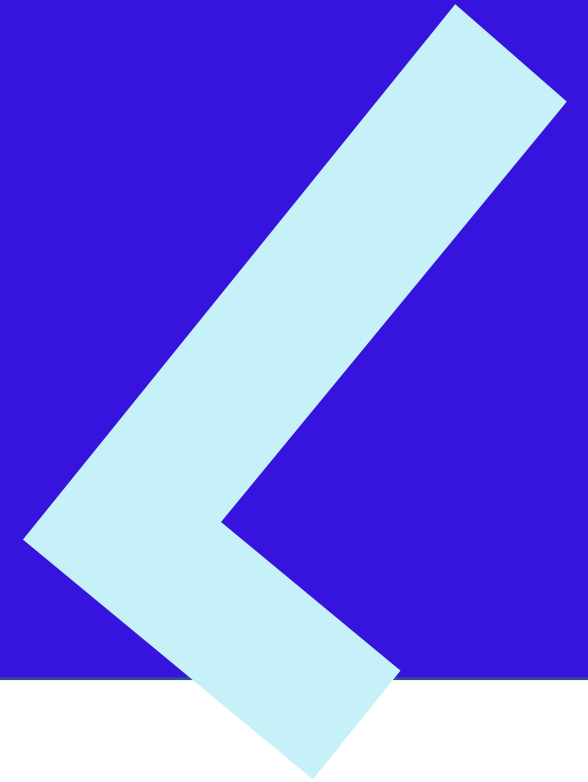




BOOST YOUR SKILLS IN Microsoft Excel 365/2021



Chapter 10: Lookup Functions and Outlines

Learning Objectives

After studying this chapter, you will be able to:

- Create formulas using lookup functions
- Use the Outline feature
- Create subtotals
- Use the Quick Analysis tool

Introducing Lookup Functions

- Lookup functions retrieve data from one table using a piece of information from a single record.
- The VLOOKUP and HLOOKUP Functions
 - They are the most used Lookup functions.
 - VLOOKUP looks for information arranged in columns.
 - HLOOKUP looks for information arranged in rows.

VLOOKUP and HLOOKUP

The VLOOKUP and HLOOKUP functions use the same arguments:

LOOKUP FUNCTION ARGUMENTS	
Argument	Description
Lookup_Value	This is the value to be found in the first column (VLOOKUP) or row (HLOOKUP) of the table.
Table_Array	This is the range of cells used to search for the lookup value and retrieve the result.
Col_Index_Num or Row_Index_Num (Column/Row Index Number)	This number indicates the column (VLOOKUP) or row (HLOOKUP) in the table from which the matching value will be retrieved; the first column/row in the Table Array is always 1.
Range_Lookup (Optional)	If TRUE or omitted, this function searches for the value closest to but less than the lookup value; if FALSE, it searches for exact matches only. If TRUE or omitted, the data must be sorted in ascending order.

VLOOKUP and HLOOKUP (cont.)

VLOOKUP example: Look up the amount each customer spent to date to determine the discount:

C3							=VLOOKUP(B3,\$E\$3:\$F\$7,2)
	A	B	C	D	E	F	
1					Discount Table		
	Annual Spending				Annual	Discount	
2	Customer	To Date	Discount		Spending	Rate	
3	Robert Stephenson	\$28,000	=VLOOKUP(B3,\$E\$3:\$F\$7,2)		\$0	0.00%	
4	James Tolkien	\$41,500			\$20,000	2.00%	
5	Nancy Andrews	\$49,600					
6	Beth Kappers	\$34,000					
7	Lidia Clark	\$78,250					
8							
9							
10							
11							

Function Arguments

VLOOKUP

Lookup_value	B3
Table_array	\$E\$3:\$F\$7
Col_index_num	2
Range_lookup	

Lookup_Value: This is the amount in column B each customer spent.

Table_Array: Cell range E3-F7 contains data to look up.

Col_Index_Num: Column 2 (F) of the table array contains the value to retrieve.

The Outline Feature

- Used to group related information by columns or rows
- Create outline manually or by using Auto Outline
- Outline lets you control which data to display

Show or hide column details with the buttons at the top.

Show or hide row details with the buttons along the left side.

1	2	3	A	B	C	D	E	F	G	H
1			Last Name	First Name	Position	Region	State	ModSales	AppSales	Total Sales
2			Alvizo	Alex	Senior Account Mgr	Western	CA	602,000	622,000	1,224,000
3			Huy	Lin	Senior Account Mgr	Central	IL	234,000	560,000	794,000
4			Martinez	Carlos	Senior Account Mgr	Eastern	FL	450,000	450,000	900,000
5			McGee	Olivia	Senior Account Mgr	Eastern	MA	317,000	513,000	830,000
6					Senior Acct Mgr Total					3,748,000
7			Fernandez	Maria	Sales Account Mgr	Eastern	MA	228,000	216,000	444,000
8			Hasan	Taz	Sales Account Mgr	Western	CA	446,000	120,000	566,000
9			Sutton	David	Sales Account Mgr	Central	CO	162,000	151,000	313,000
10			Williams	LaShaun	Sales Account Mgr	Central	CO	210,000	340,000	550,000
11			Zain	Elizabeth	Sales Account Mgr	Western	CA	340,000	700,000	1,040,000
12					Sales Acct Mgr Total					2,913,000
18					Sales Rep Total					1,479,000
19					Grand Total					8,140,000

The Outline Feature (cont.)

- First, insert formulas that sum or subtotal information from groups of rows or columns.
- Auto Outline will recognize the distinct areas of data and group them accordingly.
- Auto Outline then adds the outline structure along the top and left sides so the view can be adjusted.

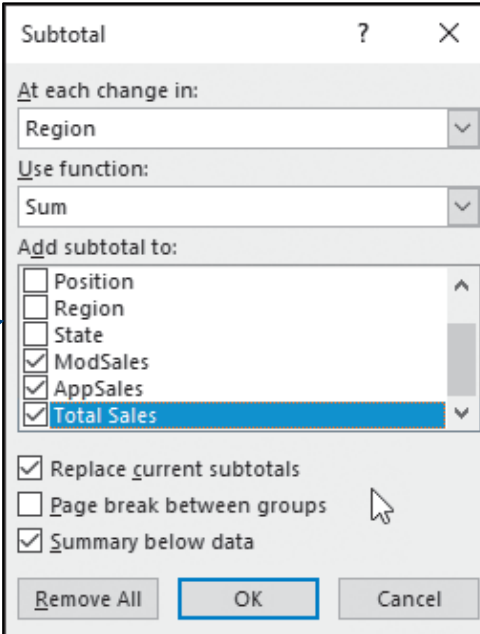
Creating Subtotals

This is somewhat simpler and quicker than creating an outline.

- If data has no dividers or subtotals, the Subtotal command is the best option.

Last Name	First Name	Position	Region	State	ModSales	AppSales	Total Sales
Huy	Lin	Senior Account Mgr	Central	IL	234,000	560,000	794,000
Sutton	David	Sales Account Mgr	Central	CO	162,000	151,000	313,000
Williams	LaShaun	Sales Account Mgr	Central	CO	210,000	340,000	550,000
Clayton	Taneisha	Sales Rep	Central	IL	230,000	120,000	350,000
Hill	Patricia	Sales Rep	Central	IL	120,000	170,000	290,000
Martinez	Carlos	Senior Account Mgr	Eastern	FL	450,000	450,000	900,000
McGee	Olivia	Senior Account Mgr	Eastern	MA	317,000	513,000	830,000
Fernandez	Maria	Sales Account Mgr	Eastern	MA	228,000	216,000	444,000
Knapp	Mai	Sales Rep	Eastern	FL	140,000	130,000	270,000
Alvizo	Alex	Senior Account Mgr	Western	CA	602,000	622,000	1,224,000
Hasan	Taz	Sales Account Mgr	Western	CA	446,000	120,000	566,000
Zain	Elizabeth	Sales Account Mgr	Western	CA	340,000	700,000	1,040,000
Cray	Karen	Sales Rep	Western	WA	123,000	130,000	253,000
Mathis	Gerhardt	Sales Rep	Western	CA	156,000	160,000	316,000

Start by sorting the list by the column you want to use to group the subtotals (Region).



Subtotal

At each change in:
Region

Use function:
Sum

Add subtotal to:

- ☐ Position
- ☐ Region
- ☐ State
- ☒ ModSales
- ☒ AppSales
- ☒ Total Sales

☒ Replace current subtotals

☐ Page break between groups

☒ Summary below data

Remove All OK Cancel

Then issue the Subtotal command and set the options (check out the next slide for the result).

Creating Subtotals (cont.)

This figure shows the result of the Subtotal operation shown on the previous slide:

1	2	3	A	B	C	D	E	F	G	H
	1		Last Name	First Name	Position	Region	State	ModSales	AppSales	Total Sales
	2		Huy	Lin	Senior Account Mgr	Central	IL	234,000	560,000	794,000
	3		Sutton	David	Sales Account Mgr	Central	CO	162,000	151,000	313,000
	4		Williams	LaShaun	Sales Account Mgr	Central	CO	210,000	340,000	550,000
	5		Clayton	Taneisha	Sales Rep	Central	IL	230,000	120,000	350,000
	6		Hill	Patricia	Sales Rep	Central	IL	120,000	170,000	290,000
	7					Central Total		956,000	1,341,000	2,297,000
	8		Martinez	Carlos	Senior Account Mgr	Eastern	FL	450,000	450,000	900,000
	9		McGee	Olivia	Senior Account Mgr	Eastern	MA	317,000	513,000	830,000
	10		Fernandez	Maria	Sales Account Mgr	Eastern	MA	228,000	216,000	444,000
	11		Knapp	Mai	Sales Rep	Eastern	FL	140,000	130,000	270,000
	12					Eastern Total		1,135,000	1,309,000	2,444,000
	13		Alvizo	Alex	Senior Account Mgr	Western	CA	602,000	622,000	1,224,000
	14		Hasan	Taz	Sales Account Mgr	Western	CA	446,000	120,000	566,000
	15		Zain	Elizabeth	Sales Account Mgr	Western	CA	340,000	700,000	1,040,000
	16		Cray	Karen	Sales Rep	Western	WA	123,000	130,000	253,000
	17		Mathis	Gerhardt	Sales Rep	Western	CA	156,000	160,000	316,000
	18					Western Total		1,667,000	1,732,000	3,399,000
	19					Grand Total		3,758,000	4,382,000	8,140,000

Note the similarity between using the Subtotal and Outline features.