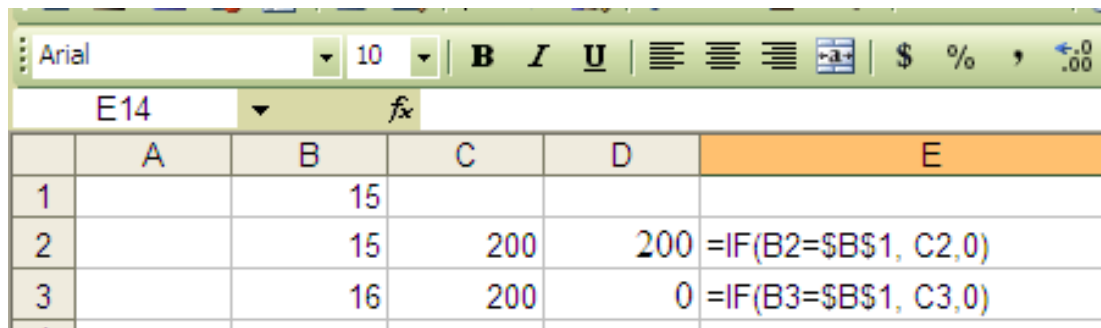


## SUMIF()

As a business consultant who works heavily with Excel, I find many people do not know how to use some of the useful functions in Excel (there are also some less useful ones). The SUMIF() is very useful and rarely used by Excel users.

Like any 'IF' statement SUMIF first has a criteria that must be met (the IF part). If the value in the cell included in the range matches the criteria, (the if is True) then it adds the corresponding number in the sum\_range to its cumulative total for that criteria.

Just a short review of IF statements:



The screenshot shows an Excel spreadsheet with a formula bar at the top displaying 'E14' and a formula icon. The spreadsheet has columns A through E. Row 1 contains the values 15, 200, and 200 in columns B, C, and D respectively. Row 2 contains the values 15, 200, and 0 in columns B, C, and D respectively. The formula bar shows the formula '=IF(B2=\$B\$1, C2,0)' for cell D2. The formula bar also shows the formula '=IF(B3=\$B\$1, C3,0)' for cell D3.

	A	B	C	D	E
1		15			
2		15	200	200	=IF(B2=\$B\$1, C2,0)
3		16	200	0	=IF(B3=\$B\$1, C3,0)

A simple 'IF' statement says if a condition is true (in this example B2=\$B\$1) then do something. This statement puts the value that is in C2 in D2 (D2 is where the formula is). If this statement is not true then put a '0' in D2. The dollar sign makes the reference absolute. You need to understand absolute vs. relative addresses to use Excel functions effectively.

The SUMIF() does essentially the same thing only it can sum numbers from multiple cells with one equation.

SUMIF(range,criteria,sum\_range)

Range = the range to look in to find the Criteria

Criteria = what to look for in the Range

Sum\_Range = what numbers to sum that match the items found in the Range from the criteria

	F20						
	A	B	C	D	E	F	G
1							
2	Range	Sum_Range					
3	Up	10		Criteria	Down		
4	Down	20	40				
5	Right	30		Formula	40		
6	Left	40					
7	Up	10			=SUMIF(A3:A10,E3,B3:B10)		
8	Down	20					
9	Right	30					
10	Left	40					
11							

In the example above, we are asking Excel if the contents of any cell in the range A3:A10 is equal to the number in E3 add it to the total.

In this case, the cells in A4 and A8 contain 'DOWN', which is the criterion in E3. The corresponding numbers in B4 and B8 are 20 and 20 and are equal to 40 (the number in E5).

In the SUMIF() examples below, I first determine the total dollar amount of all items with a Y in the column.

$$=SUMIF(C2:C17,"Y",B2:B17) = \$3,382,585$$

This equation says if there is a "Y" in the cells between C2 and C17 then add the number in the corresponding cell in column B to the running Total.

$$=SUMIF(C2:C17,"<>Y",B2:B17) = \$5,813,311$$

In the second formula I am asking for all of the cells between C2 and C17 that do not contain a 'Y'.

Notice that in the SUMIF() function that the criteria in the first formula is surrounded by quotes "Y". In the second the "<>Y" is surrounded by quotes.

J31					
	A	B	C	D	E
1			Include		
2	1/31/2005	\$521,389			
3	12/16/2004	\$936,772	Y		
4	11/1/2001	\$990,770			
5	8/1/2003	\$767,467	Y	\$3,382,585	=SUMIF(C2:C17,"Y",B2:B17)
6	7/1/2002	\$719,298			
7	1/31/2005	\$452,747			
8	12/16/2004	\$280,927	Y		
9	11/1/2001	\$974,904		\$5,813,311	=SUMIF(C2:C17,"<>Y",B2:B17)
10	8/1/2003	\$214,270			
11	7/1/2002	\$490,162	Y		
12	1/31/2005	\$695,253			
13	12/16/2004	\$689,211	Y		8/1/2003
14	11/1/2001	\$915,435		\$3,659,961	=SUMIF(A2:A17,">"&E13,B2:B17)
15	8/1/2003	\$134,383	Y		
16	7/1/2002	\$329,245			
17	1/31/2005	\$83,663	Y		
18		\$9,195,896		\$9,195,896	=+D9+D5

The third statement we refer to another cell and if the date in A2 through A17 is greater than 8/1/2003 then add the corresponding number to the running total.

$$=SUMIF(A2:A17,">"&E7,B2:B17) = \$3,3659,961$$

In the third formula, I have referred to a cell location for my criteria. This makes for a more dynamic formula. If you have not used the concatenate symbol before you might want to look at my Playbook on “Including live numbers in text”.

Since we are referring to a cell, we need to combine or concatenate the operator with the value in Cell E7. This is done by “>”&E7. This tells Excel to look for criteria that is greater than the value in cell E7.

If you have not used the concatenate operator “&” before you might want to look at my Playbook on “Including live numbers in text”. Also, see the Playbook on COUNTIF() a cousin of the SUMIF() function.

Whenever developing an Excel worksheet it is very important to double check the work. Even a function like SUMIF() can give the wrong answer if you feed it incorrect parameters.

The formulas in B18 and D18 are to check that what I did with the SUMIF()’S in cells D5 and D92 total the same as the standard SUM(B2:B17) in cell B18.

Learning some the many functions and there use can be daunting. One way to get specific help is to have a trainer set-up training classes, on specific subjects, at your Company. Check my website (<http://www.lwmweb.com/>) for upcoming seminars or contact me ( [LWM@LWMWEB.COM](mailto:LWM@LWMWEB.COM)) for in-house seminars for your company. On the other hand, you can study the many Excel books currently available.

Copyright 2007 Larry Moseley