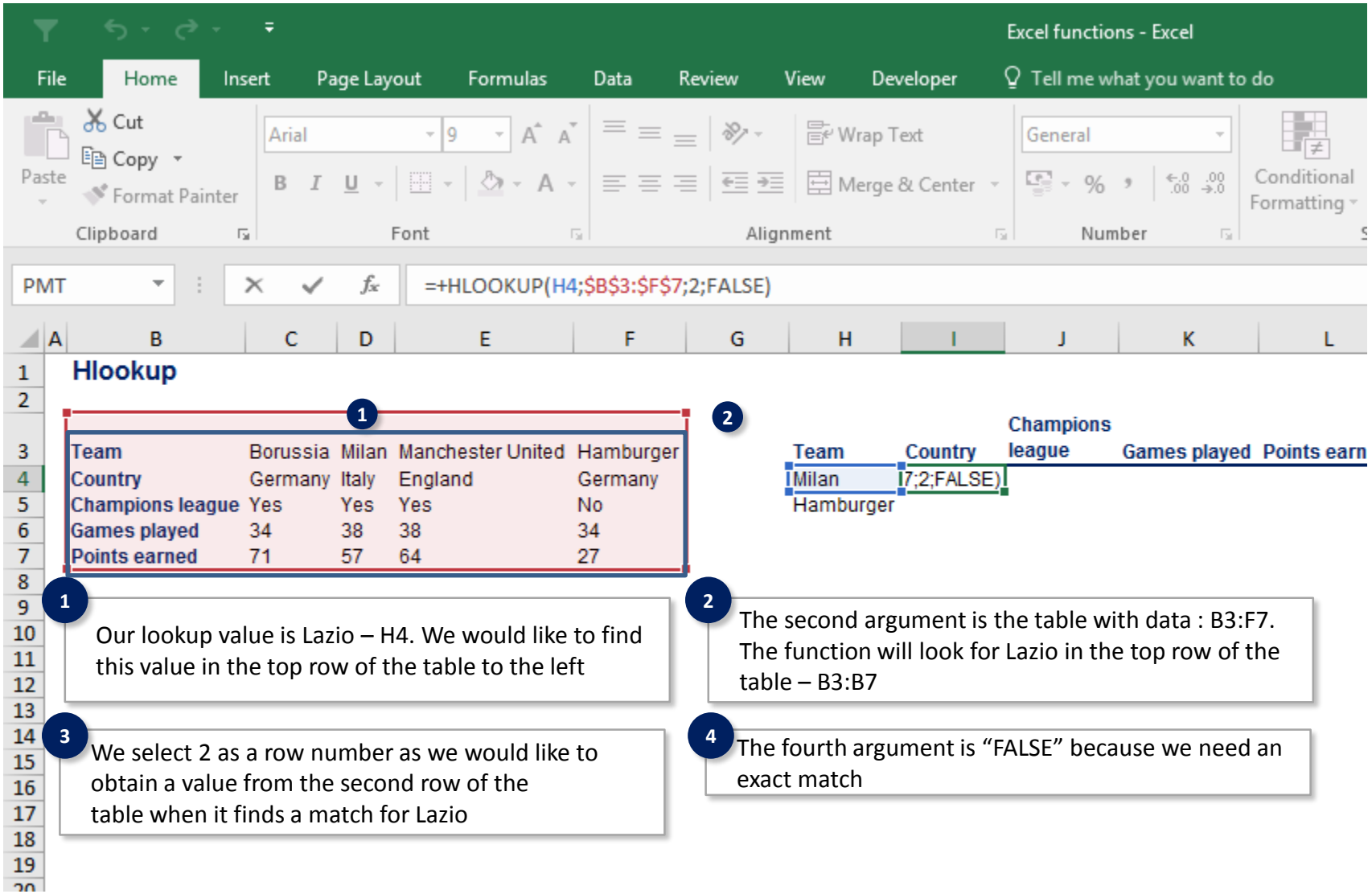


HLOOKUP

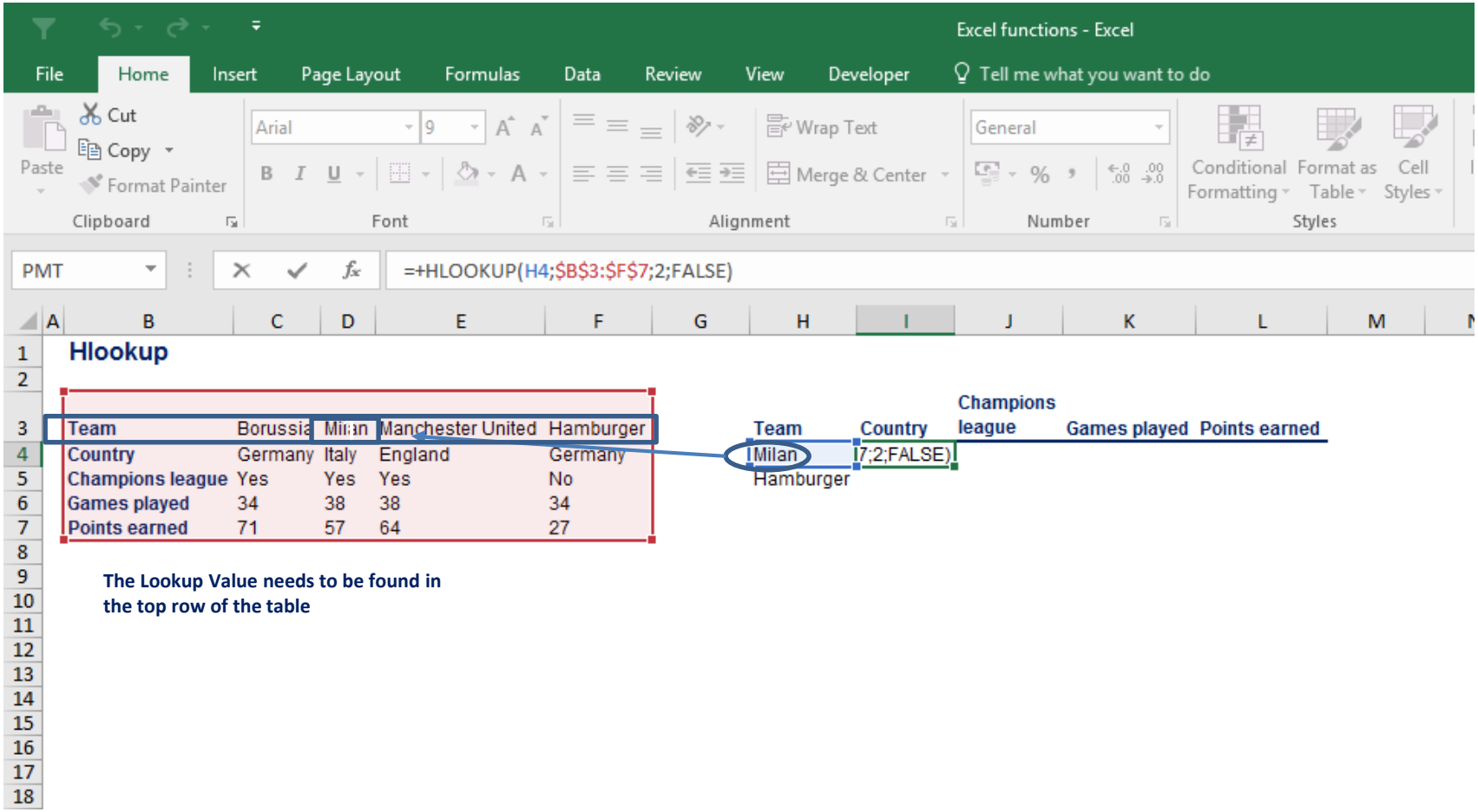

Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Styles
PMT
=hlookup(
HLOOKUP(lookup_value; table_array; row_index_num; [range_lookup])
Hlookup
Team Borussia Milan Manchester United Hamburger
Country Germany Italy England Germany
Champions league Yes Yes Yes No
Games played 34 38 38 34
Points earned 71 57 64 27
Team Country Champions league Games played Points earned
Milan =hlookup(
Hamburger
1
2
3
4
The first argument is the value that we need to find in the top row of the table
The second argument is the table where we will be looking at
The third argument is the row from which we would like to make an extraction
Fourth argument is a logical value; we indicate whether we want the closest match (“TRUE”) or an exact match (“FALSE”)

HLOOKUP

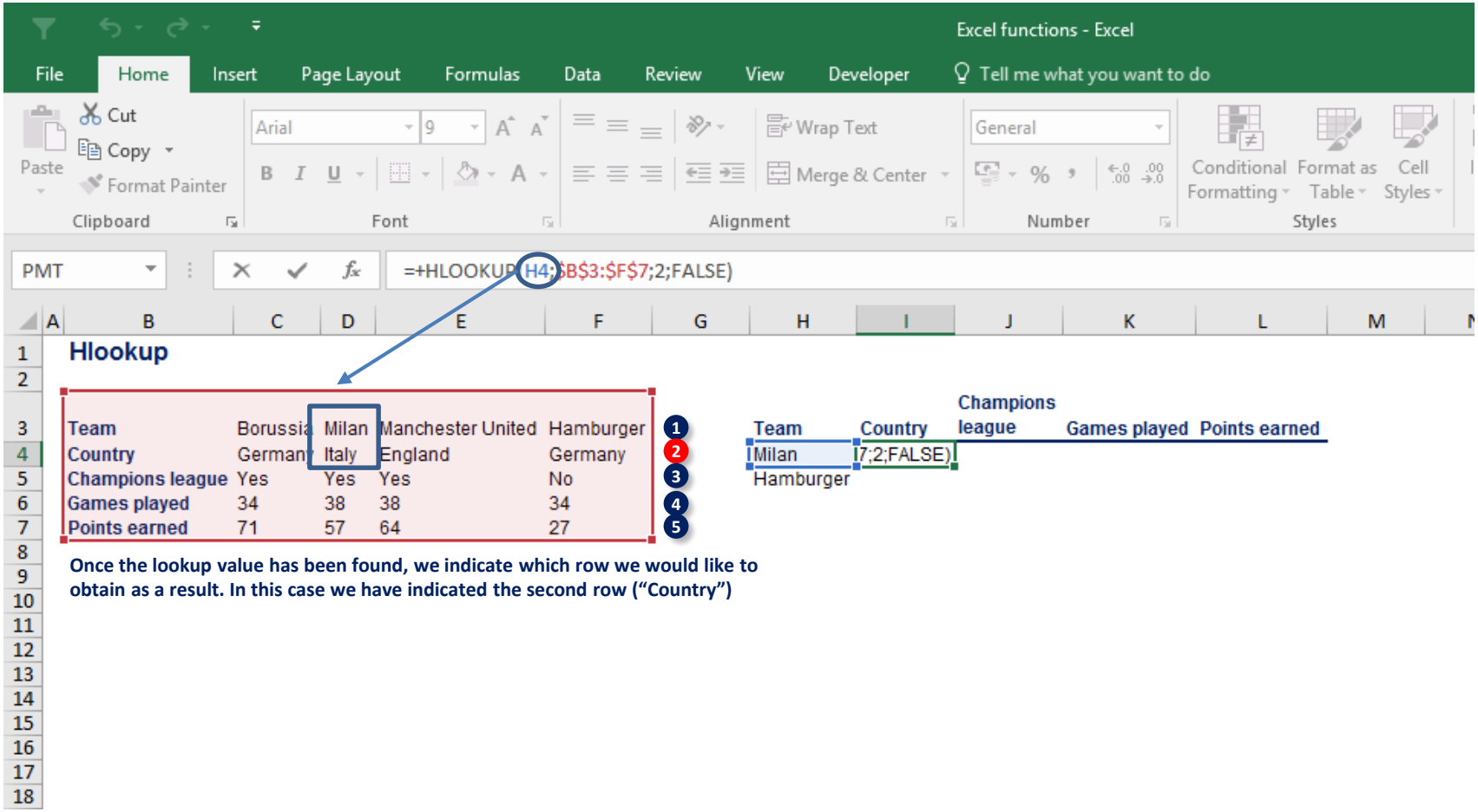
365 Careers



HLOOKUP


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
PMT
=+HLOOKUP(H4;$B$3:$F$7;2;FALSE)
Hlookup
Team
Borussia
Milan
Manchester United
Hamburger
Country
Germany
Italy
England
Germany
Champions league
Yes
Yes
Yes
No
Games played
34
38
38
34
Points earned
71
57
64
27
Team
Country
Champions league
Games played
Points earned
Milan
Hamburger
7;2;FALSE)
The Lookup Value needs to be found in the top row of the table

HLOOKUP

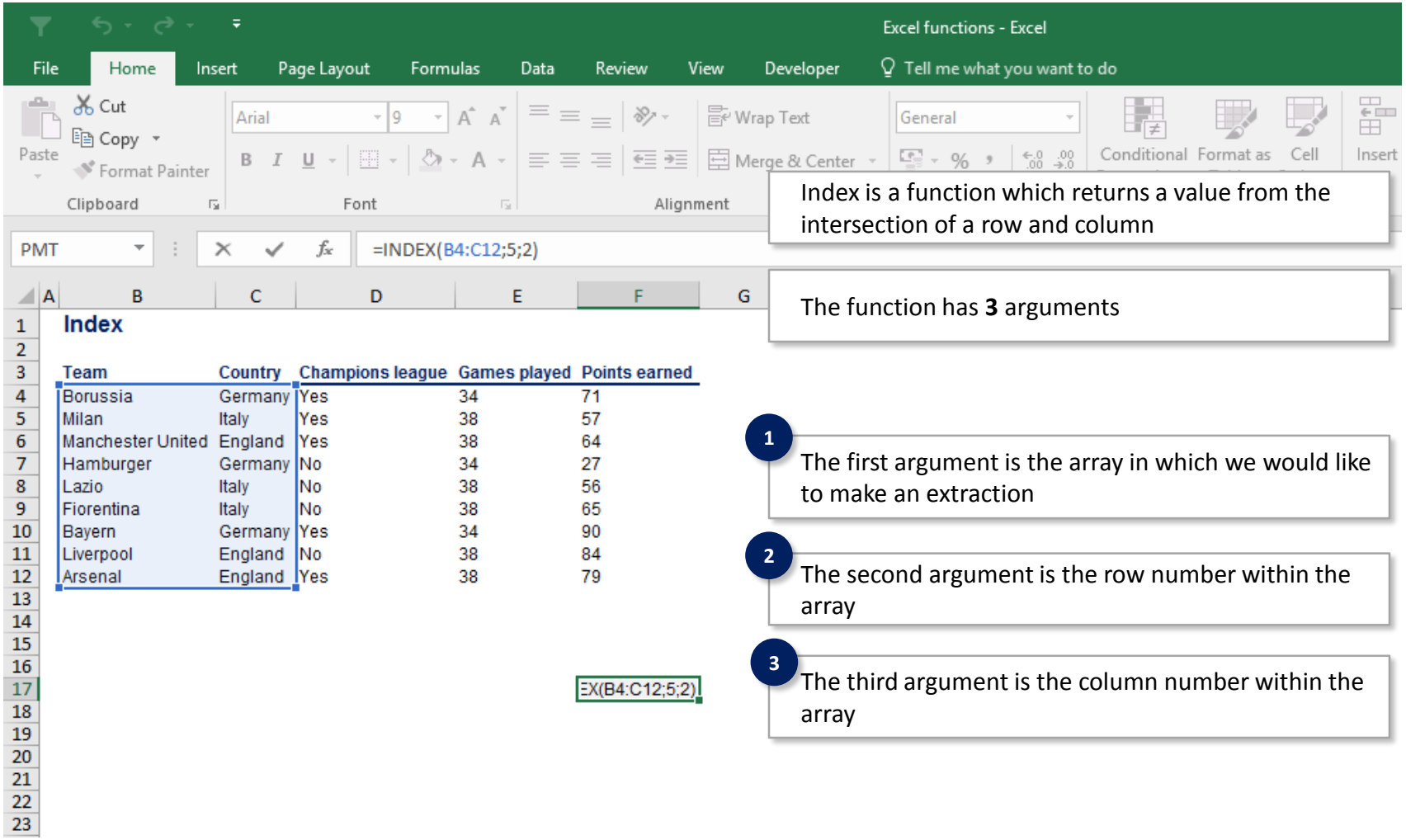


Once the lookup value has been found, we indicate which row we would like to obtain as a result. In this case we have indicated the second row ("Country")

365 Careers

Index & Match

INDEX

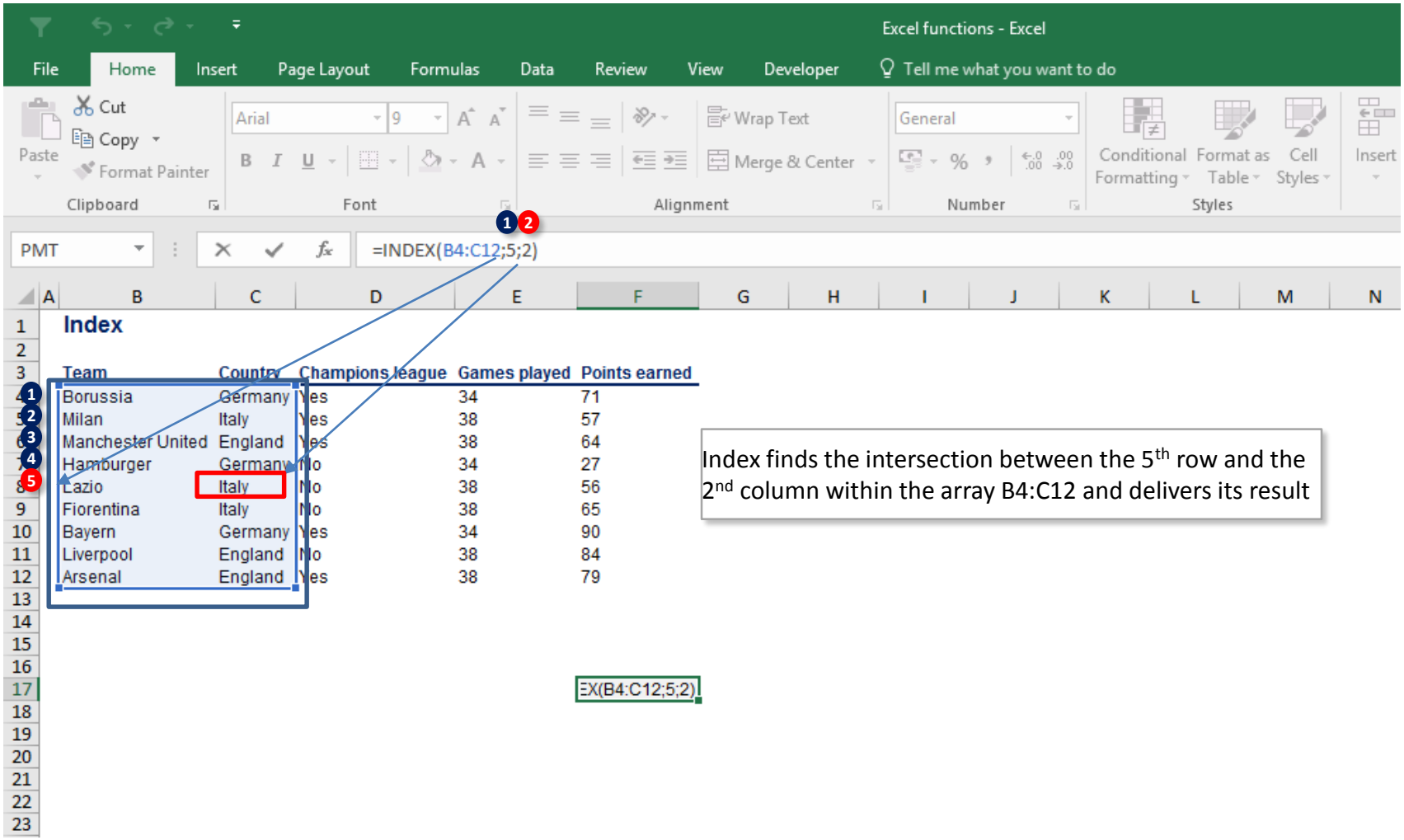


Index is a function which returns a value from the intersection of a row and column

The function has **3** arguments

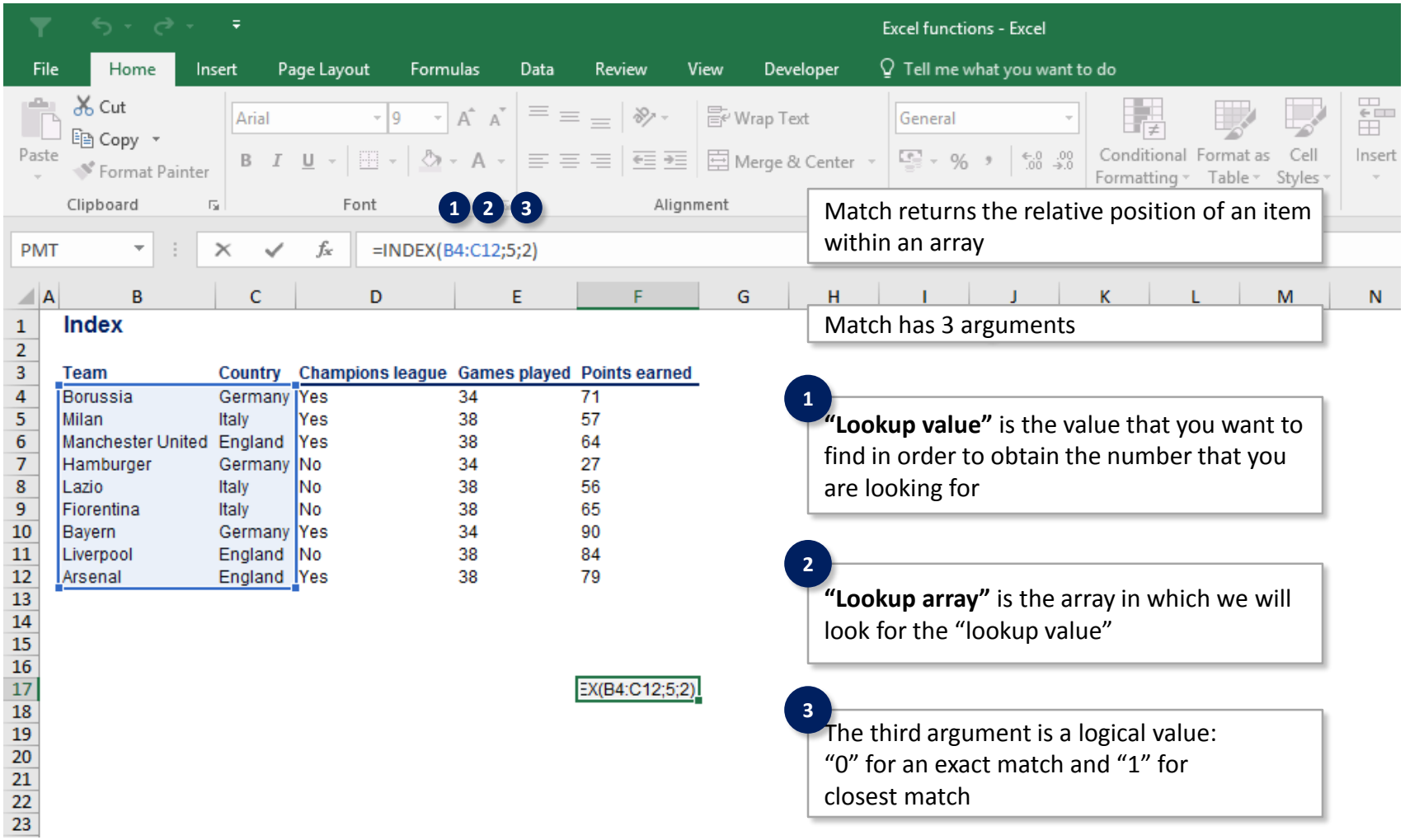
1. The first argument is the array in which we would like to make an extraction
2. The second argument is the row number within the array
3. The third argument is the column number within the array

INDEX



Index finds the intersection between the 5th row and the 2nd column within the array B4:C12 and delivers its result

MATCH



Match returns the relative position of an item within an array

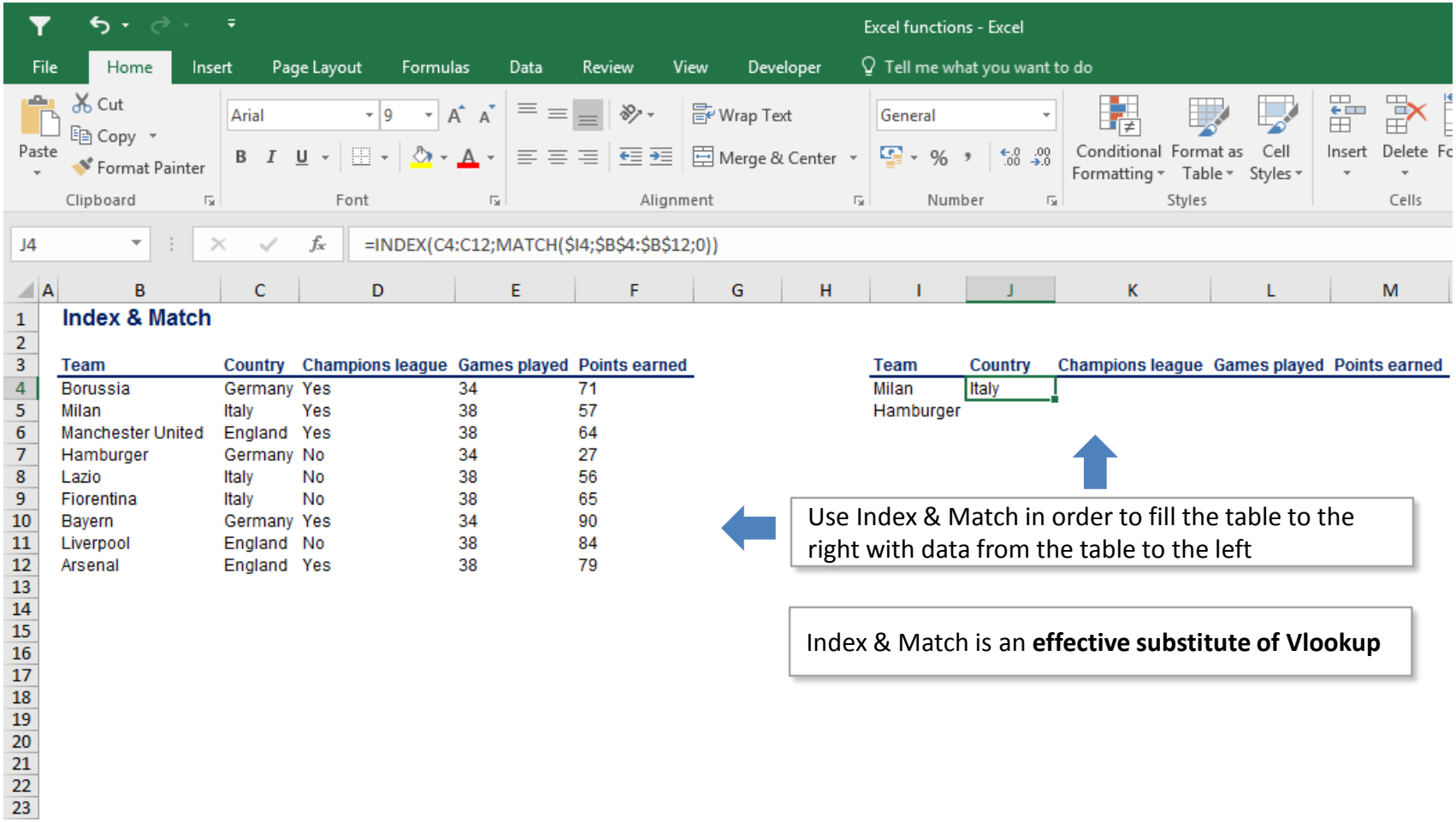
Match has 3 arguments

1 **"Lookup value"** is the value that you want to find in order to obtain the number that you are looking for

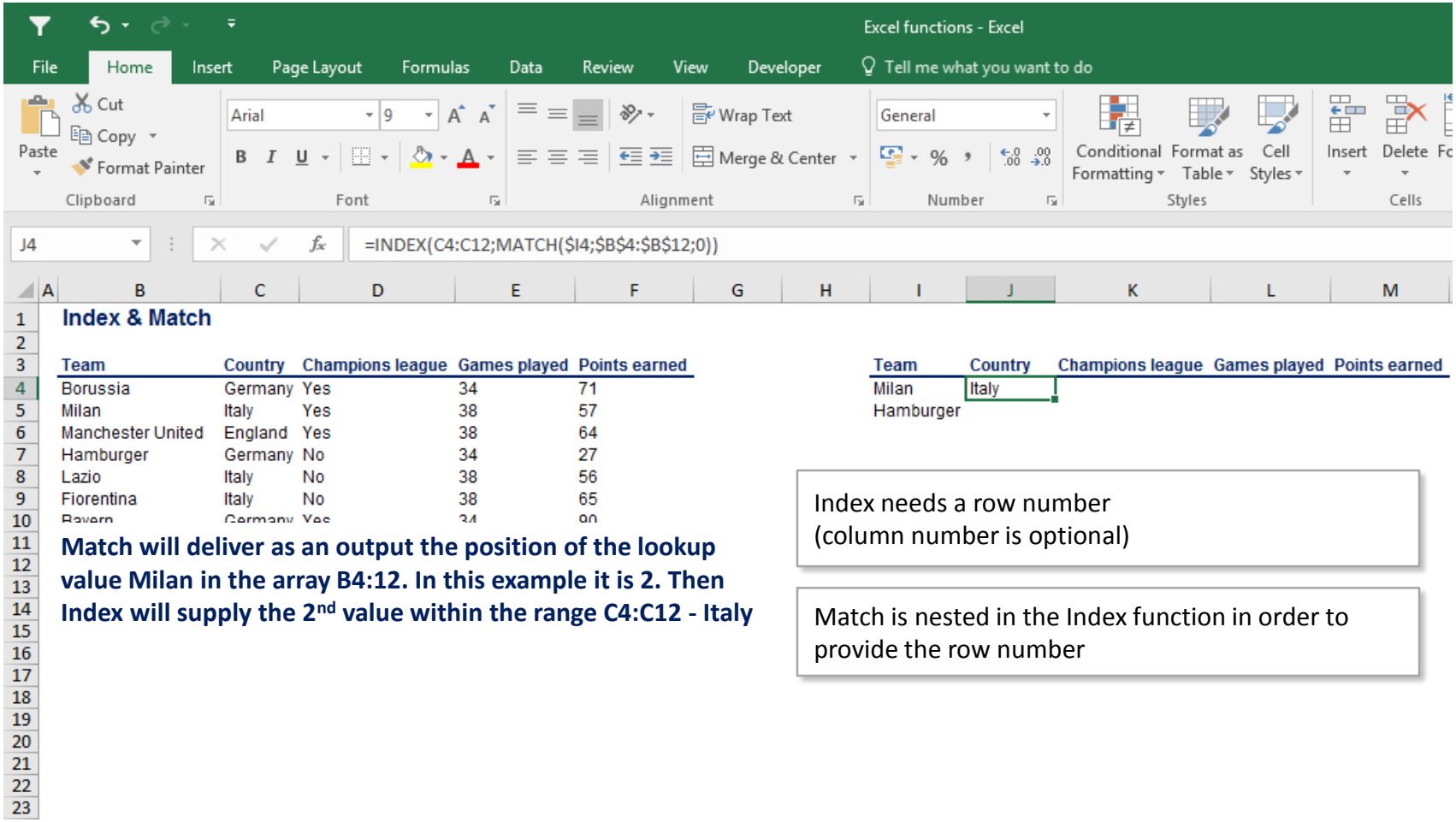
2 **"Lookup array"** is the array in which we will look for the "lookup value"

3 The third argument is a logical value: "0" for an exact match and "1" for closest match

INDEX & MATCH


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Paste
Cut
Copy
Format Painter
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
Insert
Delete
Cells
J4
=INDEX(C4:C12;MATCH($I4;$B$4:$B$12;0))
Index & Match
Team Country Champions league Games played Points earned
Borussia Germany Yes 34 71
Milan Italy Yes 38 57
Manchester United England Yes 38 64
Hamburger Germany No 34 27
Lazio Italy No 38 56
Fiorentina Italy No 38 65
Bayern Germany Yes 34 90
Liverpool England No 38 84
Arsenal England Yes 38 79
Team Country Champions league Games played Points earned
Milan Italy
Hamburger
Use Index & Match in order to fill the table to the right with data from the table to the left
Index & Match is an effective substitute of Vlookup

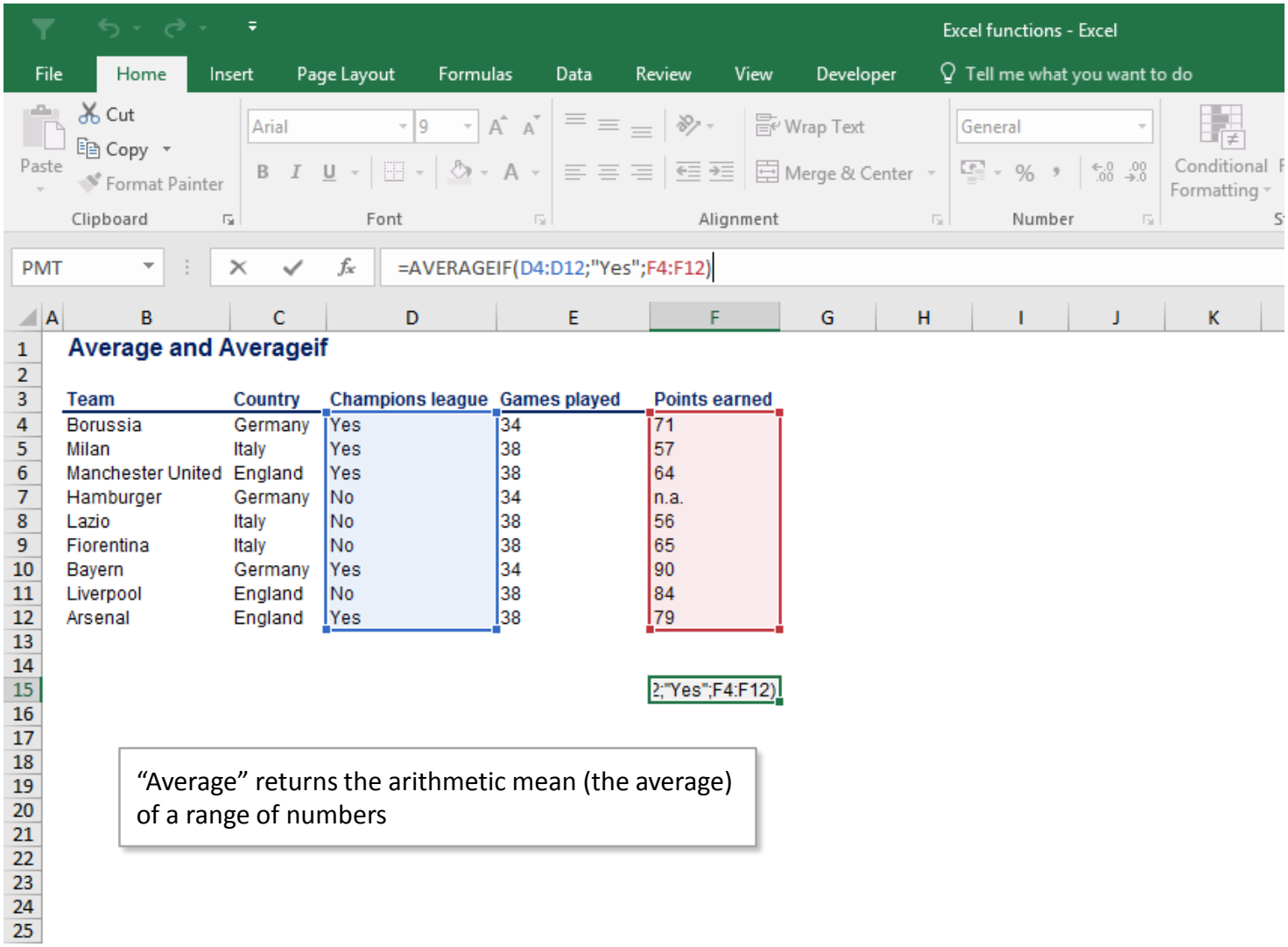
INDEX & MATCH


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Paste
Cut
Copy
Format Painter
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
Insert
Delete
Cells
J4
=INDEX(C4:C12;MATCH($I4;$B$4:$B$12;0))
Index & Match
Team Country Champions league Games played Points earned
Borussia Germany Yes 34 71
Milan Italy Yes 38 57
Manchester United England Yes 38 64
Hamburger Germany No 34 27
Lazio Italy No 38 56
Fiorentina Italy No 38 65
Team Country Champions league Games played Points earned
Milan Italy
Hamburger
Match will deliver as an output the position of the lookup value Milan in the array B4:12. In this example it is 2. Then Index will supply the 2nd value within the range C4:C12 - Italy
Index needs a row number
(column number is optional)
Match is nested in the Index function in order to provide the row number

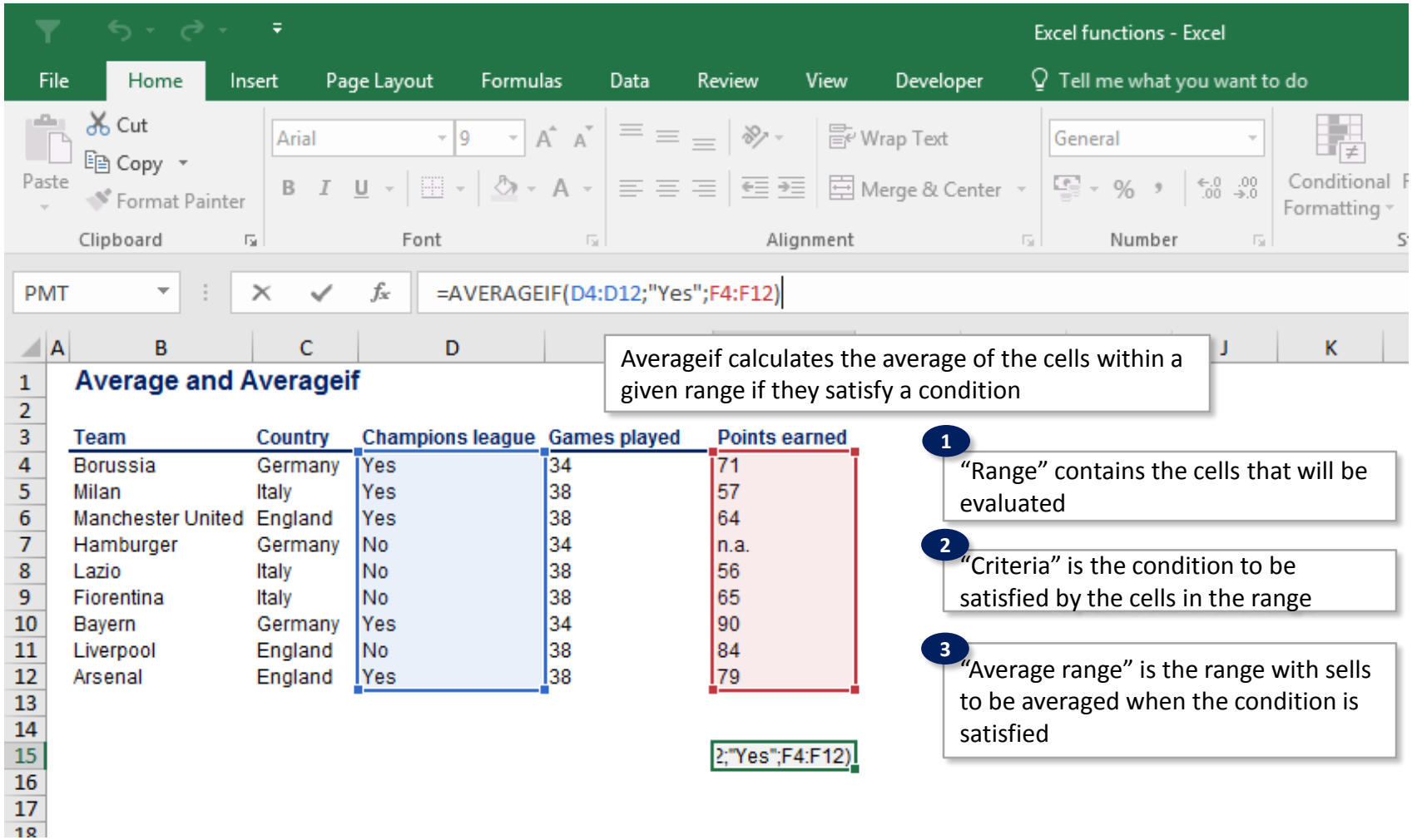
365 Careers

Average & Averageif

AVERAGE


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
PMT
=AVERAGEIF(D4:D12;"Yes";F4:F12)
Average and Averageif
Team
Country
Champions league
Games played
Points earned
Borussia
Germany
Yes
34
71
Milan
Italy
Yes
38
57
Manchester United
England
Yes
38
64
Hamburger
Germany
No
34
n.a.
Lazio
Italy
No
38
56
Fiorentina
Italy
No
38
65
Bayern
Germany
Yes
34
90
Liverpool
England
No
38
84
Arsenal
England
Yes
38
79
2;"Yes";F4:F12)
"Average" returns the arithmetic mean (the average) of a range of numbers

AVERAGEIF

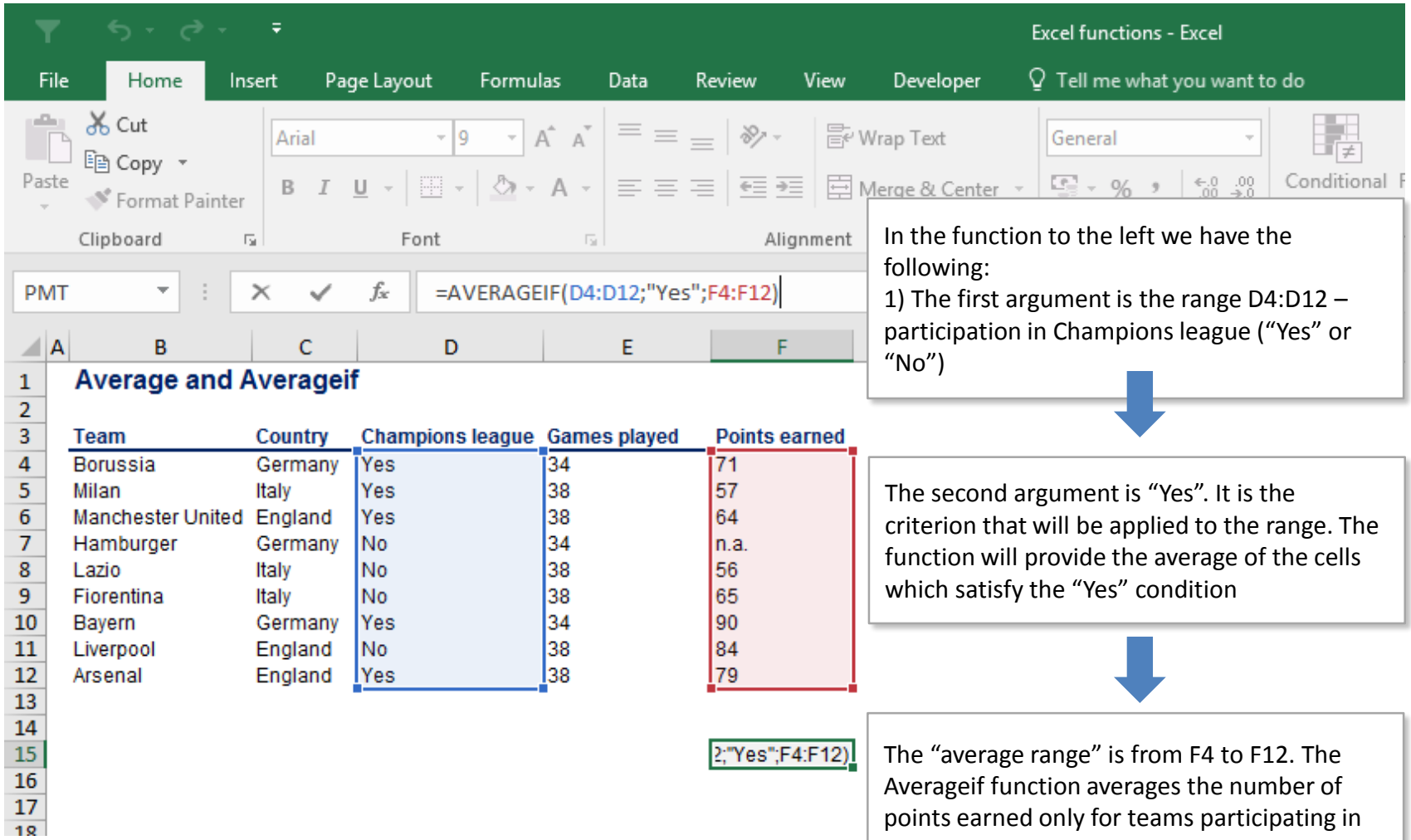


Averageif calculates the average of the cells within a given range if they satisfy a condition

1. "Range" contains the cells that will be evaluated
2. "Criteria" is the condition to be satisfied by the cells in the range
3. "Average range" is the range with sells to be averaged when the condition is satisfied

AVERAGEIF

365 Careers



In the function to the left we have the following:
1) The first argument is the range D4:D12 – participation in Champions league ("Yes" or "No")

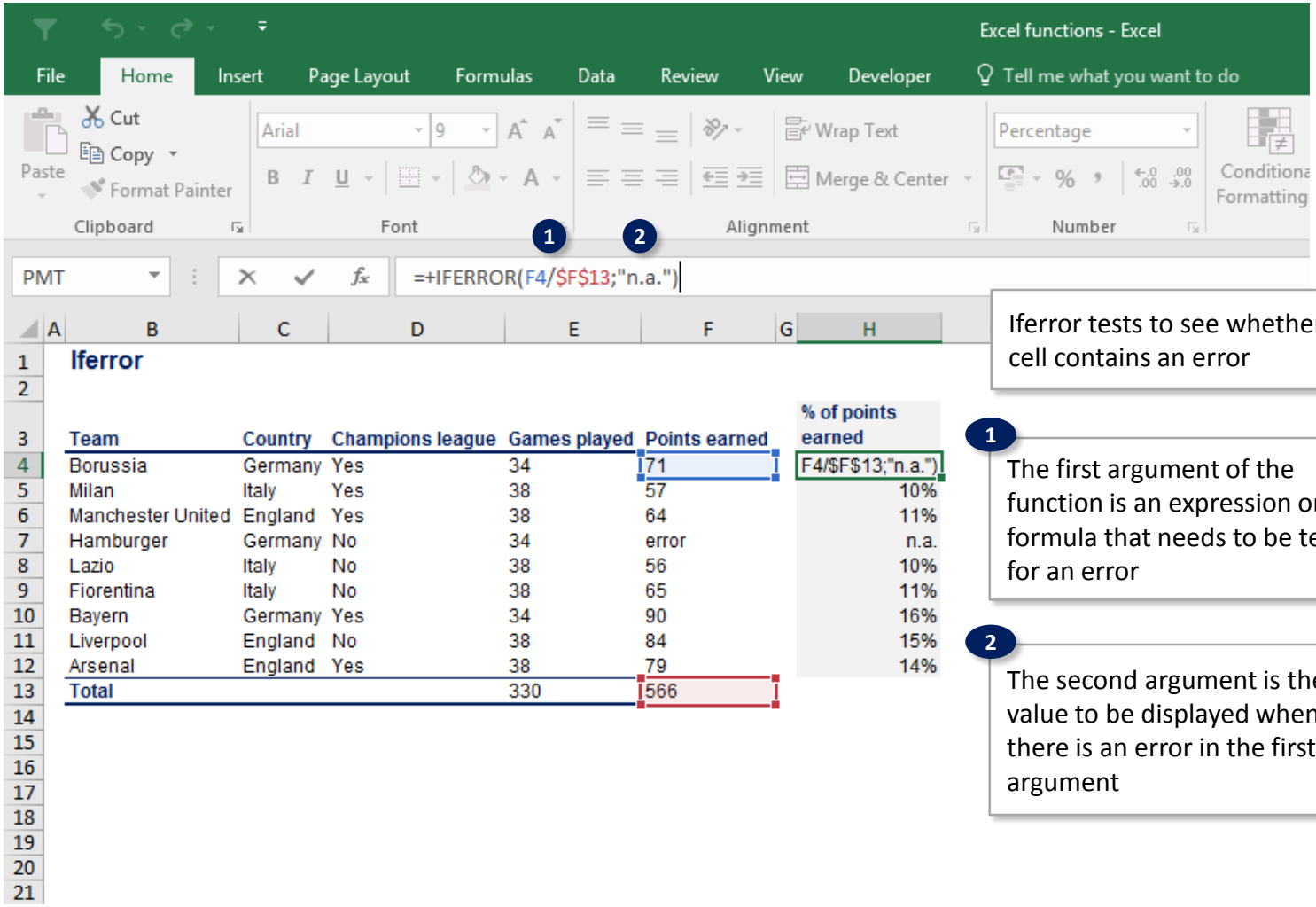
The second argument is "Yes". It is the criterion that will be applied to the range. The function will provide the average of the cells which satisfy the "Yes" condition

The "average range" is from F4 to F12. The Averageif function averages the number of points earned only for teams participating in the Champions league

365 Careers

Iferror

IFERROR



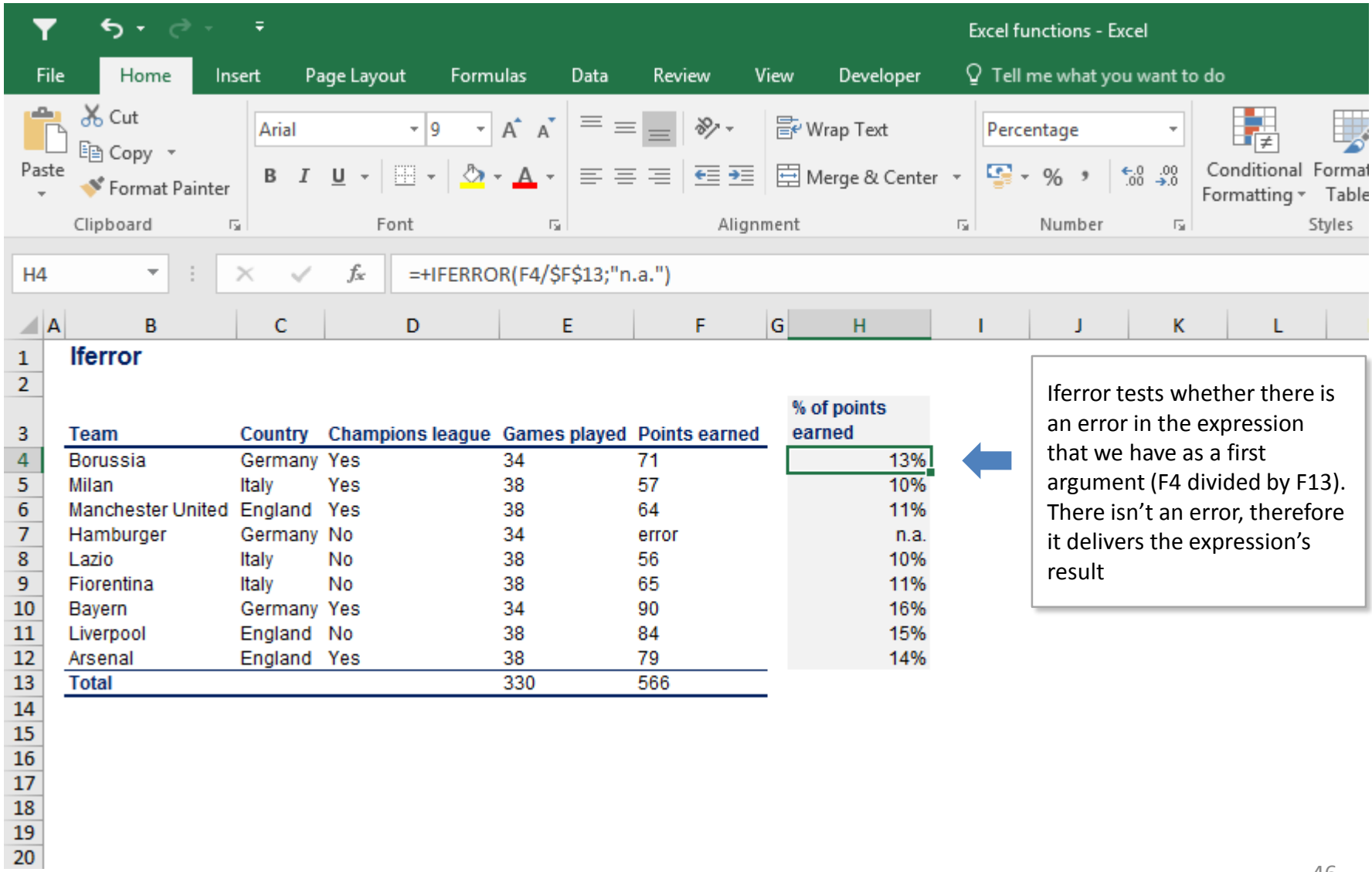
Iferror tests to see whether a cell contains an error

1 The first argument of the function is an expression or formula that needs to be tested for an error

2 The second argument is the value to be displayed when there is an error in the first argument

IFERROR

365 Careers

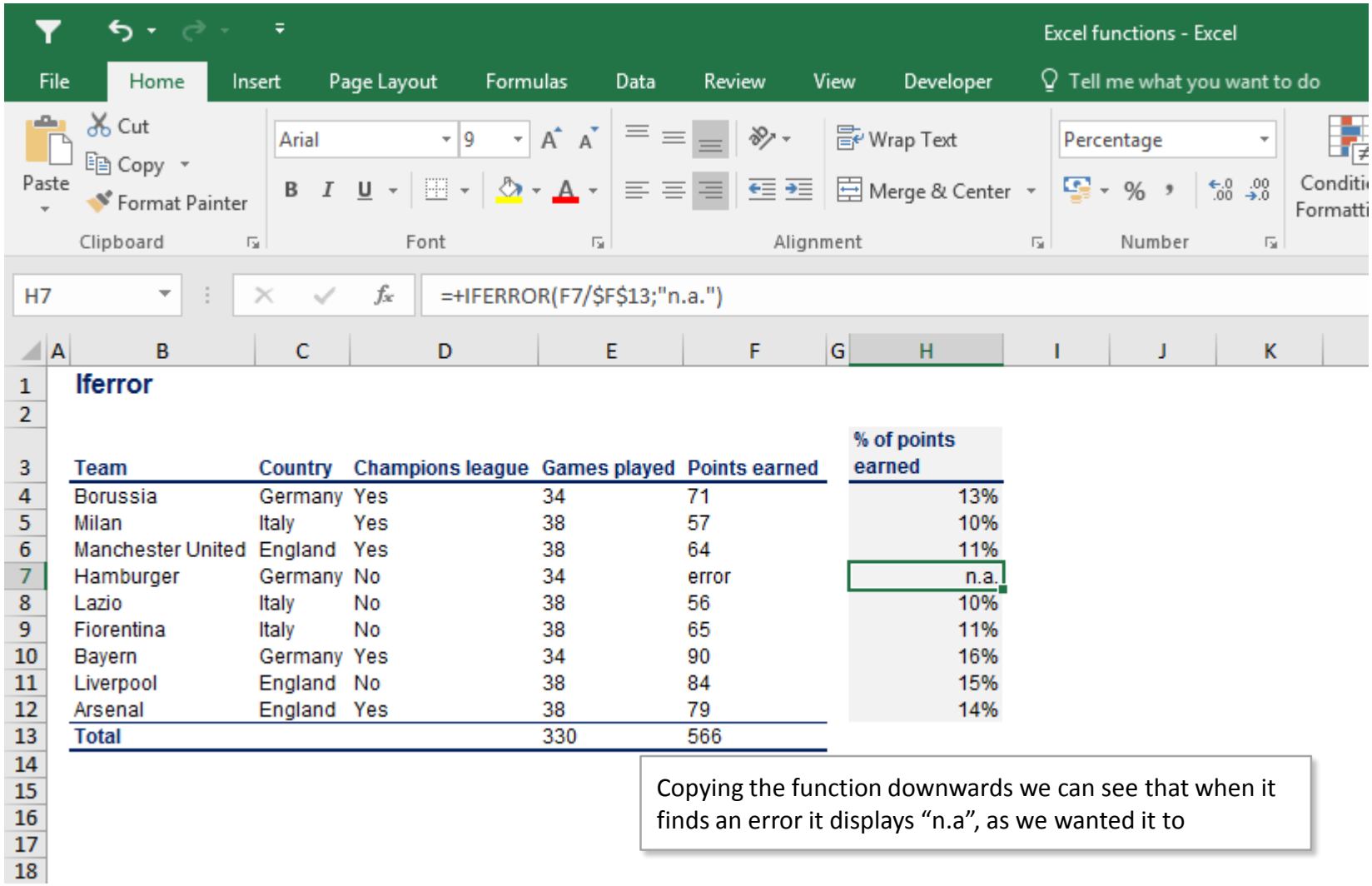


Iferror

Team	Country	Champions league	Games played	Points earned	% of points earned
Borussia	Germany	Yes	34	71	13%
Milan	Italy	Yes	38	57	10%
Manchester United	England	Yes	38	64	11%
Hamburger	Germany	No	34	error	n.a.
Lazio	Italy	No	38	56	10%
Fiorentina	Italy	No	38	65	11%
Bayern	Germany	Yes	34	90	16%
Liverpool	England	No	38	84	15%
Arsenal	England	Yes	38	79	14%
Total			330	566	

Iferror tests whether there is an error in the expression that we have as a first argument (F4 divided by F13). There isn't an error, therefore it delivers the expression's result

IFERROR



Iferror

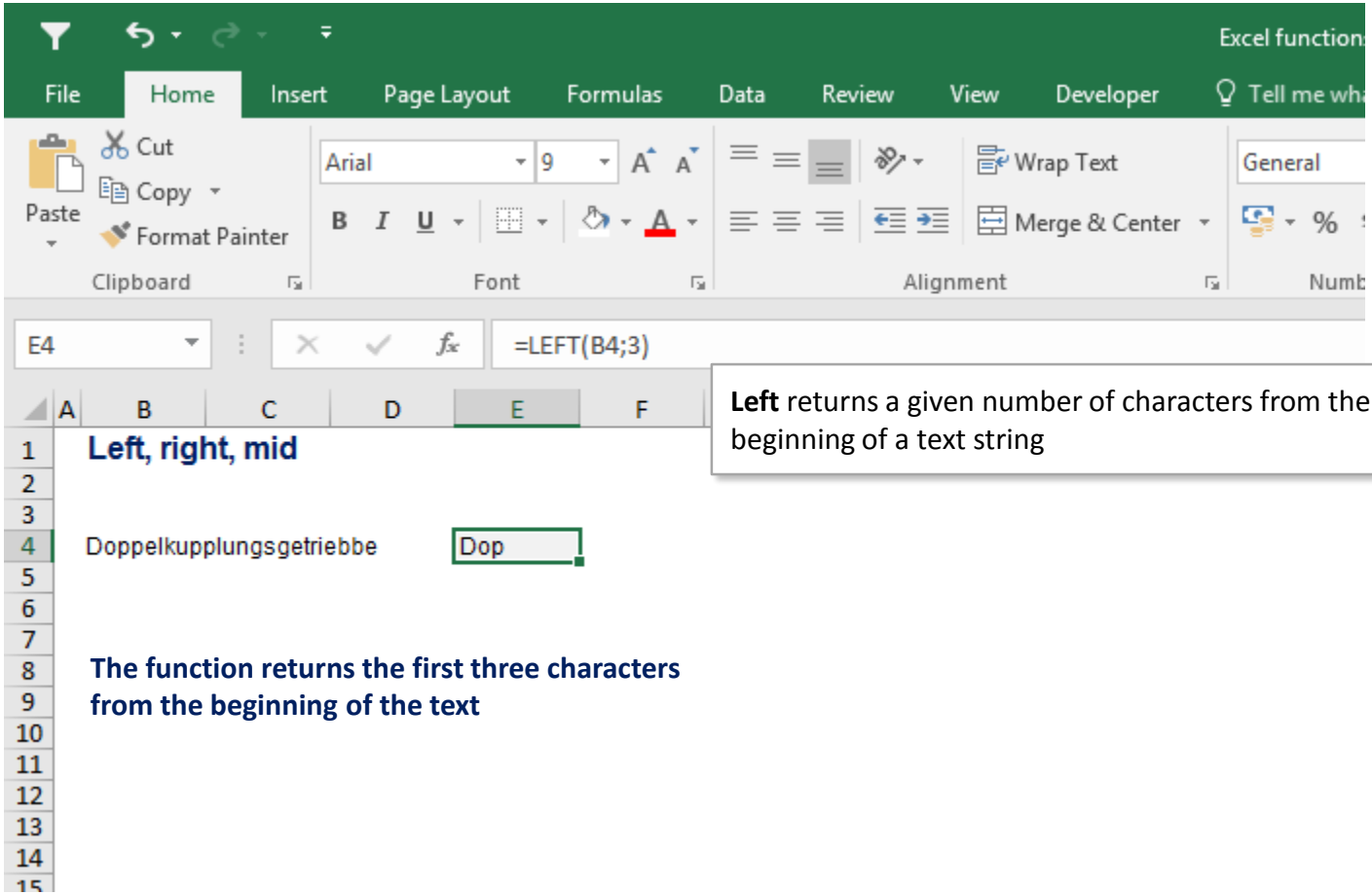
Team	Country	Champions league	Games played	Points earned	% of points earned
Borussia	Germany	Yes	34	71	13%
Milan	Italy	Yes	38	57	10%
Manchester United	England	Yes	38	64	11%
Hamburger	Germany	No	34	error	n.a.
Lazio	Italy	No	38	56	10%
Fiorentina	Italy	No	38	65	11%
Bayern	Germany	Yes	34	90	16%
Liverpool	England	No	38	84	15%
Arsenal	England	Yes	38	79	14%
Total			330	566	

Copying the function downwards we can see that when it finds an error it displays “n.a”, as we wanted it to

365 Careers

Text functions

LEFT

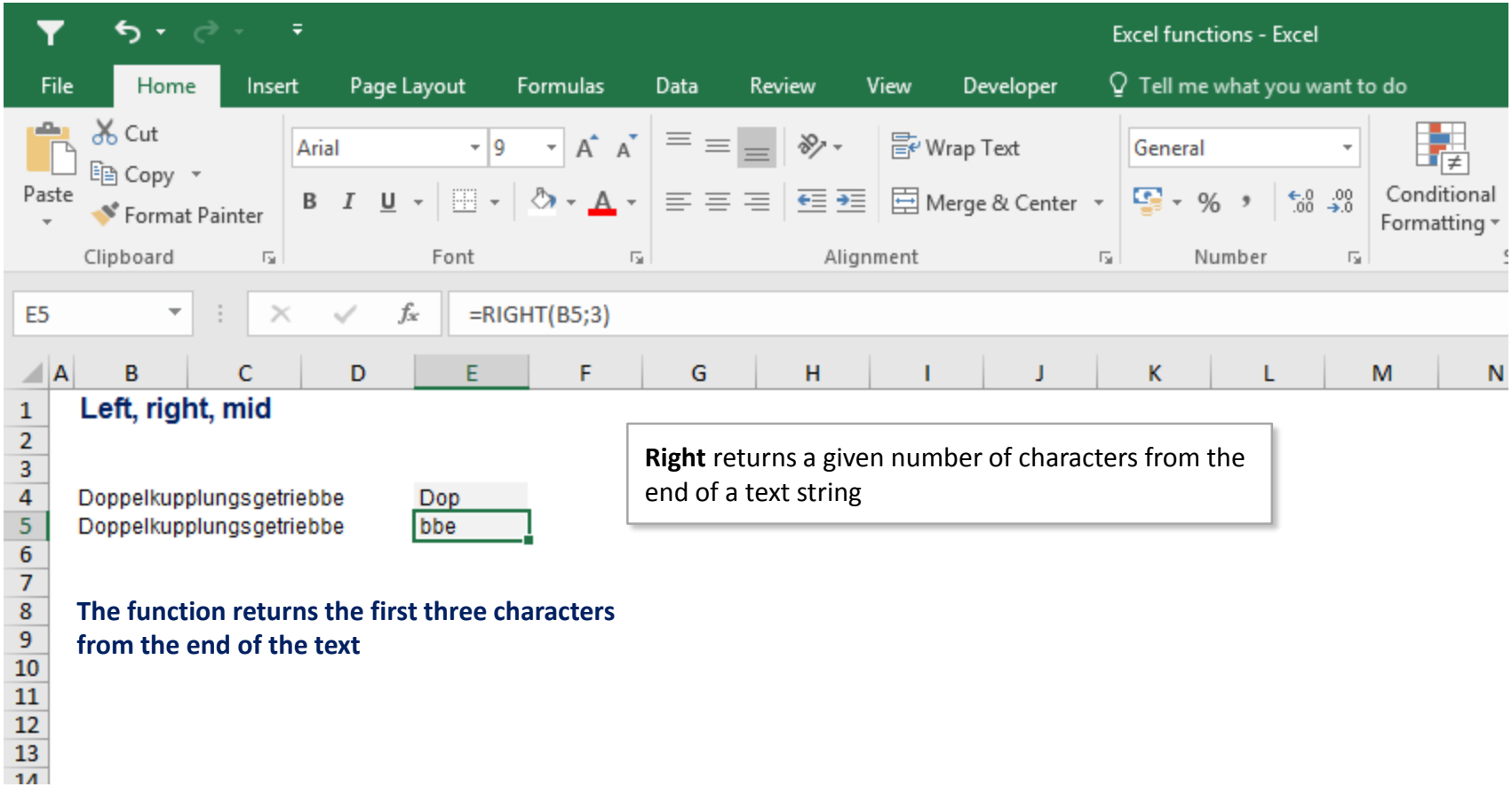


Left returns a given number of characters from the beginning of a text string

The function returns the first three characters from the beginning of the text

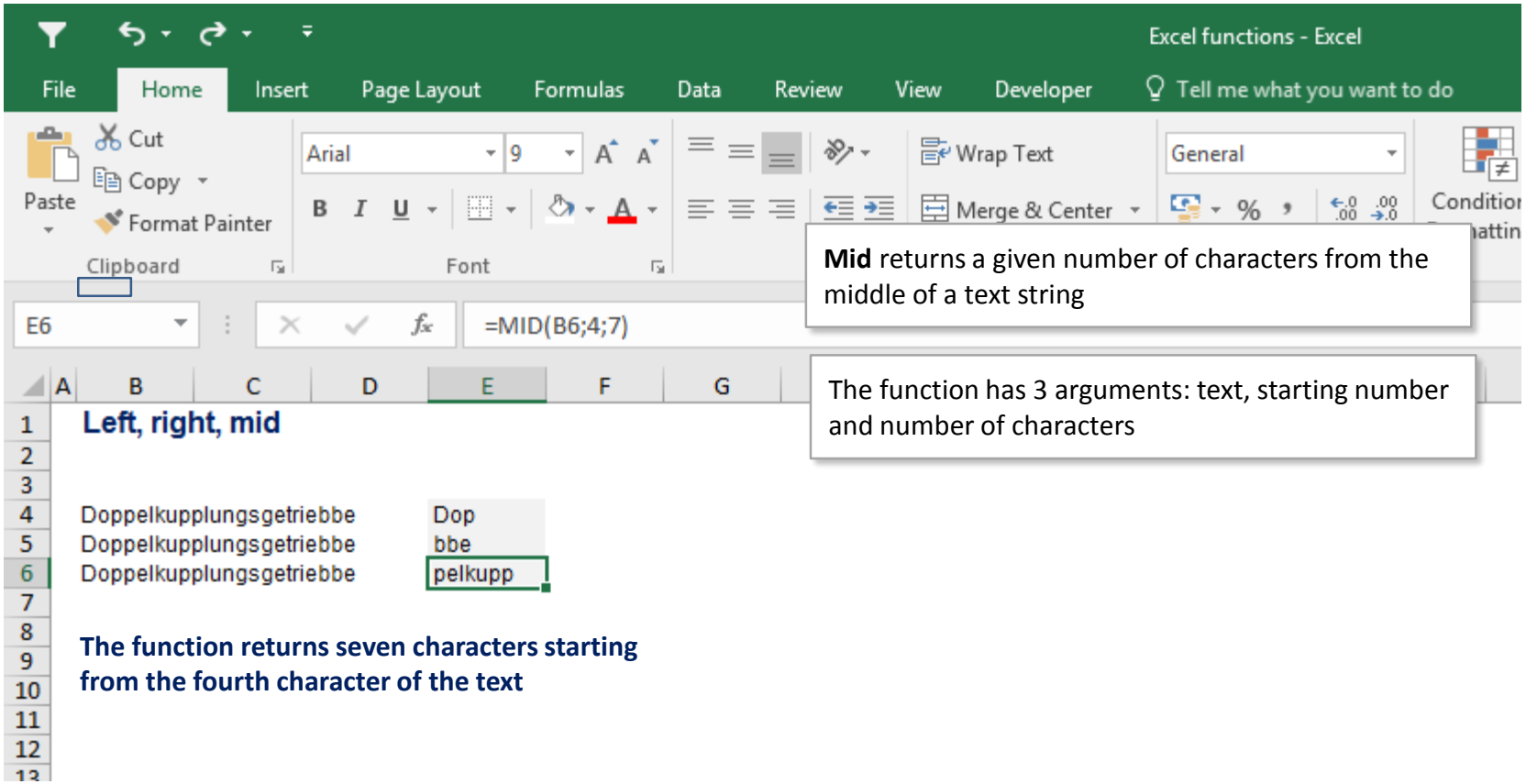
RIGHT

365 Careers

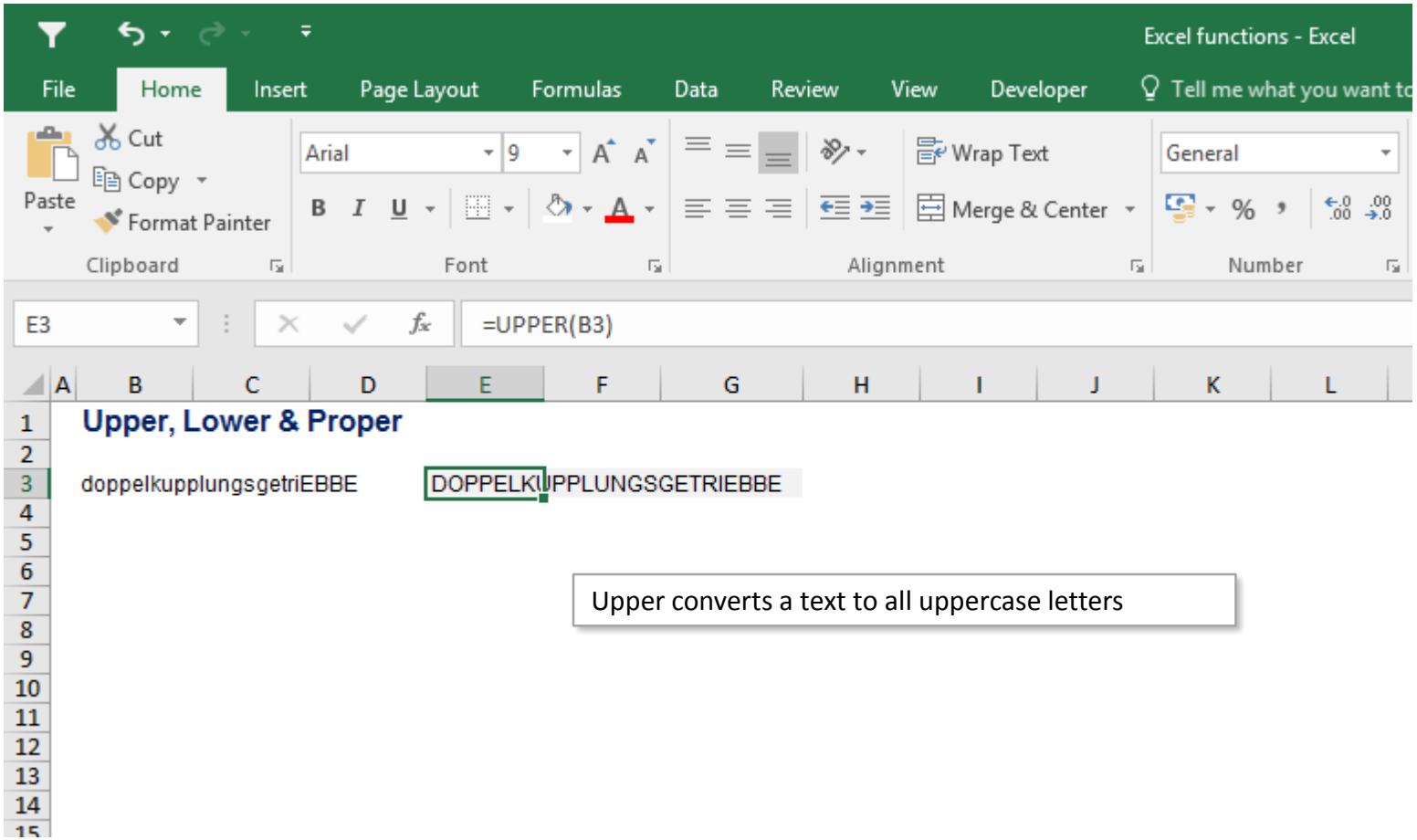


Right returns a given number of characters from the end of a text string

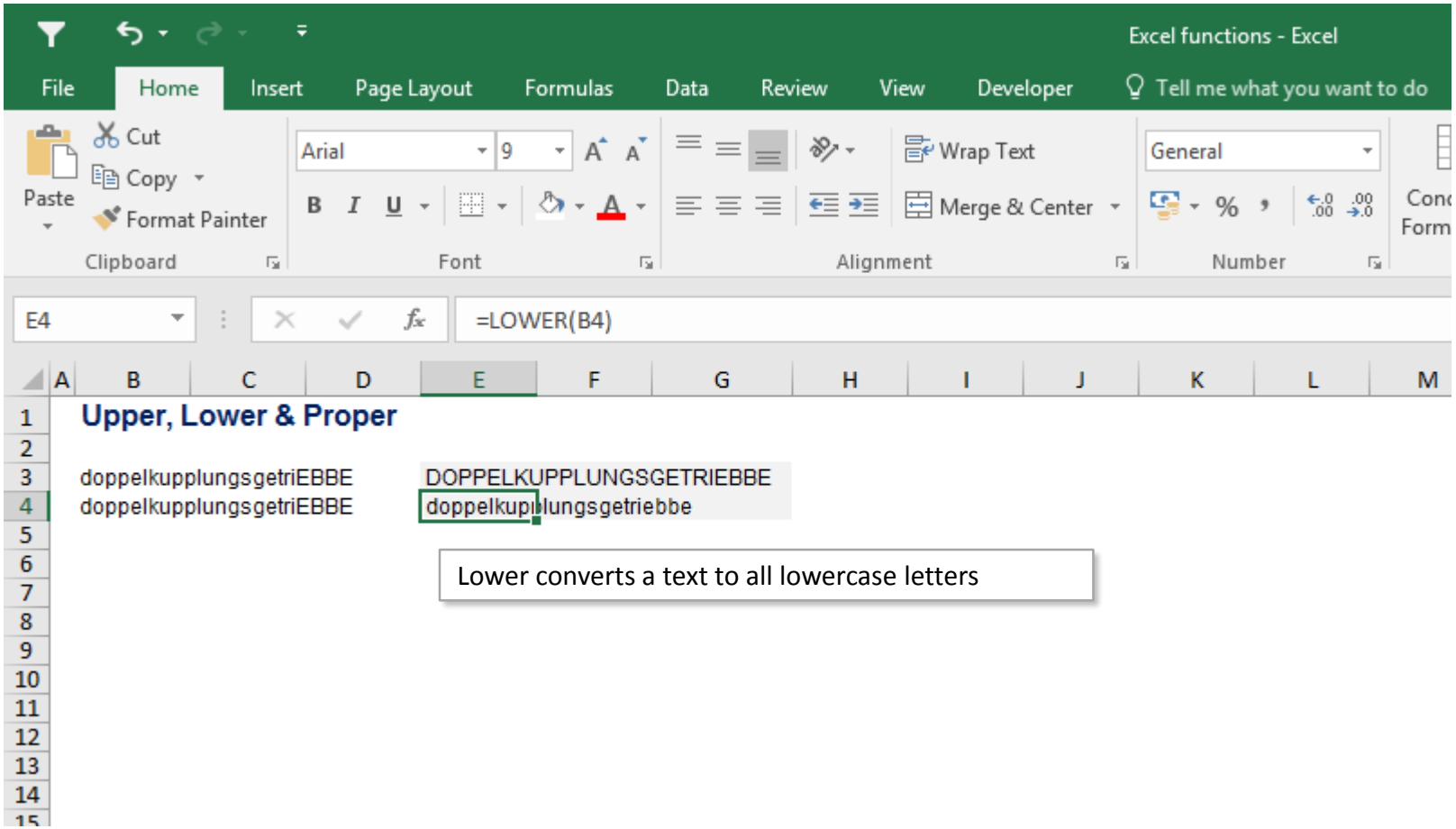
MID


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
General
E6
=MID(B6;4;7)
Mid returns a given number of characters from the middle of a text string
The function has 3 arguments: text, starting number and number of characters
Left, right, mid
Doppelkupplungsgetriebbe
Doppelkupplungsgetriebbe
Doppelkupplungsgetriebbe
Dop
bbe
pelkupp
The function returns seven characters starting from the fourth character of the text

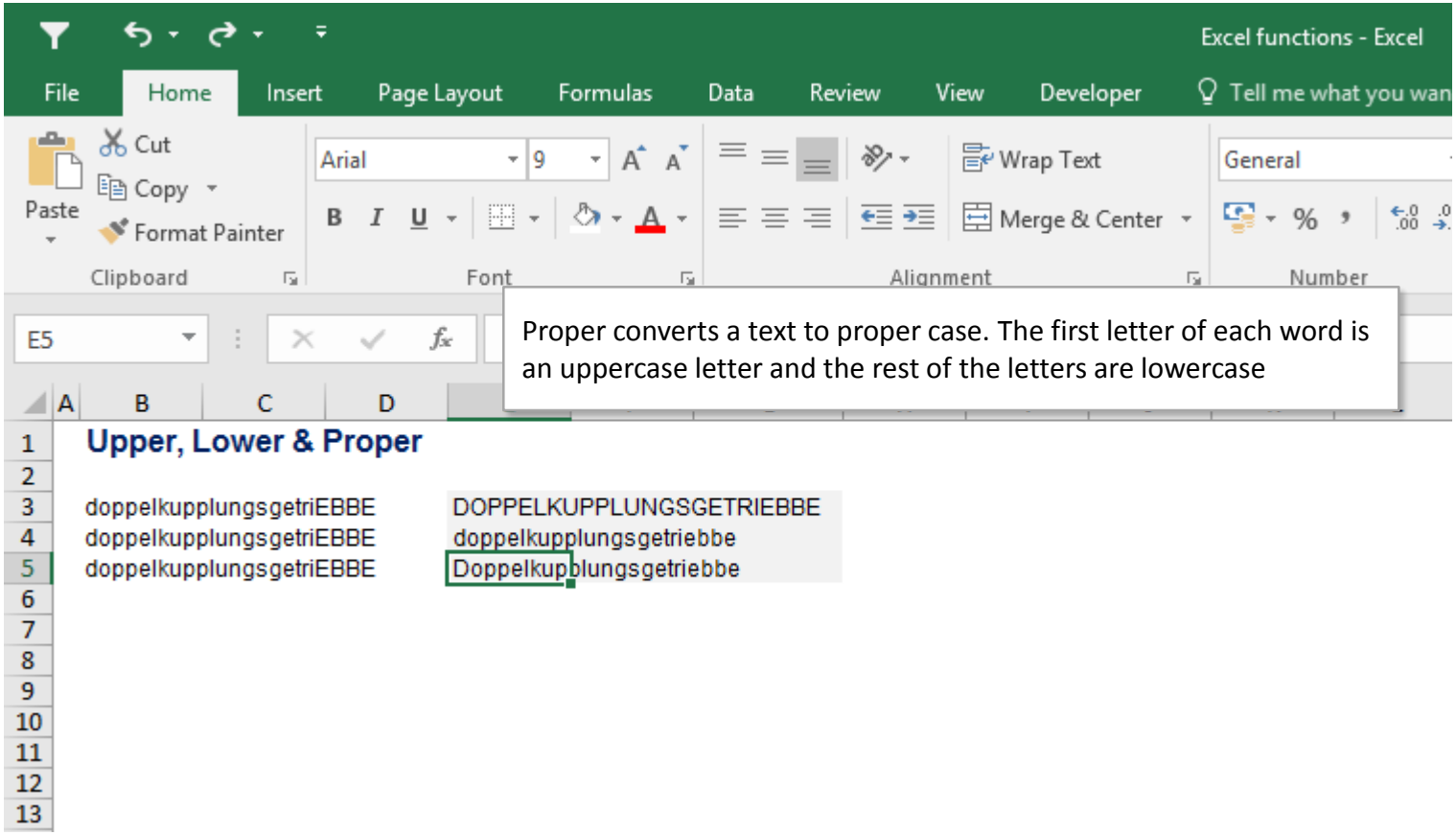
UPPER


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
E3
=UPPER(B3)
Upper, Lower & Proper
doppelkupplungsgetriEBBE
DOPPELKUPPLUNGSGETRIEBBE
Upper converts a text to all uppercase letters

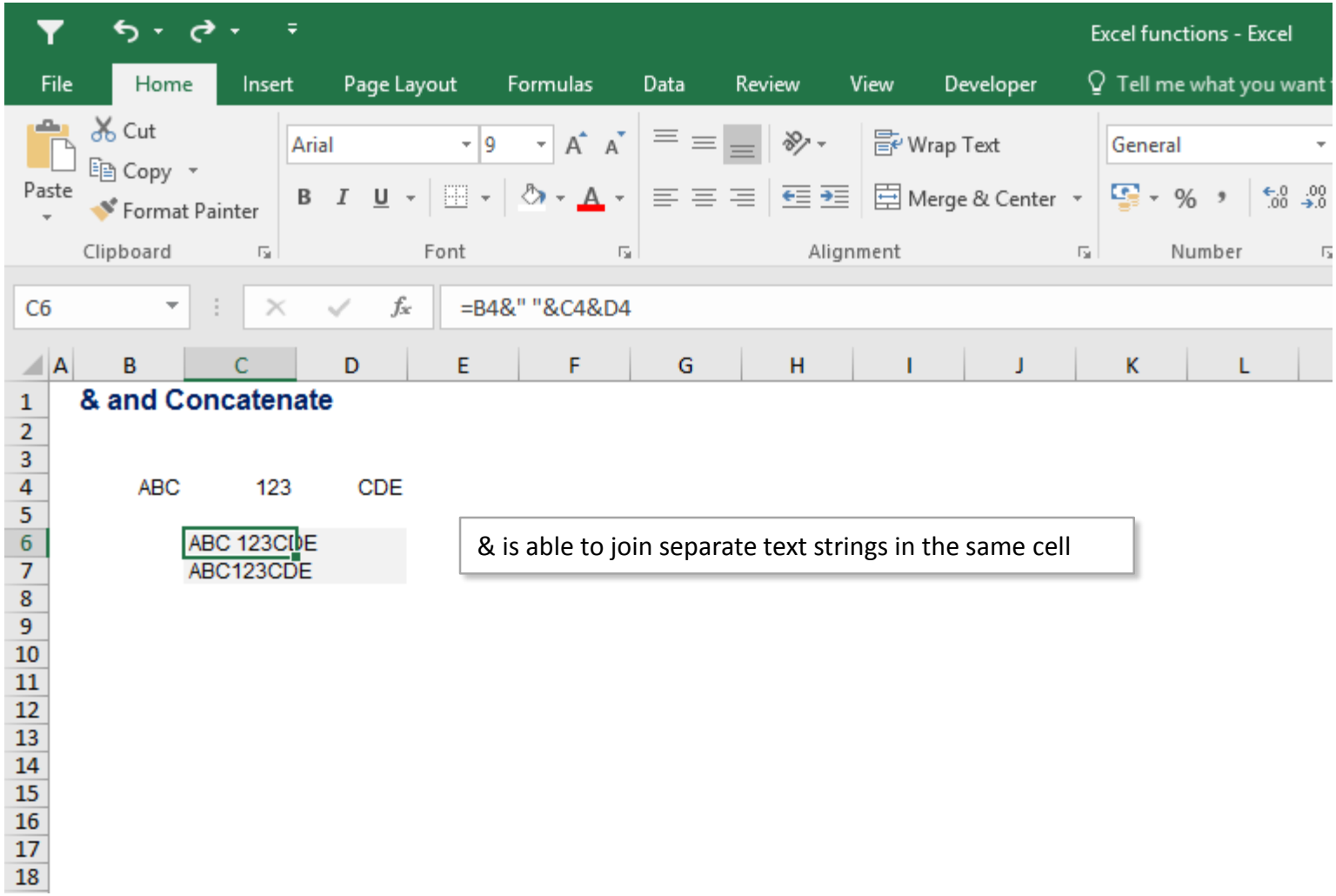
LOWER


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
E4
=LOWER(B4)
Upper, Lower & Proper
doppelkupplungsgetriEBBE
DOPPELKUPPLUNGSGETRIEBBE
doppelkupplungsgetriEBBE
doppelkupplungsgetriebbe
Lower converts a text to all lowercase letters

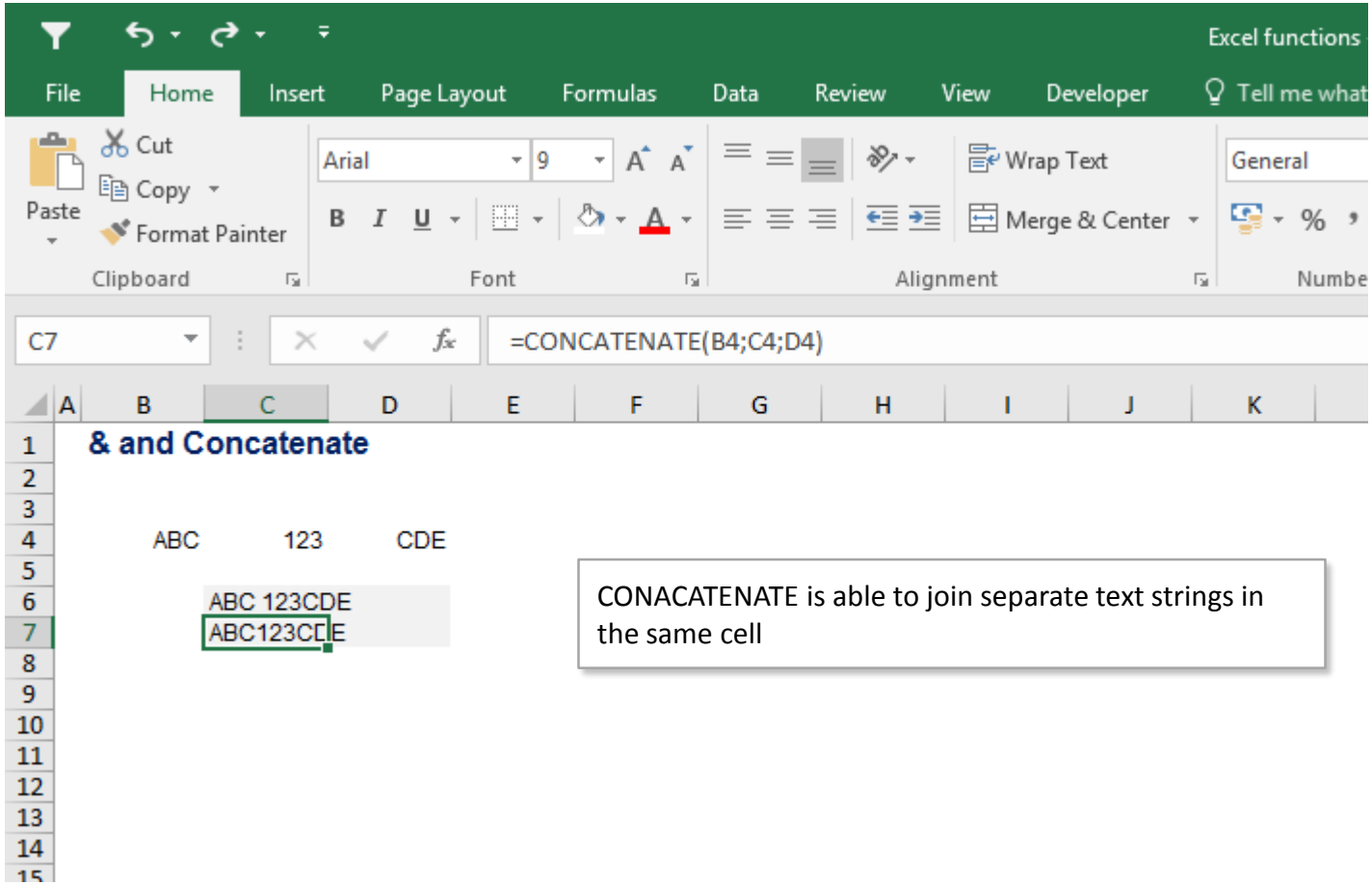
PROPER


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you wan
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
Number
E5
Proper converts a text to proper case. The first letter of each word is an uppercase letter and the rest of the letters are lowercase
A
B
C
D
1
Upper, Lower & Proper
2
3
doppelkupplungsgetriEBBE
DOPPELKUPPLUNGSGETRIEBBE
4
doppelkupplungsgetriEBBE
doppelkupplungsgetriebbe
5
doppelkupplungsgetriEBBE
Doppelkupplungsgetriebbe
6
7
8
9
10
11
12
13

& and CONCATENATE



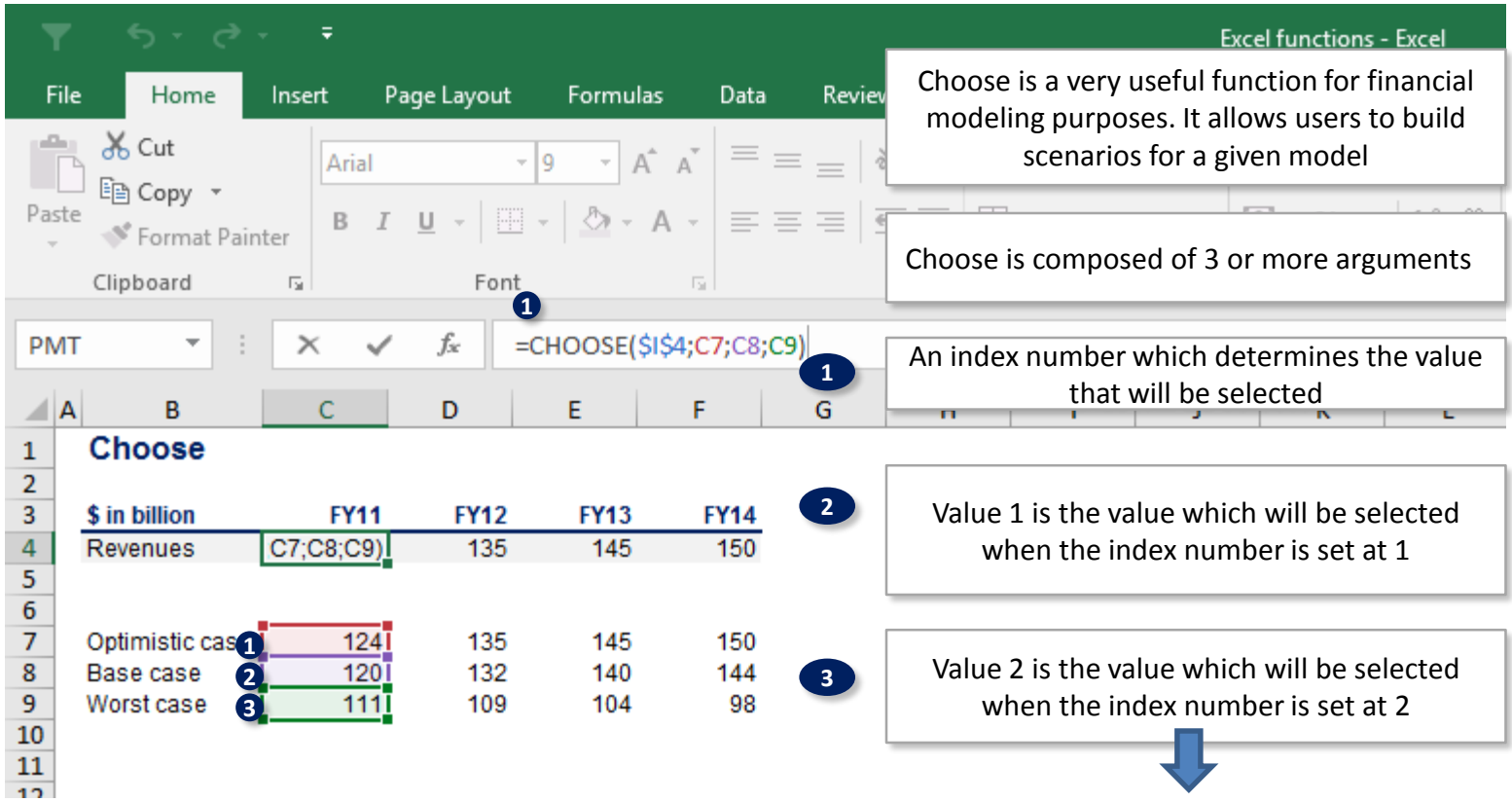
& and CONCATENATE



365 Careers

Choose

CHOOSE



Choose is a very useful function for financial modeling purposes. It allows users to build scenarios for a given model

Choose is composed of 3 or more arguments

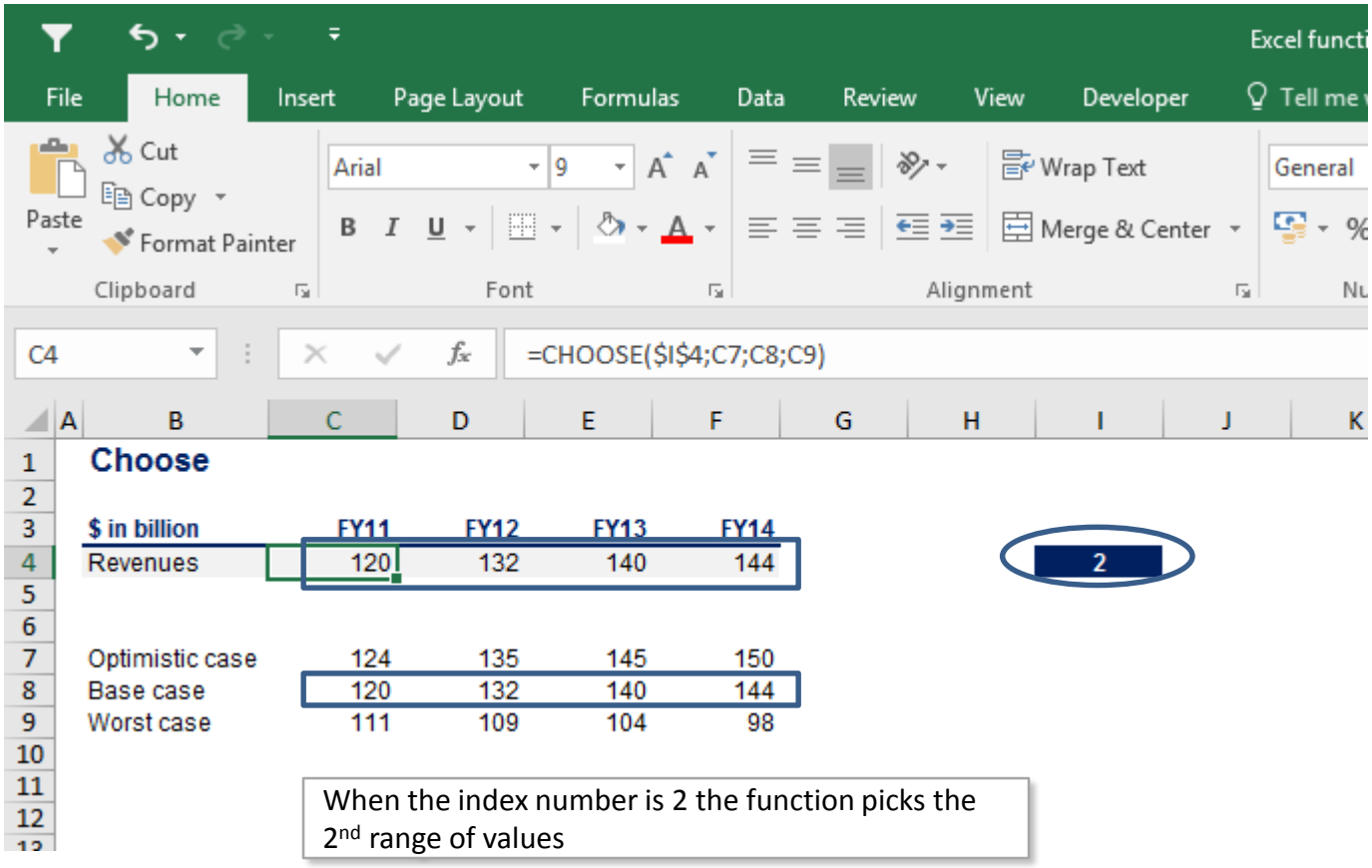
1 An index number which determines the value that will be selected

2 Value 1 is the value which will be selected when the index number is set at 1

3 Value 2 is the value which will be selected when the index number is set at 2

n Value n is the value which will be selected when the index number is set at n

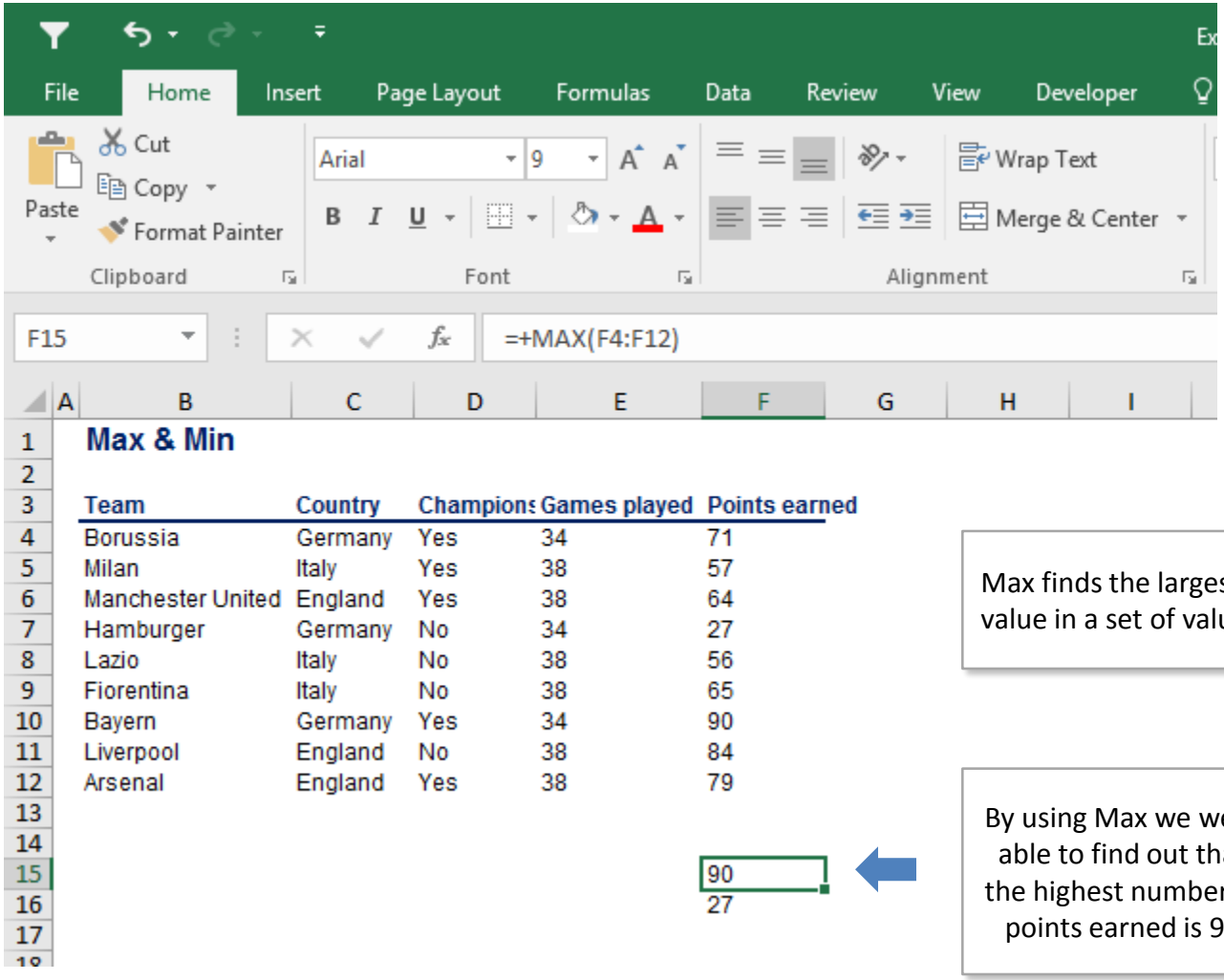
CHOOSE


Excel functi
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
General
C4
=CHOOSE($I$4;C7;C8;C9)
Choose
$ in billion
FY11
FY12
FY13
FY14
Revenues
120
132
140
144
Optimistic case
124
135
145
150
Base case
120
132
140
144
Worst case
111
109
104
98
2
When the index number is 2 the function picks the 2nd range of values

365 Careers

Max & Min

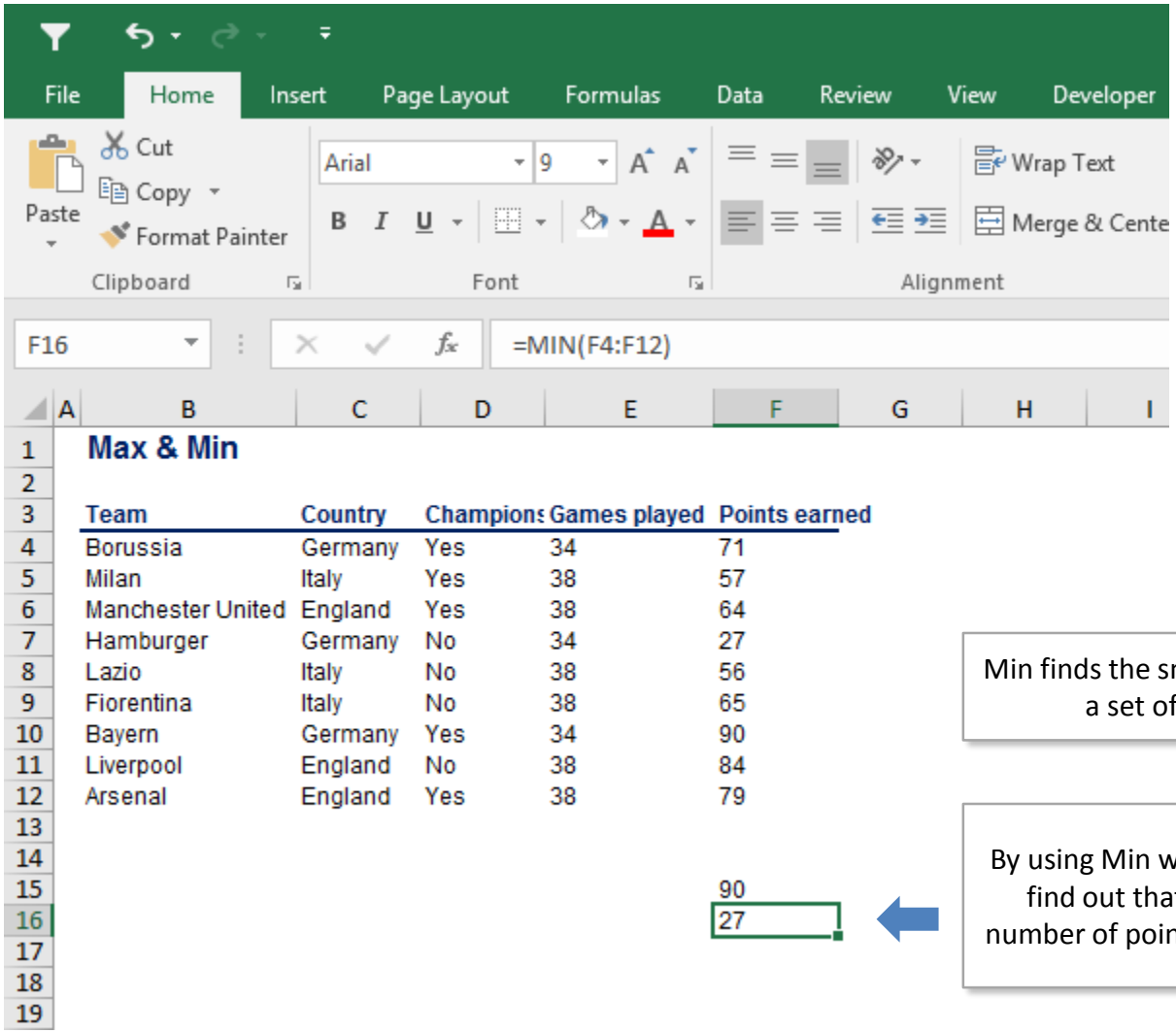
Max



Max finds the largest value in a set of values

By using Max we were able to find out that the highest number of points earned is 90

Min



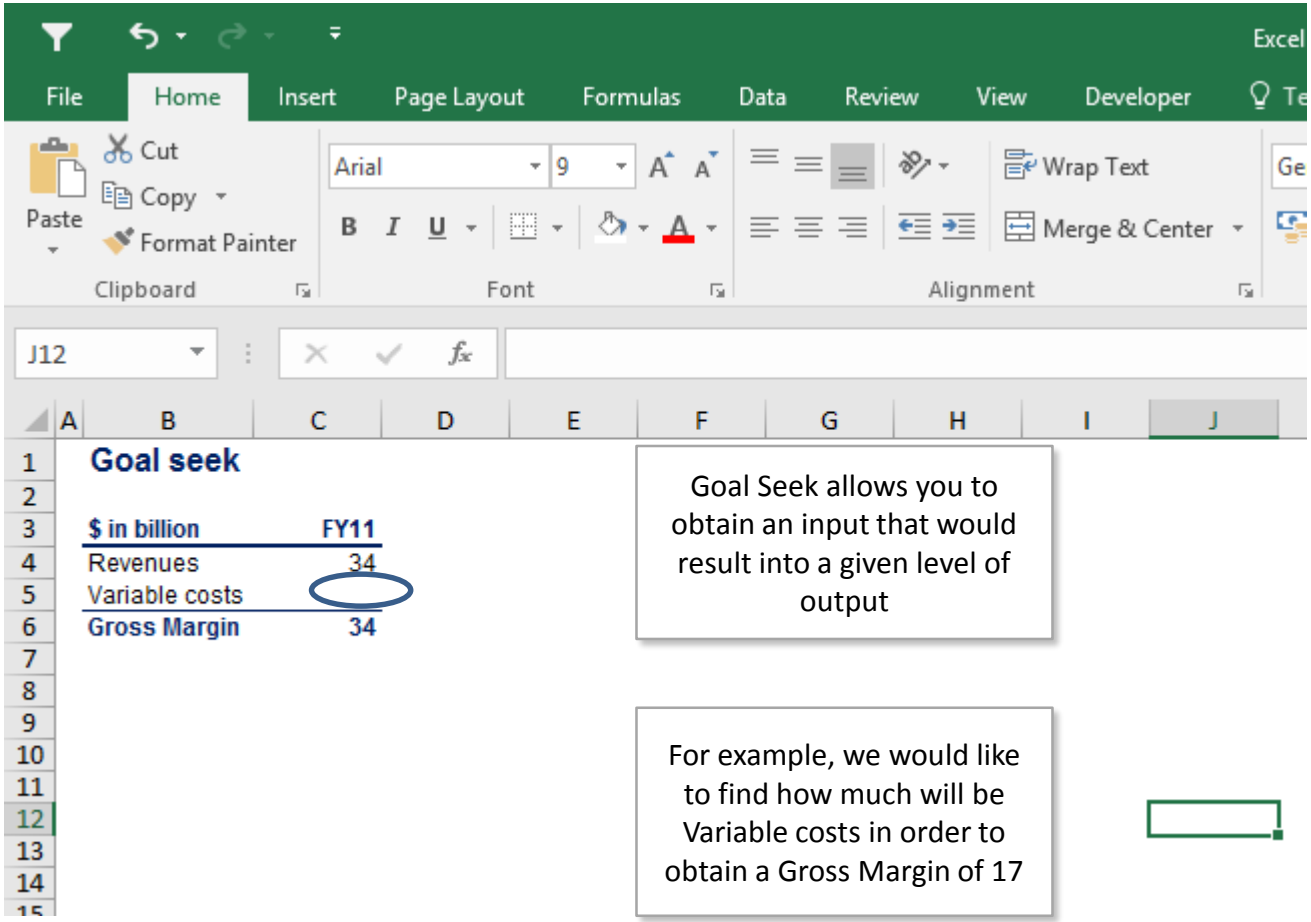
Min finds the smallest value in a set of values

By using Min we were able to find out that the lowest number of points earned is 27

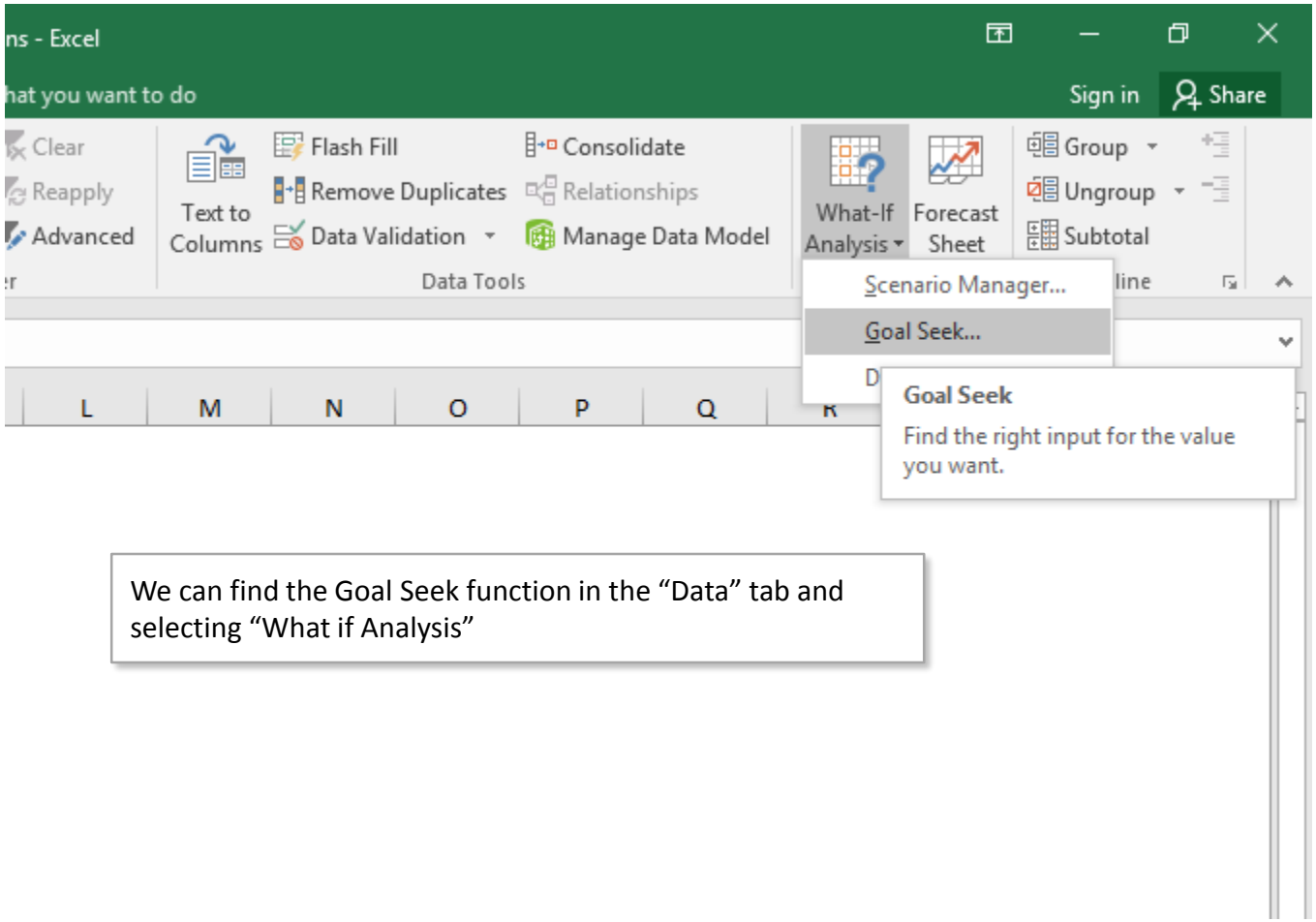
365 Careers

Goal seek

GOAL SEEK

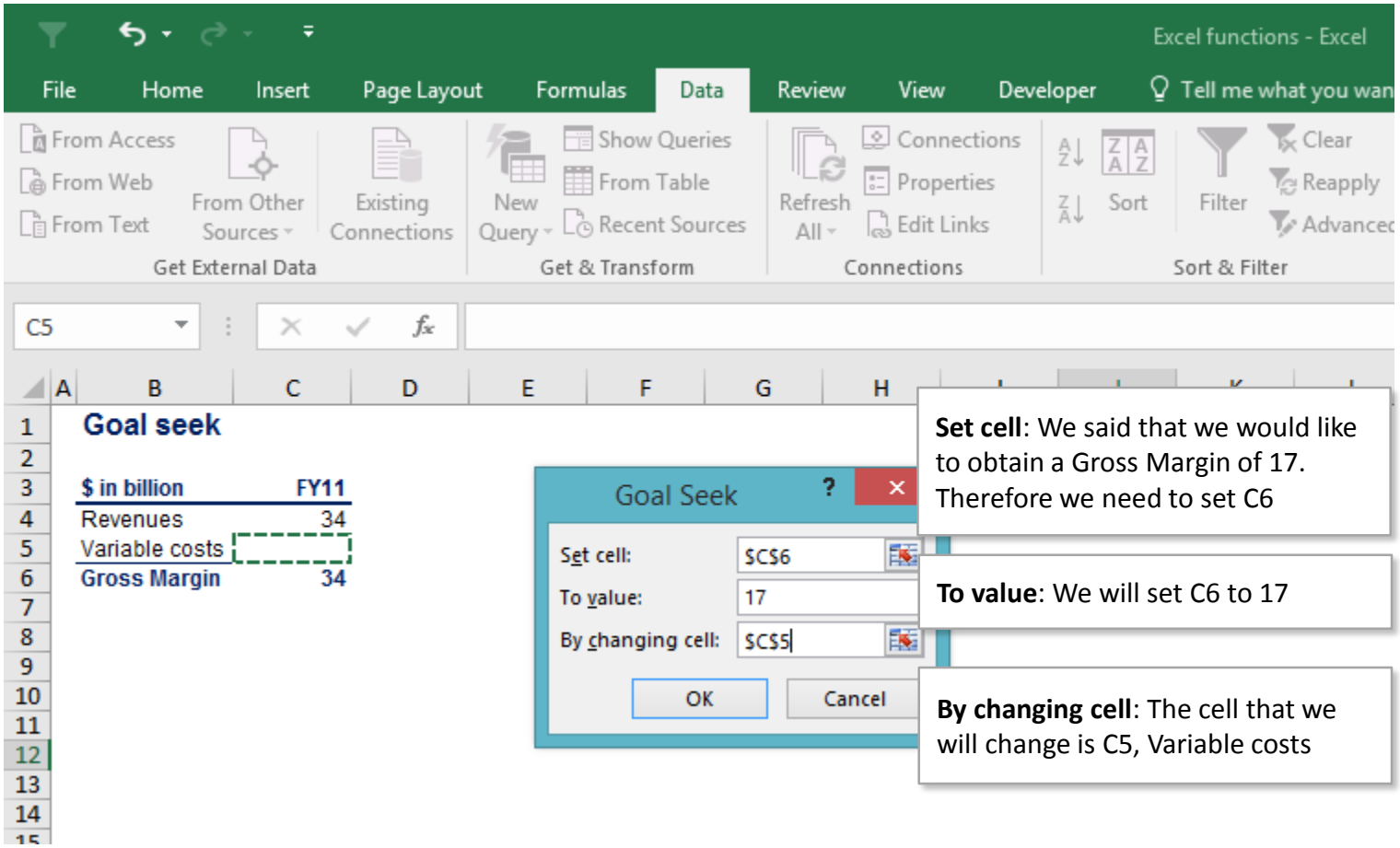

Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Cut
Copy
Format Painter
Paste
Arial
9
Wrap Text
Merge & Center
Clipboard
Font
Alignment
J12
Goal seek
$ in billion
FY11
Revenues
34
Variable costs
Gross Margin
34
Goal Seek allows you to obtain an input that would result into a given level of output
For example, we would like to find how much will be Variable costs in order to obtain a Gross Margin of 17

GOAL SEEK



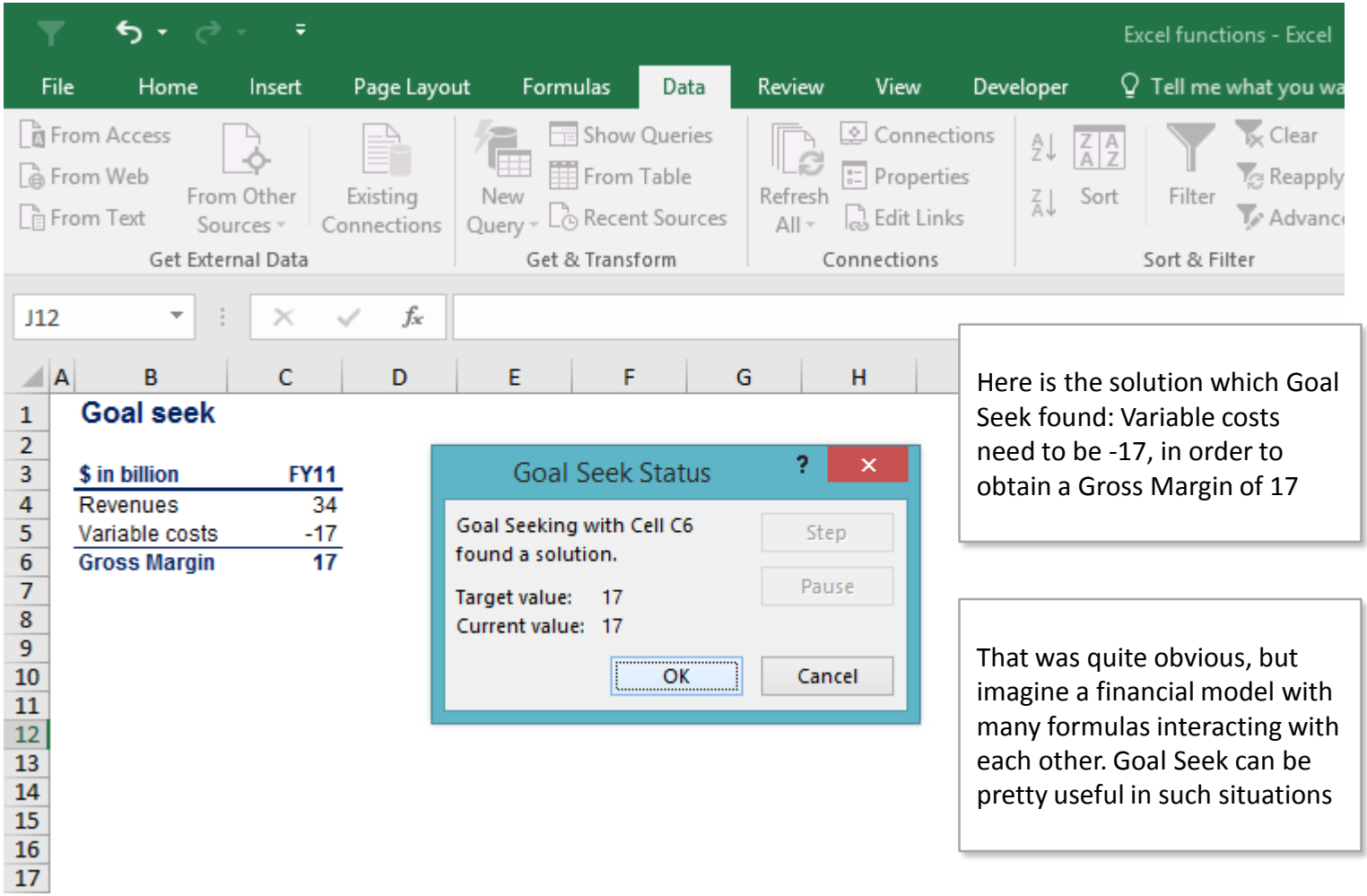
We can find the Goal Seek function in the “Data” tab and selecting “What if Analysis”

GOAL SEEK


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you wan
From Access
From Web
From Text
From Other Sources
Existing Connections
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Edit Links
Connections
Sort
Filter
Clear
Reapply
Advanced
Sort & Filter
C5
Goal seek
$ in billion
FY11
Revenues
34
Variable costs
Gross Margin
34
Goal Seek
Set cell:
$C$6
To value:
17
By changing cell:
$C$5
OK
Cancel
Set cell: We said that we would like to obtain a Gross Margin of 17. Therefore we need to set C6
To value: We will set C6 to 17
By changing cell: The cell that we will change is C5, Variable costs

GOAL SEEK

365 Careers



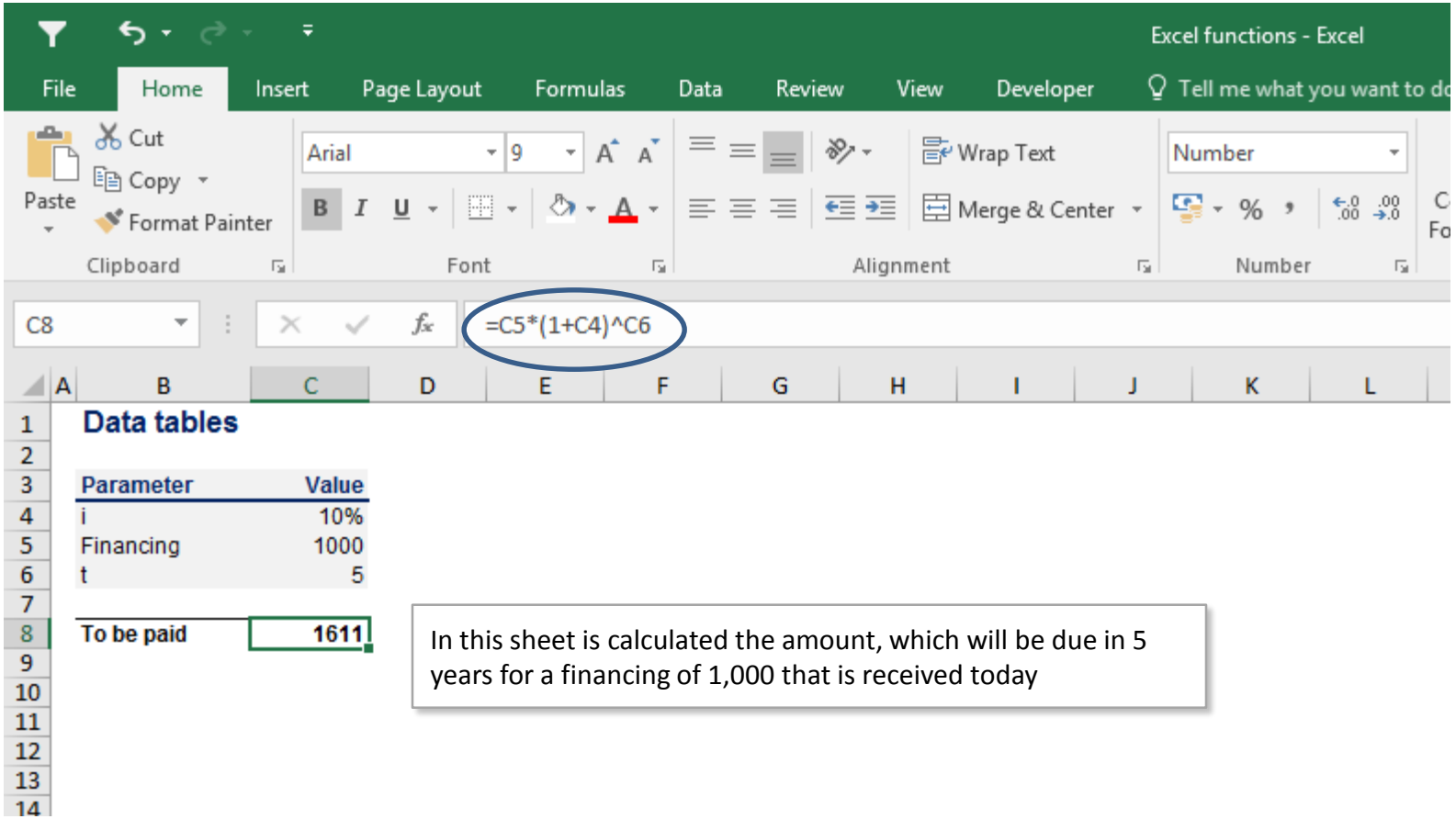
Here is the solution which Goal Seek found: Variable costs need to be -17, in order to obtain a Gross Margin of 17

That was quite obvious, but imagine a financial model with many formulas interacting with each other. Goal Seek can be pretty useful in such situations

365 Careers

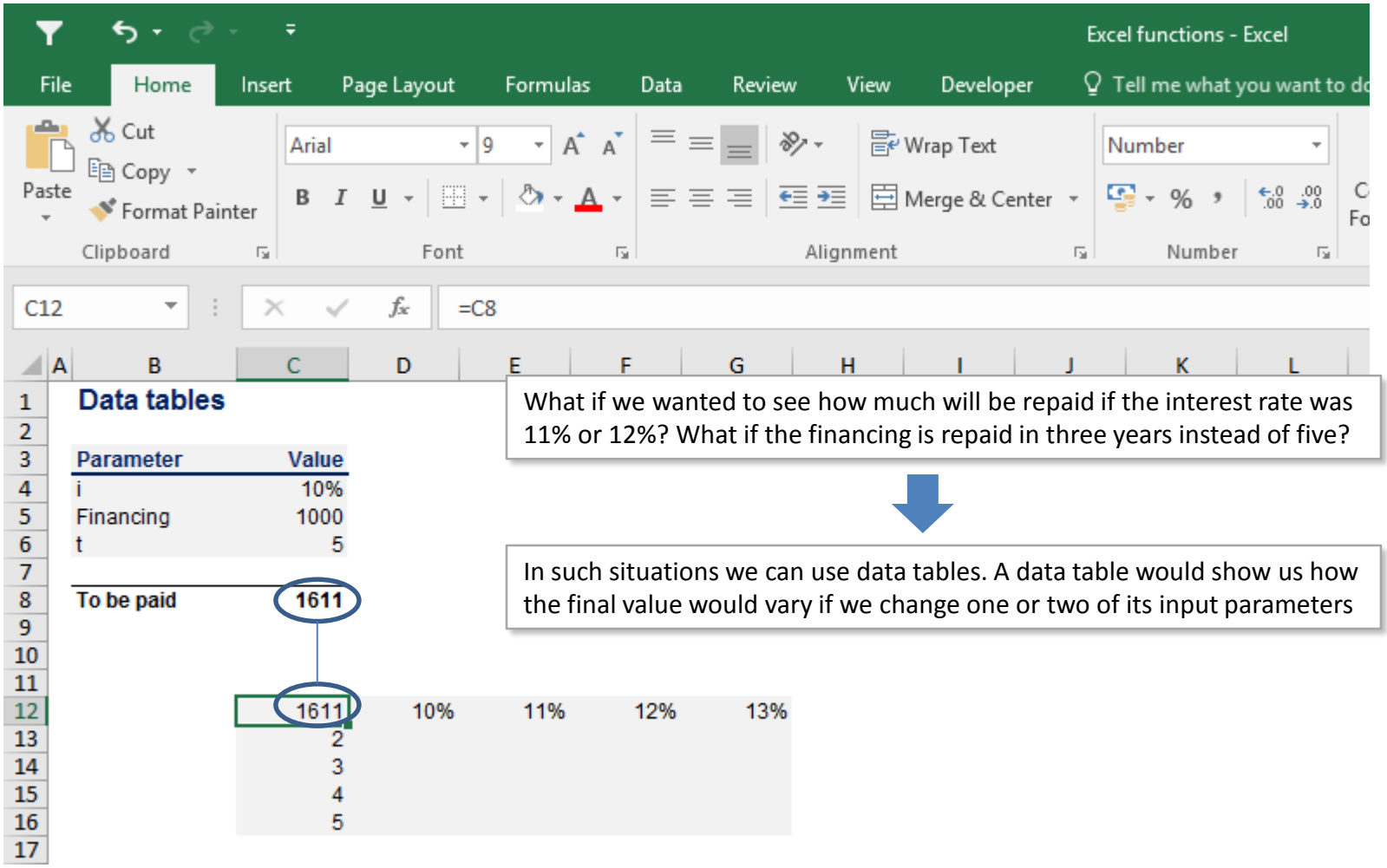
Data tables

DATA TABLES

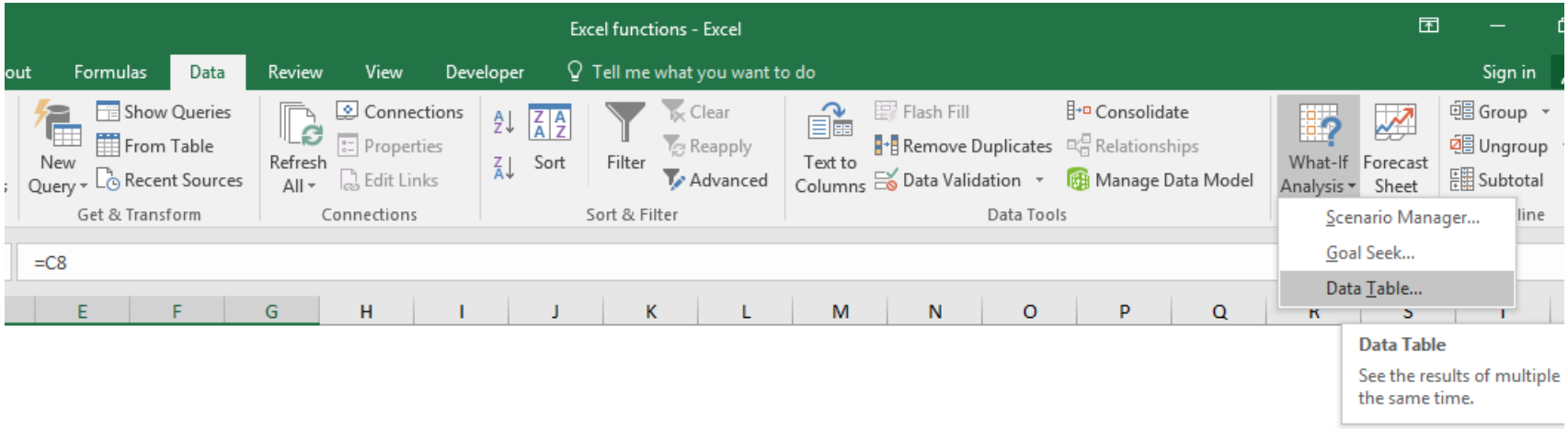


In this sheet is calculated the amount, which will be due in 5 years for a financing of 1,000 that is received today

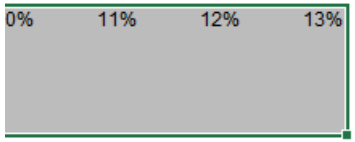
DATA TABLES


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
Cut
Copy
Format Painter
Paste
Clipboard
Arial
9
Font
Wrap Text
Merge & Center
Alignment
Number
Number
C12
=C8
Data tables
Parameter
Value
i
10%
Financing
1000
t
5
To be paid
1611
1611
10%
11%
12%
13%
2
3
4
5
What if we wanted to see how much will be repaid if the interest rate was 11% or 12%? What if the financing is repaid in three years instead of five?
In such situations we can use data tables. A data table would show us how the final value would vary if we change one or two of its input parameters

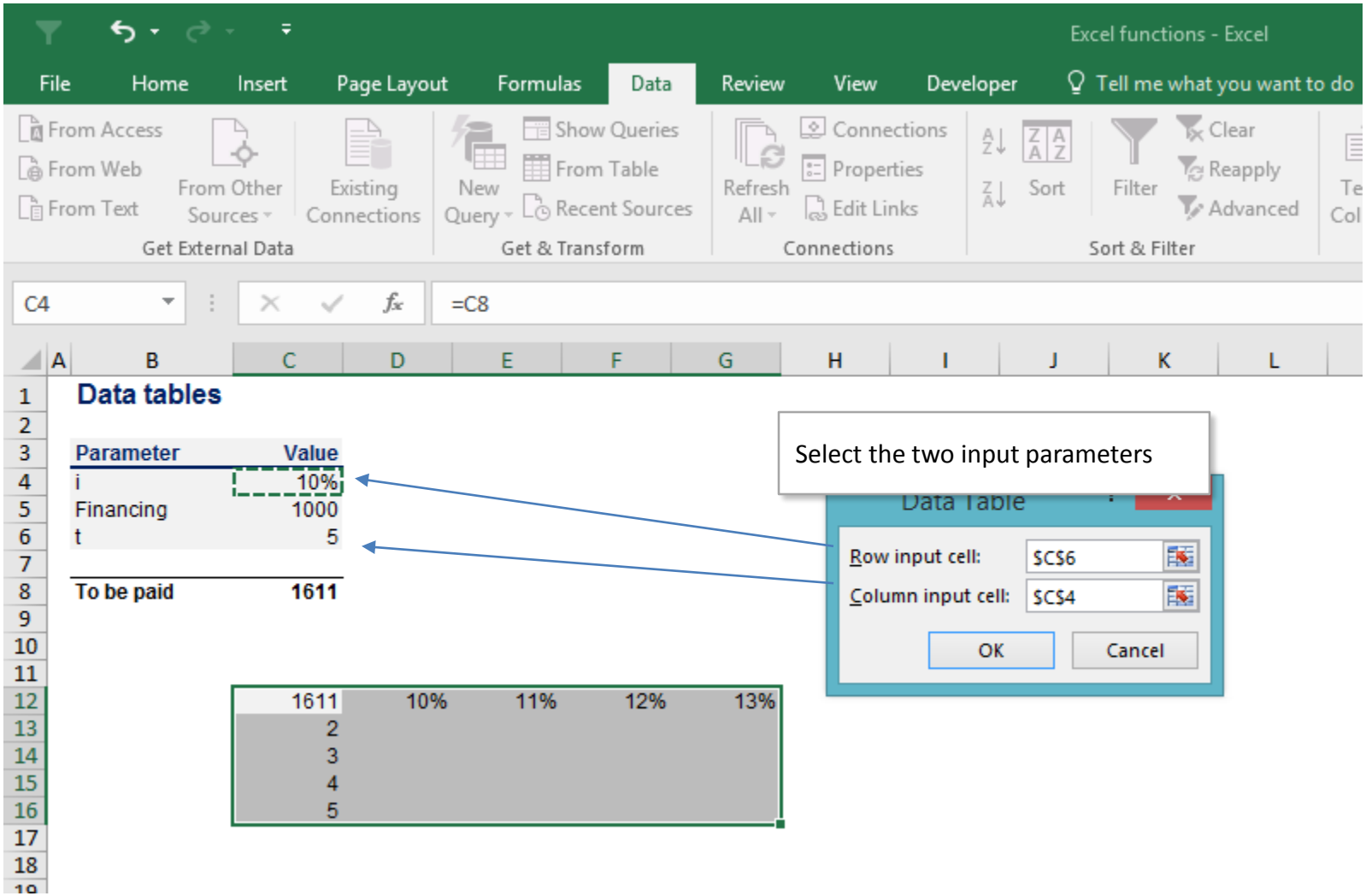
DATA TABLES



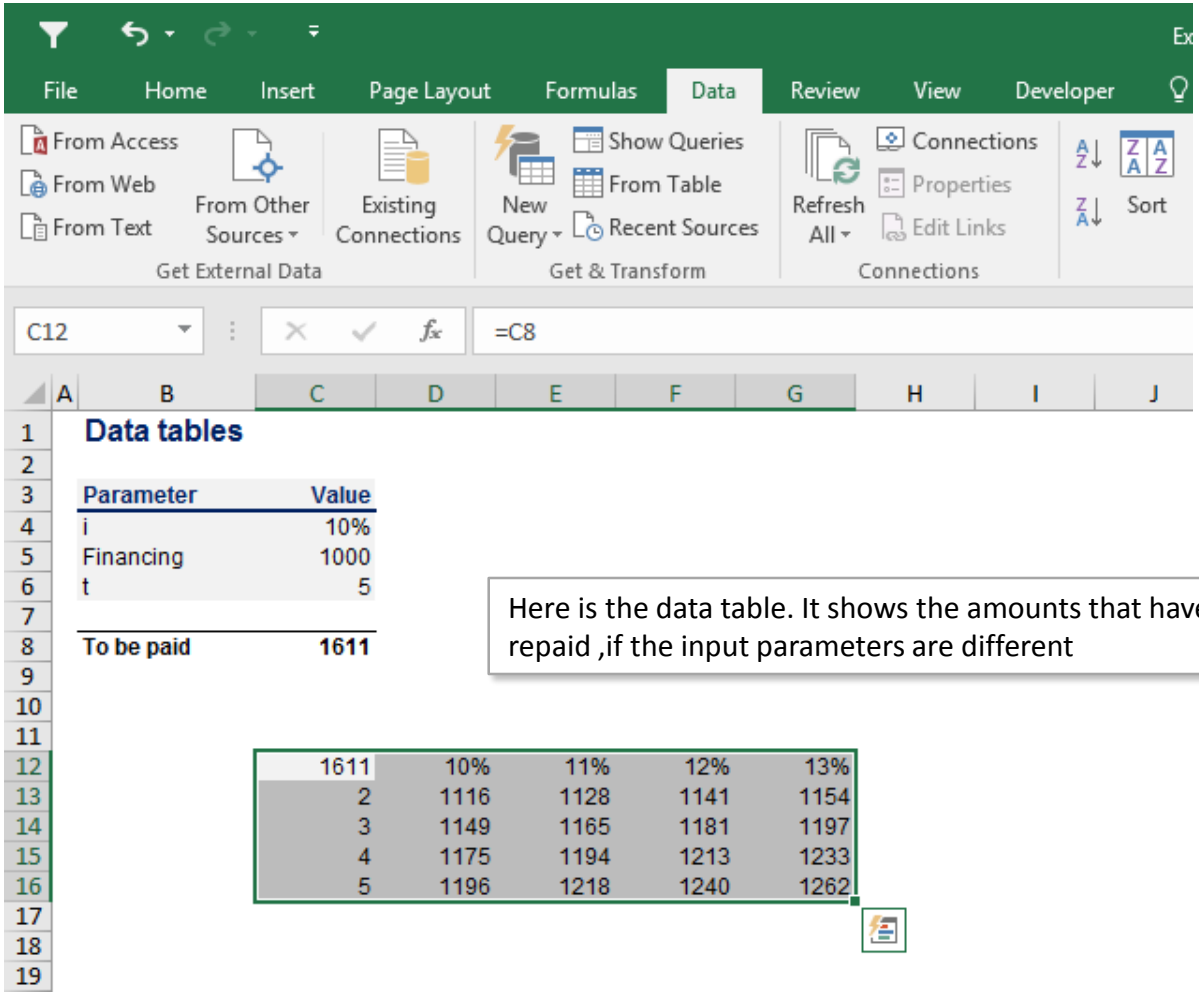
Go to “What if Analysis” and select Data Table..



DATA TABLES


Excel functions - Excel
File
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Tell me what you want to do
From Access
From Web
From Text
From Other Sources
Existing Connections
Get External Data
New Query
Show Queries
From Table
Recent Sources
Get & Transform
Refresh All
Connections
Properties
Edit Links
Connections
Sort
Filter
Clear
Reapply
Advanced
Sort & Filter
C4
=C8
Data tables
Parameter
Value
i
10%
Financing
1000
t
5
To be paid
1611
Select the two input parameters
Data Table
Row input cell:
$C$6
Column input cell:
$C$4
OK
Cancel
1611
10%
11%
12%
13%
2
3
4
5

DATA TABLES



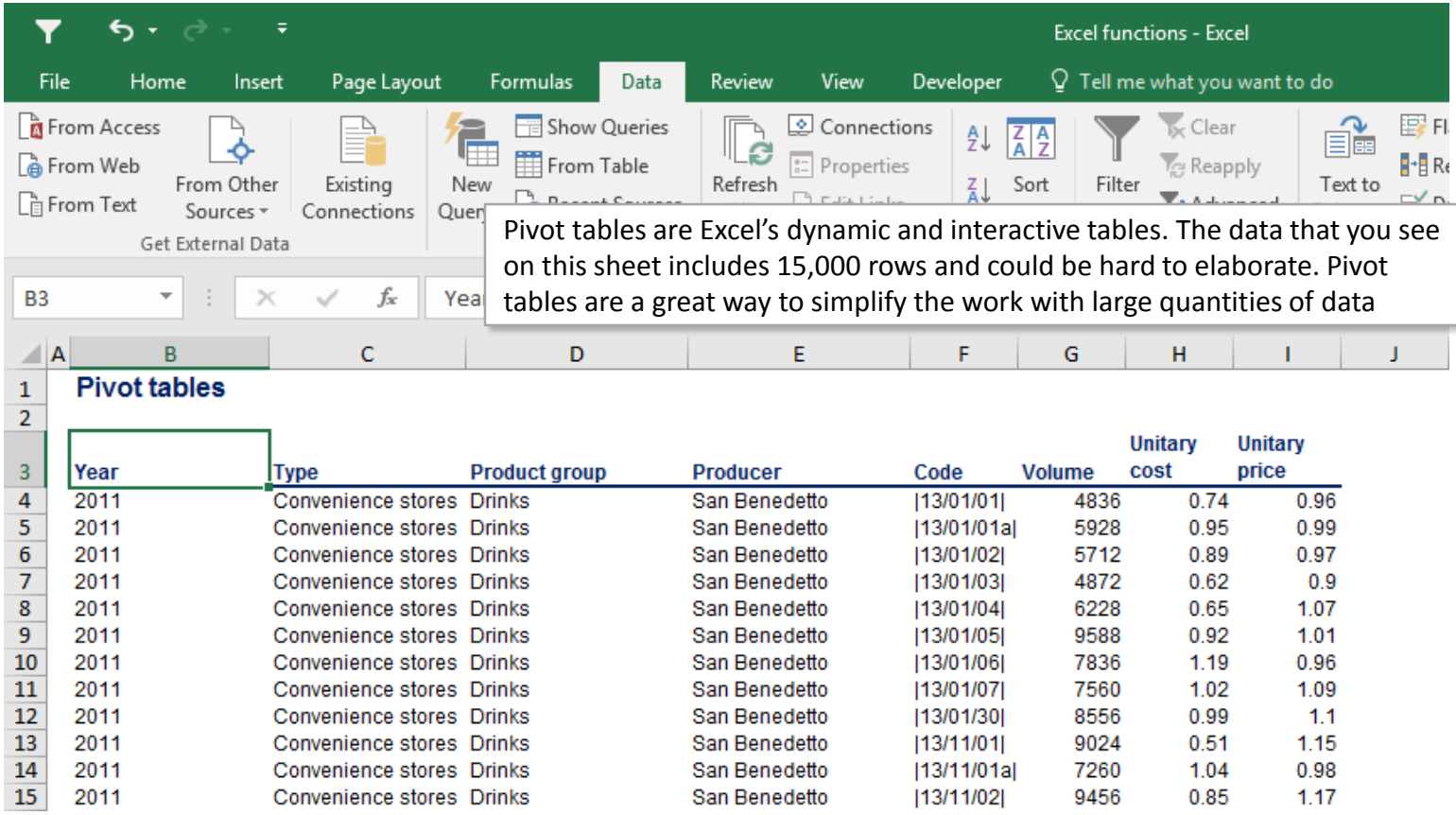
Here is the data table. It shows the amounts that have to be repaid ,if the input parameters are different

365 Careers

Pivot tables

PIVOT TABLES

365 Careers

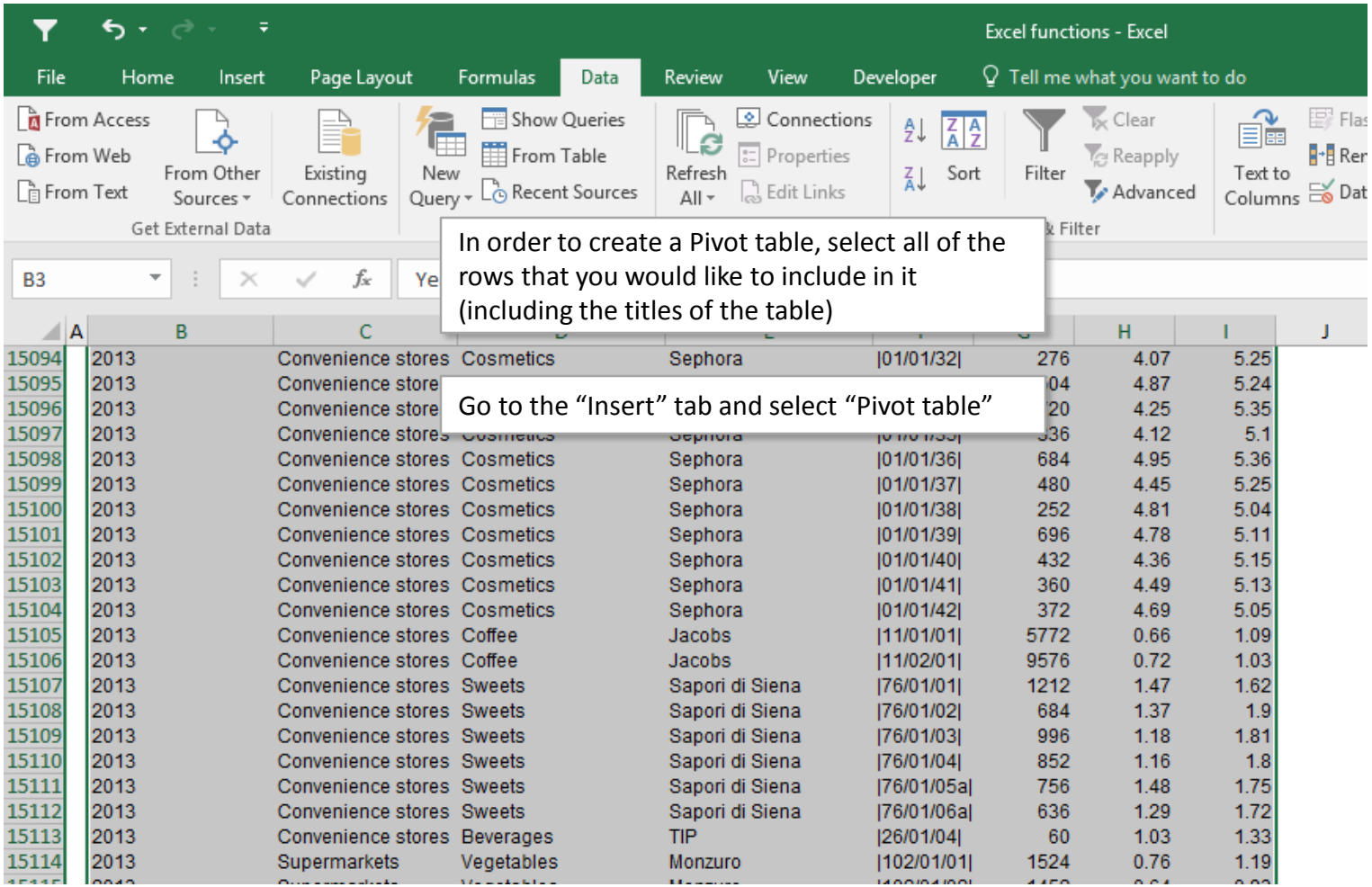


Pivot tables

Year	Type	Product group	Producer	Code	Volume	Unitary cost	Unitary price
2011	Convenience stores	Drinks	San Benedetto	|13/01/01|	4836	0.74	0.96
2011	Convenience stores	Drinks	San Benedetto	|13/01/01a|	5928	0.95	0.99
2011	Convenience stores	Drinks	San Benedetto	|13/01/02|	5712	0.89	0.97
2011	Convenience stores	Drinks	San Benedetto	|13/01/03|	4872	0.62	0.9
2011	Convenience stores	Drinks	San Benedetto	|13/01/04|	6228	0.65	1.07
2011	Convenience stores	Drinks	San Benedetto	|13/01/05|	9588	0.92	1.01
2011	Convenience stores	Drinks	San Benedetto	|13/01/06|	7836	1.19	0.96
2011	Convenience stores	Drinks	San Benedetto	|13/01/07|	7560	1.02	1.09
2011	Convenience stores	Drinks	San Benedetto	|13/01/30|	8556	0.99	1.1
2011	Convenience stores	Drinks	San Benedetto	|13/11/01|	9024	0.51	1.15
2011	Convenience stores	Drinks	San Benedetto	|13/11/01a|	7260	1.04	0.98
2011	Convenience stores	Drinks	San Benedetto	|13/11/02|	9456	0.85	1.17

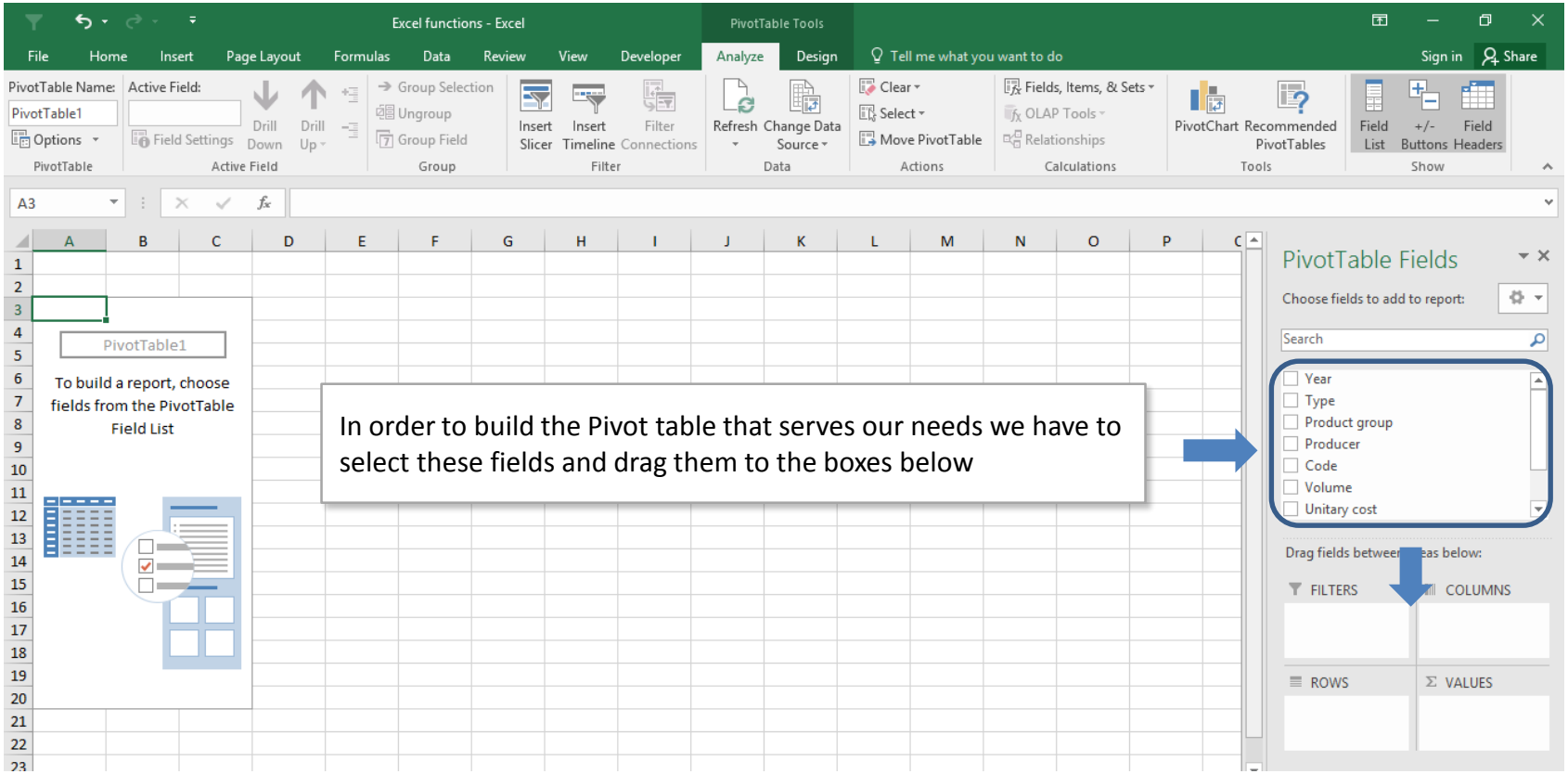
PIVOT TABLES

365 Careers

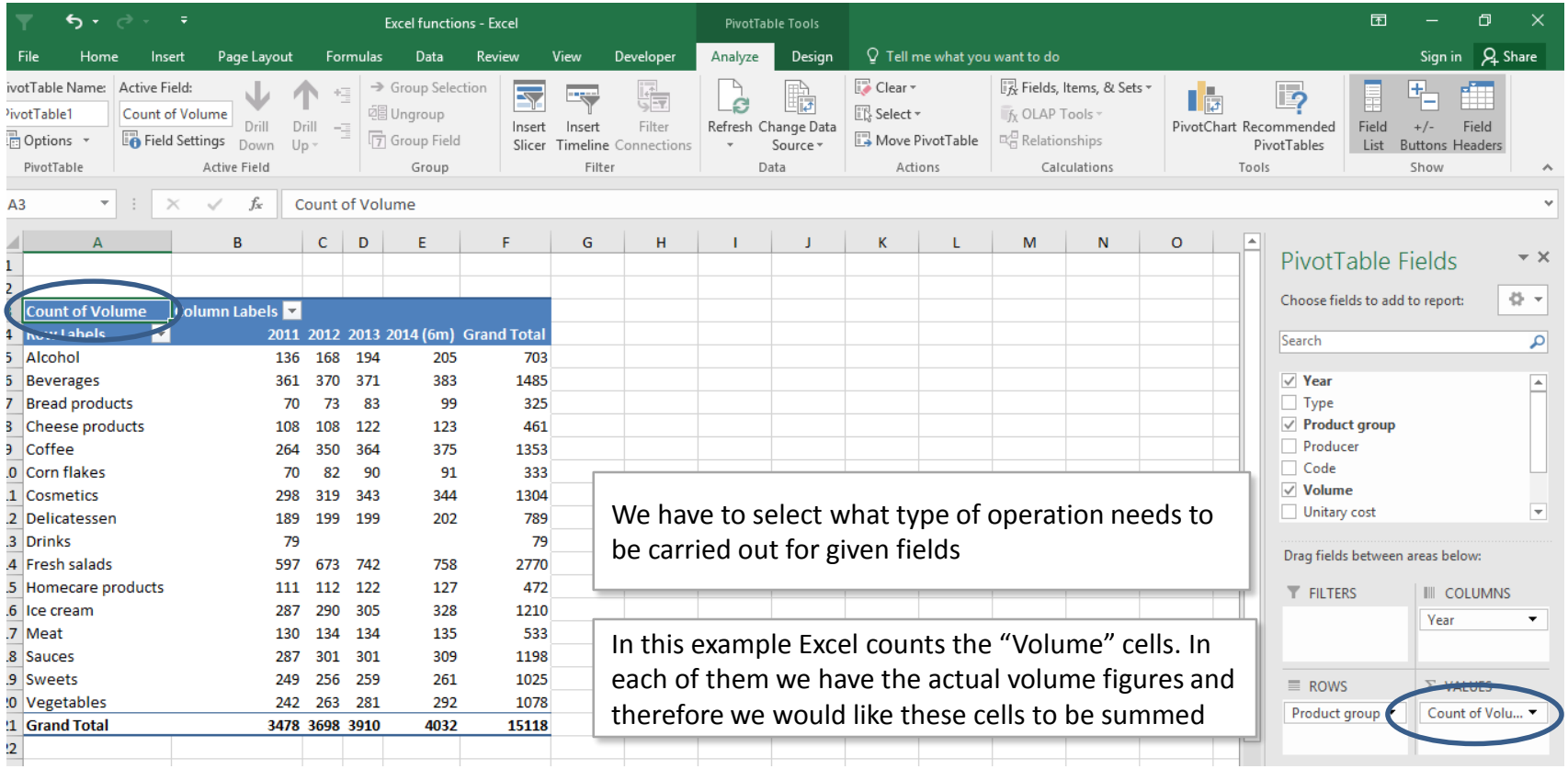


	A	B	C	D	E	F	G	H	I	J
15094		2013	Convenience stores	Cosmetics	Sephora	01/01/32	276	4.07	5.25	
15095		2013	Convenience store				04	4.87	5.24	
15096		2013	Convenience store				20	4.25	5.35	
15097		2013	Convenience stores				336	4.12	5.1	
15098		2013	Convenience stores	Cosmetics	Sephora	01/01/36	684	4.95	5.36	
15099		2013	Convenience stores	Cosmetics	Sephora	01/01/37	480	4.45	5.25	
15100		2013	Convenience stores	Cosmetics	Sephora	01/01/38	252	4.81	5.04	
15101		2013	Convenience stores	Cosmetics	Sephora	01/01/39	696	4.78	5.11	
15102		2013	Convenience stores	Cosmetics	Sephora	01/01/40	432	4.36	5.15	
15103		2013	Convenience stores	Cosmetics	Sephora	01/01/41	360	4.49	5.13	
15104		2013	Convenience stores	Cosmetics	Sephora	01/01/42	372	4.69	5.05	
15105		2013	Convenience stores	Coffee	Jacobs	11/01/01	5772	0.66	1.09	
15106		2013	Convenience stores	Coffee	Jacobs	11/02/01	9576	0.72	1.03	
15107		2013	Convenience stores	Sweets	Sapori di Siena	76/01/01	1212	1.47	1.62	
15108		2013	Convenience stores	Sweets	Sapori di Siena	76/01/02	684	1.37	1.9	
15109		2013	Convenience stores	Sweets	Sapori di Siena	76/01/03	996	1.18	1.81	
15110		2013	Convenience stores	Sweets	Sapori di Siena	76/01/04	852	1.16	1.8	
15111		2013	Convenience stores	Sweets	Sapori di Siena	76/01/05a	756	1.48	1.75	
15112		2013	Convenience stores	Sweets	Sapori di Siena	76/01/06a	636	1.29	1.72	
15113		2013	Convenience stores	Beverages	TIP	26/01/04	60	1.03	1.33	
15114		2013	Supermarkets	Vegetables	Monzuro	102/01/01	1524	0.76	1.19	

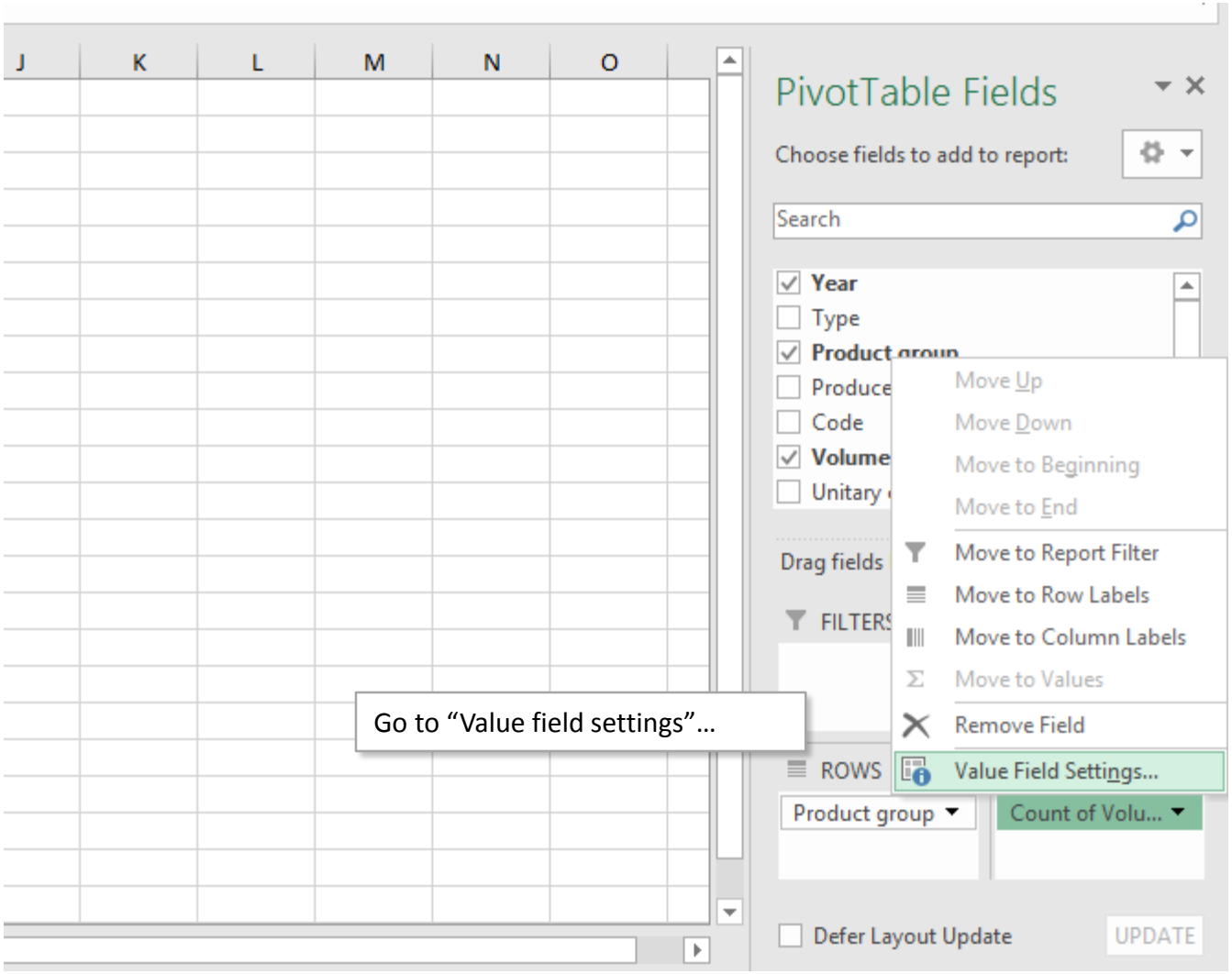
PIVOT TABLES



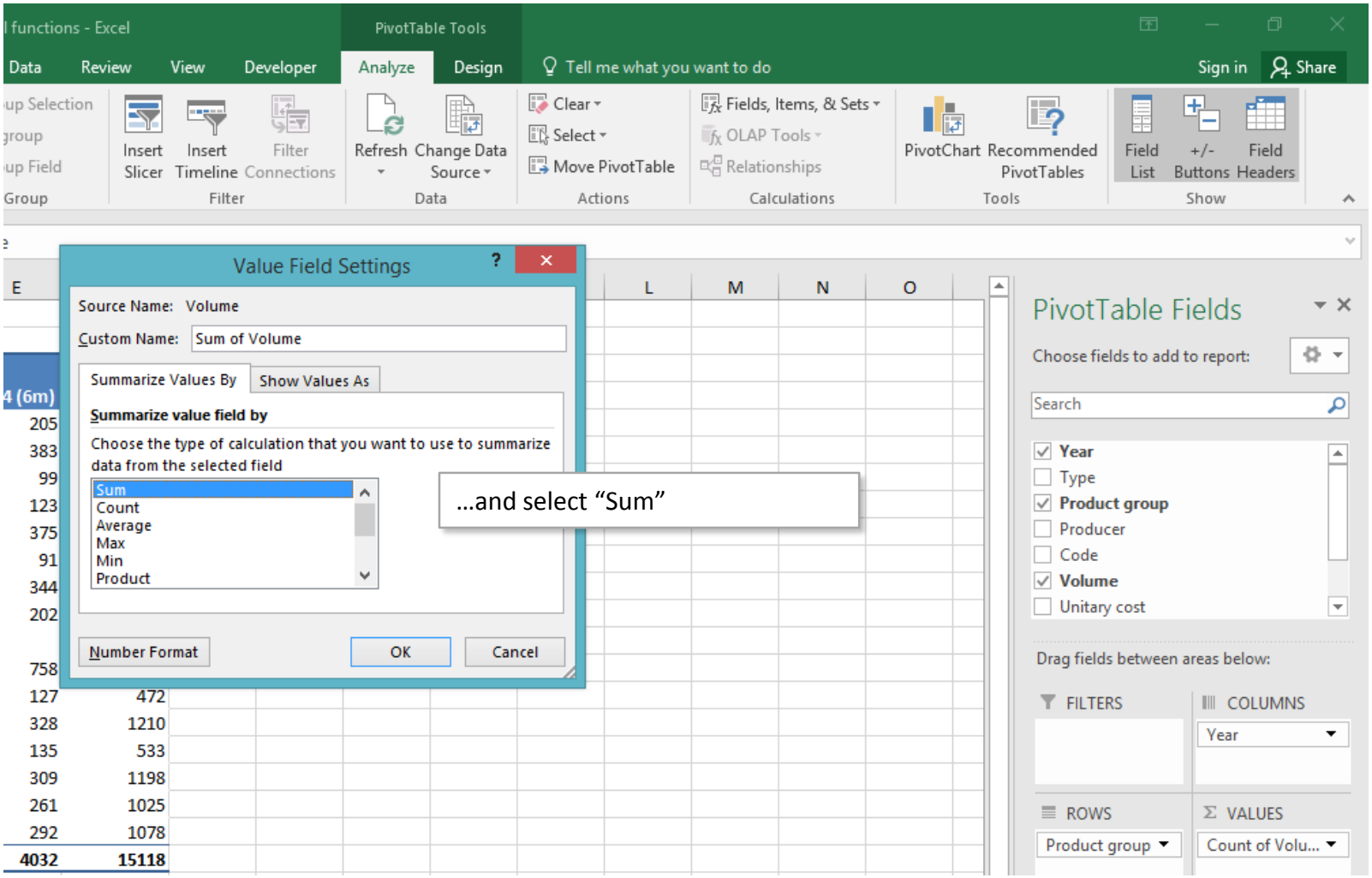
PIVOT TABLES



PIVOT TABLES



PIVOT TABLES



PIVOT TABLES

365 Careers