

Excel Database Solutions for Accountants

Presented to:

CPA Tech Day

December 2, 2009

Jim Colville CPA 
www.JimColvilleCPA.com

Excel Solutions for Accountants

Today's Outline

- Review of Important Basics
- Time Saving Tricks
- Defined Names
- COUNTIF – SUMIF
- COUNTIFS – SUMIFS
- VLOOKUP and LOOKUP
- Database and Tables
- Pivot Tables

Most all the examples presented today are available to you at the following link

www.JimColvilleCPA.com

On the Home Page click on **Excel Solutions**, then click on **Free Excel Downloads**

Listed below are the files currently on the site:

_01_Survey.xls	Techniques used in Survey calculations
_01_FS Sample and Notes.xls	Financial Statements with Notes
_01_Navigation.XLS	Spreadsheet navigation
_09_Budget.xls	Budget Excel Example
_02_Nav_Book.XLS	Spreadsheet navigation
_02_RangeNames.xls	Defined (range) names
_03_DATABASE.XLS	Database example
_04_Assets.XLS	Updating monthly reports
_04_Assets_Adds.XLS	Updating monthly reports-additions
_05_YTD.XLS	Year to date monthly update
_06_CustomList.xls	Custom Sorts and custom data fill
_06_ZeroOut.xls	Zero out for new month
_07_EditFillJustify.xls	Word wrap in Excel
_07_Gprofit.XLS	Formula exercise
_08_PROFILE.XLS	Mail merge concept in Excel
_12_BadDownloads.XLS	Working with bad downloads
_13_BadDownLoads2.xls	Working with bad downloads 2
_15_RecordCellChanges.xls	Record a record of all cell changes
_18_CalendarCoolToDo.XLS	Cool calendar in Excel
_20_diceroller.xls	Great examples of advanced reporting in a game.
_21_StopLightSample.xls	Advanced reporting-concepts to build a dashboard
_22_StopLightDashboard.xls	Advanced reporting - dashboard
_25_File List Inventory.xls	Excel to list all files in a directory
_30_Rand.xls	Random numbers
_35_Dates-Expiration.xls	Track upcoming dates
_45_VLOOKUP.XLS	Vertical lookup examples
_46_VLOOKUP2.XLS	Vertical lookup examples-more

The files on the website are always available, are free and are continually updated

Jim Colville CPA 

858-682-9668

Excel Solutions for Accountants

If you are interested in attending short seminars on Excel at little or no cost, please let me know. Go to my website:

www.JimColvilleCPA.com

and Click on **Contact Us**

or email me directly:

Jim@JimColvilleCPA.com

These sessions will be offered for free or a small cost which will pay the expenses of putting on the session

It is planned to do these sessions about once a month.

	A	B	C	D	E	F	G	H
1	=COUNT							
2								
3								
4		LAST	FIRST	SSN	DEPT	JOB_CODE	SALARY	
5		Larson	Mary	543-98-9876	2	23	32,000	
6		Camp	David	213-76-9852	10	23	43,000	
7		Campbell	Keith	569-55-8412	2	12	52,000	
8		Stephens	Tom	219-78-2589	2	15	37,800	
9		Caldor	Larry	459-85-0921	4	23	52,500	
10		Lightnor	Peggy	560-55-4311	10	21	43,500	
11		McCartny	John	817-66-1212	2	15	74,600	
12		Justin	Jack	431-85-9856	4	17	61,200	
13		Patterson	Lyle	212-96-9191	10	12	41,500	
14		Miller	Lisa	214-89-6756	2	23	38,700	
15		Hawkins	Mark	215-65-8595	2	21	39,500	
16								
17		11	Count employees		Count Salary Entries	11		
18								
19								
20								
21								
22		=COUNTA(B4:B14)			=COUNT(G4:G14)			
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								

	A	B	C	D	E	F	G	H
1	=COUNTIF and SUMIF							
2								
3								
4		LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY	
5		Larson	Mary	5/21/04	2	23	32,000	
6		Camp	David	6/11/03	10	23	43,000	
7		Campbell	Keith	12/27/04	2	12	52,000	
8		Stephens	Tom	8/29/04	2	15	37,800	
9		Caldor	Larry	4/24/04	4	23	52,500	
10		Lightnor	Peggy	9/6/03	10	21	43,500	
11		McCartny	John	5/11/05	2	15	74,600	
12		Justin	Jack	5/7/04	4	17	61,200	
13		Patterson	Lyle	6/1/06	10	12	41,500	
14		Miller	Lisa	10/15/04	2	23	38,700	
15		Hawkins	Mark	7/10/04	2	21	39,500	
16					6		274,600	
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								

LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY
Larson	Mary	5/21/04	2	23	32,000
Camp	David	6/11/03	10	23	43,000
Campbell	Keith	12/27/04	2	12	52,000
Stephens	Tom	8/29/04	2	15	37,800
Caldor	Larry	4/24/04	4	23	52,500
Lightnor	Peggy	9/6/03	10	21	43,500
McCartny	John	5/11/05	2	15	74,600
Justin	Jack	5/7/04	4	17	61,200
Patterson	Lyle	6/1/06	10	12	41,500
Miller	Lisa	10/15/04	2	23	38,700
Hawkins	Mark	7/10/04	2	21	39,500

6

274,600

[Empty Cell]

[Empty Cell]

=COUNTIF(E4:E14,2)

Dept # is embedded in formula

=SUMIF(E4:E14,"2",G4:G14)

Look for 2 in the E4:E14 range and count the occurrences

Look for 2 in the E4:E14 range and SUM the related salary in G4:G14
In other words, add up the salaries in G for each 2 in E

Works best when using defined names
Name the ranges, then use:

=SUMIF(DEPT,"2",SALARY)

	A	B	C	D	E	F	G	H	
39									
40		Excel 2007 allows multiple criteria							
41		Use COUNTIFS							
42									
43		LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY		
44		Larson	Mary	5/21/04	2	23	32,000		
45		Camp	David	6/11/03	10	23	43,000		
46		Campbell	Keith	12/27/04	2	12	52,000		
47		Stephens	Tom	8/29/04	2	15	37,800		
48		Caldor	Larry	4/24/04	4	23	52,500		
49		Lightnor	Peggy	9/6/03	10	21	43,500		
50		McCartny	John	5/11/05	2	15	74,600		
51		Justin	Jack	5/7/04	4	17	61,200		
52		Patterson	Lyle	6/1/06	10	12	41,500		
53		Miller	Lisa	10/15/04	2	23	38,700		
54		Hawkins	Mark	7/10/04	2	21	39,500		
55									
56		How many employees in Dept 2 with Job Code 23					2		←
57									
58									
59									
60									
61									
62									
63									
64		Works best when using defined names							
65		Name the ranges, then use:							
66									
67		=COUNTIFS(DEPT,2,JOB_CODE,23)							
68									
69									
70									
71		61_Sumif-DSum.XLS CountSumIf							

	A	B	C	D	E	F	G																																																																								
1	=SUMIF																																																																														
2																																																																															
3	<table border="1"> <thead> <tr> <th>LAST</th> <th>FIRST</th> <th>HireDate</th> <th>DEPT</th> <th>JOB_CODE</th> <th>SALARY</th> </tr> </thead> <tbody> <tr> <td>Larson</td> <td>Mary</td> <td>5/21/04</td> <td>2</td> <td>23</td> <td>32,000</td> </tr> <tr> <td>Camp</td> <td>David</td> <td>6/11/03</td> <td>10</td> <td>23</td> <td>43,000</td> </tr> <tr> <td>Campbell</td> <td>Keith</td> <td>12/27/04</td> <td>2</td> <td>12</td> <td>52,000</td> </tr> <tr> <td>Stephens</td> <td>Tom</td> <td>8/29/04</td> <td>2</td> <td>15</td> <td>37,800</td> </tr> <tr> <td>Caldor</td> <td>Larry</td> <td>4/24/04</td> <td>4</td> <td>23</td> <td>52,500</td> </tr> <tr> <td>Lightnor</td> <td>Peggy</td> <td>9/6/03</td> <td>10</td> <td>21</td> <td>43,500</td> </tr> <tr> <td>McCartny</td> <td>John</td> <td>5/11/05</td> <td>2</td> <td>15</td> <td>74,600</td> </tr> <tr> <td>Justin</td> <td>Jack</td> <td>5/7/04</td> <td>4</td> <td>17</td> <td>61,200</td> </tr> <tr> <td>Patterson</td> <td>Lyle</td> <td>6/1/06</td> <td>10</td> <td>12</td> <td>41,500</td> </tr> <tr> <td>Miller</td> <td>Lisa</td> <td>10/15/04</td> <td>2</td> <td>23</td> <td>38,700</td> </tr> <tr> <td>Hawkins</td> <td>Mark</td> <td>7/10/04</td> <td>2</td> <td>21</td> <td>39,500</td> </tr> </tbody> </table>							LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY	Larson	Mary	5/21/04	2	23	32,000	Camp	David	6/11/03	10	23	43,000	Campbell	Keith	12/27/04	2	12	52,000	Stephens	Tom	8/29/04	2	15	37,800	Caldor	Larry	4/24/04	4	23	52,500	Lightnor	Peggy	9/6/03	10	21	43,500	McCartny	John	5/11/05	2	15	74,600	Justin	Jack	5/7/04	4	17	61,200	Patterson	Lyle	6/1/06	10	12	41,500	Miller	Lisa	10/15/04	2	23	38,700	Hawkins	Mark	7/10/04	2	21	39,500
LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY																																																																										
Larson	Mary	5/21/04	2	23	32,000																																																																										
Camp	David	6/11/03	10	23	43,000																																																																										
Campbell	Keith	12/27/04	2	12	52,000																																																																										
Stephens	Tom	8/29/04	2	15	37,800																																																																										
Caldor	Larry	4/24/04	4	23	52,500																																																																										
Lightnor	Peggy	9/6/03	10	21	43,500																																																																										
McCartny	John	5/11/05	2	15	74,600																																																																										
Justin	Jack	5/7/04	4	17	61,200																																																																										
Patterson	Lyle	6/1/06	10	12	41,500																																																																										
Miller	Lisa	10/15/04	2	23	38,700																																																																										
Hawkins	Mark	7/10/04	2	21	39,500																																																																										
4																																																																															
5																																																																															
6																																																																															
7																																																																															
8																																																																															
9																																																																															
10																																																																															
11																																																																															
12																																																																															
13																																																																															
14																																																																															
15																																																																															
16																																																																															
17	Total Salaries for Department					2	274,600																																																																								
18																																																																															
19	Enter the formula for this exercise here					→																																																																									
20																																																																															
21	=SUMIF(E4:E14,F17,G4:G14)																																																																														
22																																																																															
23																																																																															
24	Dept # is in separate cell for ease of changing Dept #s																																																																														
25																																																																															
26	Now you can just type the Dept # in F17 to get a new sum rather than editing the formula as with the earlier example.																																																																														
27																																																																															
28																																																																															
29																																																																															
30	Works best when using defined names																																																																														
31	Name the ranges, then use:																																																																														
32																																																																															
33	'=SUMIF(DEPT,F17,SALARY)																																																																														
34																																																																															
35																																																																															
36																																																																															
37	Excel 2007 allows multiple criteria																																																																														
38	Use SUMIFS																																																																														
39																																																																															
40	<table border="1"> <thead> <tr> <th>LAST</th> <th>FIRST</th> <th>HireDate</th> <th>DEPT</th> <th>JOB_CODE</th> <th>SALARY</th> </tr> </thead> <tbody> <tr> <td>Larson</td> <td>Mary</td> <td>5/21/04</td> <td>2</td> <td>23</td> <td>32,000</td> </tr> <tr> <td>Camp</td> <td>David</td> <td>6/11/03</td> <td>10</td> <td>23</td> <td>43,000</td> </tr> <tr> <td>Campbell</td> <td>Keith</td> <td>12/27/04</td> <td>2</td> <td>12</td> <td>52,000</td> </tr> <tr> <td>Stephens</td> <td>Tom</td> <td>8/29/04</td> <td>2</td> <td>15</td> <td>37,800</td> </tr> <tr> <td>Caldor</td> <td>Larry</td> <td>4/24/04</td> <td>4</td> <td>23</td> <td>52,500</td> </tr> <tr> <td>Lightnor</td> <td>Peggy</td> <td>9/6/03</td> <td>10</td> <td>21</td> <td>43,500</td> </tr> <tr> <td>McCartny</td> <td>John</td> <td>5/11/05</td> <td>2</td> <td>15</td> <td>74,600</td> </tr> <tr> <td>Justin</td> <td>Jack</td> <td>5/7/04</td> <td>4</td> <td>17</td> <td>61,200</td> </tr> <tr> <td>Patterson</td> <td>Lyle</td> <td>6/1/06</td> <td>10</td> <td>12</td> <td>41,500</td> </tr> <tr> <td>Miller</td> <td>Lisa</td> <td>10/15/04</td> <td>2</td> <td>23</td> <td>38,700</td> </tr> <tr> <td>Hawkins</td> <td>Mark</td> <td>7/10/04</td> <td>2</td> <td>21</td> <td>39,500</td> </tr> </tbody> </table>							LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY	Larson	Mary	5/21/04	2	23	32,000	Camp	David	6/11/03	10	23	43,000	Campbell	Keith	12/27/04	2	12	52,000	Stephens	Tom	8/29/04	2	15	37,800	Caldor	Larry	4/24/04	4	23	52,500	Lightnor	Peggy	9/6/03	10	21	43,500	McCartny	John	5/11/05	2	15	74,600	Justin	Jack	5/7/04	4	17	61,200	Patterson	Lyle	6/1/06	10	12	41,500	Miller	Lisa	10/15/04	2	23	38,700	Hawkins	Mark	7/10/04	2	21	39,500
LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY																																																																										
Larson	Mary	5/21/04	2	23	32,000																																																																										
Camp	David	6/11/03	10	23	43,000																																																																										
Campbell	Keith	12/27/04	2	12	52,000																																																																										
Stephens	Tom	8/29/04	2	15	37,800																																																																										
Caldor	Larry	4/24/04	4	23	52,500																																																																										
Lightnor	Peggy	9/6/03	10	21	43,500																																																																										
McCartny	John	5/11/05	2	15	74,600																																																																										
Justin	Jack	5/7/04	4	17	61,200																																																																										
Patterson	Lyle	6/1/06	10	12	41,500																																																																										
Miller	Lisa	10/15/04	2	23	38,700																																																																										
Hawkins	Mark	7/10/04	2	21	39,500																																																																										
41																																																																															
42																																																																															
43																																																																															
44																																																																															
45																																																																															
46																																																																															
47																																																																															
48																																																																															
49																																																																															
50																																																																															
51																																																																															
52																																																																															
53	Total Salaries																																																																														
54	Department					2	70,700																																																																								

	A	B	C	D	E	F	G
55			Job Code			23	
56							
57							
58			=SUMIFS(G34:G44,E34:E44,F47,F34:F44,F48)				
59							
60			SUM Range				
61							
62			CRITERIA Range 1				
63							
64			CRITERIA Range 2				
65							
66							
67							
68							
69			Works best when using defined names				
70			Name the ranges, then use:				
71							
72			=SUMIFS(SALARY,DEPT,F47,JOB_CODE,F48)				
73							
74							
75			_61_Sumif-DSum.XLS Sumif				
76							

	A	B	C	D	E	F	G	H
1	=SUMIF							
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43								
44								
45								
46								
47								
48								
49								
50								
51								
52								
53								

LAST	FIRST	HireDate	DEPT	JOB_CODE	SALARY
Larson	Mary	5/21/04	2	23	12,000
Camp	David	6/11/03	10	23	23,000
Campbell	Keith	12/27/04	2	12	32,000
Stephens	Tom	8/29/04	2	15	17,800
Caldor	Larry	4/24/04	4	23	32,500
Lightnor	Peggy	9/6/03	10	21	23,500
McCartny	John	5/11/05	2	15	54,600
Justin	Jack	5/7/04	4	17	41,200
Patterson	Lyle	6/1/06	10	12	21,500
Miller	Lisa	10/15/04	2	23	18,700
Hawkins	Mark	7/10/04	2	21	19,500

296,300

Total salaries for Job Code:	12	53,500
	15	72,400
	17	41,200
	21	43,000
	23	86,200
		<u>296,300</u>

=SUMIF(JOB_CODE,F17,SALARY)

Using Defined Names

G15 and G22 should contain the =SUM function as a cross-check

Since we are using Defined Names and the Dept # is in F17, you can now enter the formula in G17 once and copy it to the other cells

	A	B	C	D	E	F	G	H
1	VLookup							
2								
3								
4			Commission Table			Cell D15: =VLOOKUP(D14,CommTable,2)		
5			250.00	0.00%				
6			500.00	2.50%				
7			1,000.00	5.00%				
8			2,500.00	10.00%				
9			5,000.00	12.50%				
10			7,500.00	15.00%				
11			10,000.00	20.00%				
12								
13								
14		Sales Amount		1,234.00				
15		Commission Rate		5.00%				
16		Commission Amount		61.70				
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

Cell D15:
=VLOOKUP(D14,CommTable,2)

Cell D16:
=D14*D15

The Range Name
CommTable
C5:D11

	A	B	C	D	E	F
1	VLookup, Cash Bonus					
2						
3			Commission Table-Cash Bonus			
4				Regular	COD/Cash	
5			250.00	0.00%	0.50%	
6			500.00	2.50%	3.00%	
7			1,000.00	5.00%	5.50%	
8			2,500.00	10.00%	10.50%	
9			5,000.00	12.50%	13.00%	
10			7,500.00	15.00%	15.50%	
11			10,000.00	20.00%	20.50%	
12						
13						
14		Sales Amount		1,234.00		
15		Commission rate		5.50%		
16		Commission Amount		67.87		
17		Enter 0 for terms, 1 for Cash		1		
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Cell D15:
=VLOOKUP(D14,CommTableCash,1+D16+1)

The Range Name
CommTableCash
C5:E11

	A	B	C	D	E	F	G	H
1	Lookup							
2	Excel 2007 Only							
3								
4			Commission Table					
5			250.00	0.00%				
6			500.00	2.50%				
7			1,000.00	5.00%				
8			2,500.00	10.00%				
9			5,000.00	12.50%				
10			7,500.00	15.00%				
11			10,000.00	20.00%				
12								
13								
14		Sales Amount		1,234.00				
15		Commission Rate		5.00%				
16		Commission Amount		61.70				
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

Cell D15:
=LOOKUP(D14,CommTable)

Assumes last column is column reference. Note the ,2 is default

Cell D16:
=D14*D15

The Range Name
CommTable
C5:D11

	A	B	C	D	E	F	G	H
1								
2	Sales Log							
3								
4	Customer		Invoice	Invoice	Amount of	Commission	Commission	
5	Name	SalesRep	Number	Date	Invoice	Rate	Amount	
6	Jones	Mary	345-67	8/23/1994	1,234.00	5.00%	61.70	
7	Brown	Harry	345-76	8/26/1994	4,562.98	10.00%	456.30	
8	Harrison	Sally	435-87	8/21/1994	26,478.90	20.00%	5,295.78	
9	Maxwell	Margo	435-67	8/13/1994	1,456.00	5.00%	72.80	
10	Mitchell	Bill	645-54	8/18/1994	8,543.00	15.00%	1,281.45	
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Cell F6:
 =VLOOKUP(E6,CommTable,2)