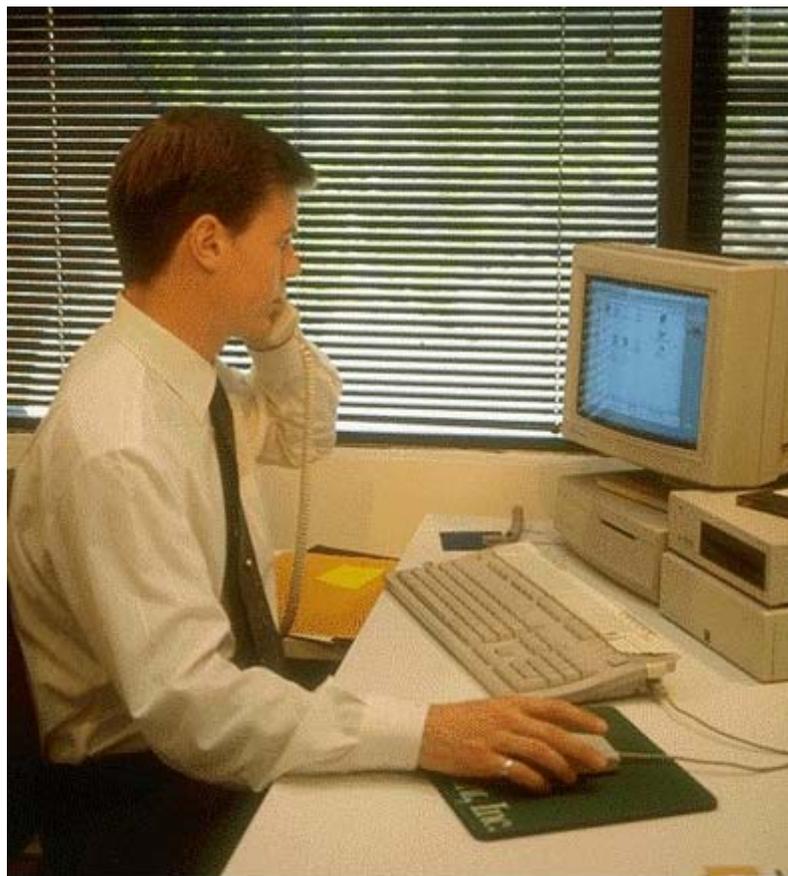


3 Excel Tips for Marketing Efficiency



3 Excel Database Tips for Marketing Efficiency

In these challenging times, companies continue to reduce staff to save money. Those who remain must do more. How to increase efficiency? Microsoft® Excel, the leading spreadsheet program, provides many tools for personal efficiency. This paper provides three actionable tips on: using lookup functions, de-duping data, and mitigating hyperlink problems. It focuses on use of Excel as a database tool, managing lists of varying in length and complexity. Applying these tips will save you both time and money.

Using Lookup Functions

Lookup functions permit the appending of different databases to each other. They are a key database manipulation tool. Lookups append data from one range to another.

The VLOOKUP function provides the core lookup functionality. The “V” stands for “vertical” (down rows), the most prevalent database organization. (Use the HLOOKUP function if the data is organized across columns). You need to have a source cell in the range you want to append the data to. It must match a cell in the *left-most* column of the data you want to append.

An example helps explain this process. Let’s assume you have a list of ZIP codes in one worksheet and you want to add the metropolitan area name from another workbook. The source worksheet could be a customer list, for instance. (You can download the Customers.xls workbook from www.infotechmarketing.net/Excel_examples.htm).

The Customer Master File contains an abbreviated customer list. Please note that the ZIP Codes are entered as text. (I created all examples using Excel XP (2002). The functionality shown should also apply to earlier Excel versions, but the formatting may be different.)

Another spreadsheet, named ZIP-Metro (see Figure 2), shows the ZIP Code and metropolitan area associations. (You can download the ZIPCodes.xls workbook from www.infotechmarketing.net/Excel_examples.htm). Please note that the ZIP column is the leftmost column of the data we want to append, and that the ZIP’s are entered as text. For the match to properly work, the source column and reference column must be the same type (both text or both numeric). The reference column must be the leftmost of the data we are appending to the source, so its location in column A ensures this. (If the ZIP Codes were in column D, our matching as we describe it would not work.) To get an exact match, like we will be doing in this example, the reference data does not need to be sorted in ascending order. (If the Vlookup function

utilizes an approximate match, the data does need to be sorted, so it’s a good idea to always sort it if possible.) The column headings (“ZIP Codes” in the source file, “ZIP” in the reference file) do not have to match.

	A	B	C	D	E	F	G	H
1	Contact	Company	Address	City	State	ZIP Code	Metropolitan Area	
2	Jane Smith	ZZZ Manufacturing	9999 Broadway	Littleton	CO	80123		
3	John Doe	Military Intelligence	123 Wherever Blvd.	Jackpot	NV	89825		
4	Joe Blow	ABC Widgets	1111 Main St.	New York	NY	10008		
5								
6								
7								
8								
9								

Figure 1. Customer Master File

Also, please note that each ZIP Code value in the reference file is unique; there are no duplicates.

	A	B	C	D
1	ZIP	State	Metropolitan Area	
2	10008	NY	New York, NY	
3	80123	CO	Denver, CO	
4	89825	NV		
5				
6				
7				
8				
9				
10				
11				
12				
13				

Figure 2. ZIP-Metro Worksheet

The syntax of the VLOOKUP function is: **VLOOKUP(lookup_value,table_array,col_index_num,range_lookup)**. The lookup_value contains the cell address whose value you want to find in the reference range. In this case, each cell in the ZIP Codes column of the Customer Master File worksheet will be used for the lookup_value. The table_array is the reference range you want to return the appended data from. In our example, the \$a:\$c range from the ZIP-Metro worksheet will be used for the table_array. The col_index_num refers to the column number (from left to right) in the table array that will be returned. It must be 1 or greater and less than the number of columns in the table_array. Since we want to append the Metropolitan Area column, we will use a 3 for the col_index_num (the third column from the left). The range_lookup parameter is optional. Since we want an exact match on the reference data, we will use FALSE for this parameter. This seems backwards, because FALSE means we want an exact match, but that’s the way Microsoft programmed it. When using FALSE as the parameter, if an exact match is not found, the

formula returns the error value #N/A.

To see the formula in action, make sure both workbooks are open. Begin by entering “=vlookup(“ in cell G2 of the Customer Master File worksheet. Move the cursor to cell F2 and click to enter it into the formula (see Figure 3).

	A	B	C	D	E	F	G	H
1	Contact	Company	Address	City	State	ZIP Code	Metropolitan Area	
2	Jane Smith	ZZZ Manufacturing	9999 Broadway	Littleton	CO	80123	=vlookup(F2	
3	John Doe	Military Intelligence	123 Wherever Blvd.	Jackpot	NV	89825		
4	Joe Blow	ABC Widgets	1111 Main St.	New York	NY	10008		
5								
6								
7								
8								

Figure 3. First part of Vlookup formula

Insert a comma “,”. Then move to the other workbook (ZIPCodes.xls) and the ZIP-Metro worksheet. Move the cursor over column A, click and hold, move to column C, and release the cursor. This highlights columns A: C and adds them to the formula (Figure 4).

	A	B	C	D	E	F	G	H
1	ZIP	State	Metropolitan Area					
2	10008	NY	New York, NY					
3	80123	CO	Denver, CO					
4	89825	NV						
5								
6								
7								
8								

Figure 4. ZIP-Metro Worksheet with columns A-C highlighted.

Then type “,3,false)” to complete the formula. The final formula should look like this: =VLOOKUP(F2,[ZIPCodes.xls]ZIP-Metro!\$A:\$C,3,FALSE).

	A	B	C	D	E	F	G	H
1	Contact	Company	Address	City	State	ZIP Code	Metropolitan Area	
2	Jane Smith	ZZZ Manufacturing	9999 Broadway	Littleton	CO	80123	=vlookup(F2,[ZIPCodes.xls]ZIP-Metro!\$A:\$C,3,false)	
3	John Doe	Military Intelligence	123 Wherever Blvd.	Jackpot	NV	89825		
4	Joe Blow	ABC Widgets	1111 Main St.	New York	NY	10008		
5								
6								
7								
8								

Figure 5. Customer Master File Worksheet with complete Vlookup formula.

Note that Excel inserted the table_array's workbook and worksheet into the formula. Upon entering the formula, the value in cell G2 of the Customer Master File workbook shows "Denver, CO" (Figure 6).

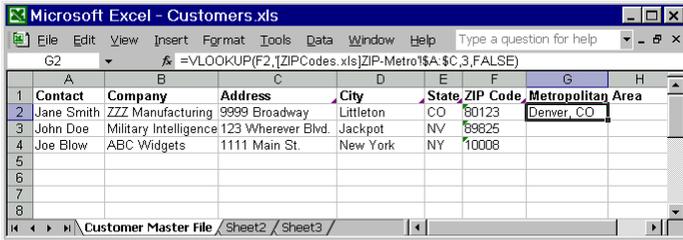


Figure 6. Results of Vlookup for first customer.

Copy the contents of cell G2 in the Customer Master File worksheet to cells G3 and G4. You can use the Copy command or Fill mechanism. This lookups the ZIP codes for the other two customers and returns the metropolitan area of each (Figure 7).



Figure 7. Customer Master File Worksheet with Vlookup formula copied to other cells.

Note that cell G3 displays "0". The function found the ZIP Code, 89825, for this record in the ZIP-Metro worksheet, but it has no metropolitan area. (See cell C4 of the ZIP-Metro worksheet.) Because the function finds the source in the reference data without a value, it returns 0. If the ZIP Code didn't exist in the reference range, the #N/A error value would be returned. You can try this by changing the ZIP code in cell F3 of the Customer Master File worksheet to 89829. Since this Zip Code doesn't exist in the ZIP-Metro worksheet, the function returns an error value (Figure 8).



Figure 8. Customer Master File Worksheet with a ZIP Code in cell F3 not found in the ZIP-Metro worksheet.

Instead of a "0", what if you want a blank space for those ZIP Codes without a metropolitan area in the ZIP-Metro worksheet? At least two methods can be used to show blanks. The first necessitates changing the formula for the Vlookup to show a blank based on the results of the lookup. The second approach modifies the data and hard codes it into the Customer Master File. The second approach also is advantageous to use when you have a large master file, because it saves space when you Save your file.

Changing the Vlookup Formula to Hide Results

The Vlookup function can be surrounded by an IF function to hide results based on the returned value. In essence, a blank character displays when the function returns "0". We'll modify the formula in cell G2 of the Customer Master File to see how this works.

1. Type "If(" to the left of the Vlookup formula (Figure 9).

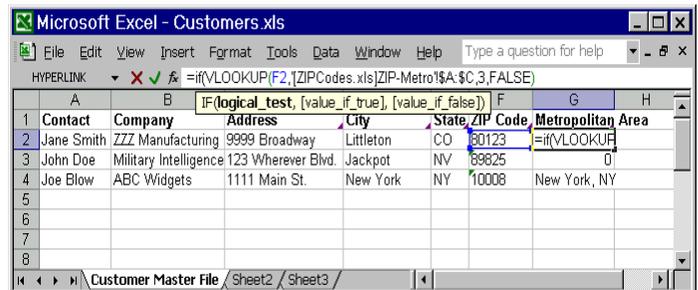


Figure 9. First part of IF formula to hide 0 values.

2. Add the value you want to change to blank and blanks to return. Type “=0,”” to the right of the Vlookup formula, as in Figure 10. Literally, this tells Excel that when a 0 returns, change it to blank as indicated by the consecutive quotation marks (“”).

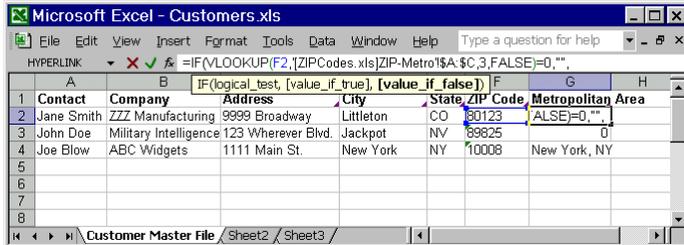


Figure 10. Second part of IF formula to hide 0 values.

3. Either re-type the Vlookup formula to the right of what you just entered, or copy it. You can copy it by highlighting it in the formula bar, holding the Ctrl button while typing a C, and then moving the cursor to the end of the formula and pasting it (Ctrl V). Be sure to add a right parenthesis (“)”) at the end of the formula. This tells the formula to display the results of the lookup if finds a value. The completed formula is: =IF(VLOOKUP(F2,[ZIPCodes.xls]ZIP-Metro!\$A:\$C,3,FALSE)=0,"",VLOOKUP(F2,[ZIPCodes.xls]ZIP-Metro!\$A:\$C,3,FALSE))

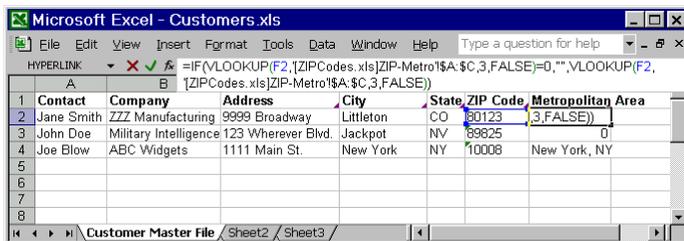


Figure 11. Complete IF formula to hide 0 values.

After you copy this formula to the other cells, you no longer see the 0 in cell G3. Instead, the cell displays a blank. The If for-

mula works — the Vlookup returns a 0 value for cell G3, which is then replaced by a blank (Figure 12). The other cells show the correct Metropolitan Area.

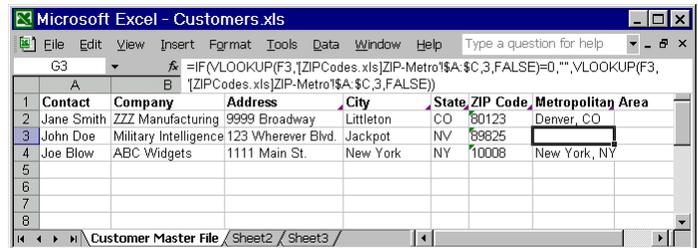


Figure 12. Results of If and Vlookup formulas. The cells show a blank if the initial Vlookup value returns a 0.

If you want something instead of a blank to be shown, you can specify a different value in the IF formula. To see this, modify cell G3 by typing “No Metro Area” between the quotation marks to the right of the 0, (Figure 13).

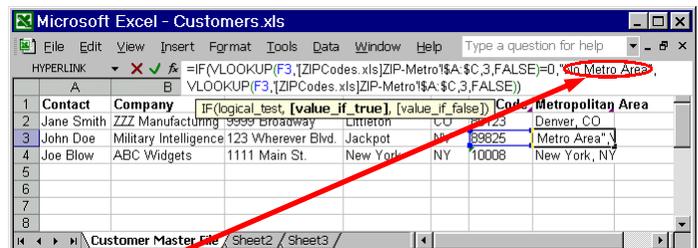


Figure 13. Modifying the If formula to show a value.

Instead of a blank, cell G3 now displays “No Metro Area”.

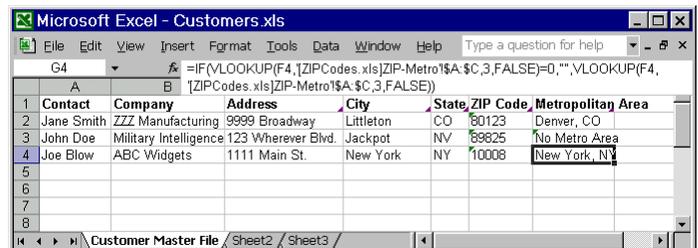


Figure 14. Results of modifying the If function. No Metro Area now displayed in cell G3.

Hard Coding Blank Results

While using the If function hides 0 results, you may want to hard code the results instead using a second approach. One of the If formula limitations is the complexity of blanking all possible 0 and error results. Additionally, even with the simple Vlookup formula, your workbooks may take a long time to open with a large number of Vlookup formulas. In the example, our Customer Master File worksheet only contains three customers, but in the real world with hundreds or thousands of customers, the Vlookup formula becomes very inefficient. If the reference data you are adding is fairly stagnant, you should consider hard coding the Vlookup's results.

The easiest way to do so is to copy the column containing the results to itself using the PasteSpecial Values functionality. You can then replace the values you do not want displayed.

Using our Customer Master File worksheet with just the normal Vlookup function (see Figure 7), begin by selecting column G with the Vlookup formulas.

Then use Edit—>Copy (or Ctrl C) to copy the column. Next, use Edit—>Paste Special to display the Paste Special input form. Click on the Values radio button as shown in Figure 15. Click the OK button (or depress the Enter key).

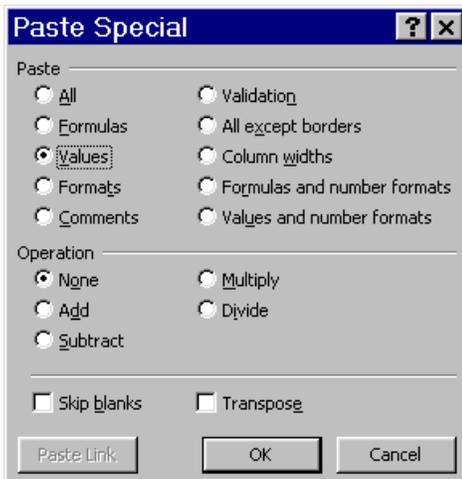


Figure 15. Paste Special form with Values selected.

If you examine the cells in column G, the formulas have been replaced with the values. Note that the value and formula bar for cell G3 now shows a “0” (Figure 16).



Figure 16. Results of pasting values to themselves. Values now are 0 instead of formula.

To eliminate the 0 values in column G, begin by selecting column G. Use the Edit—>Replace menu to obtain the Find and Re-



Figure 17. Find and Replace dialog box.

place box. Type the value you want to replace in the “Find what:” entry space. In this case, type “0”. Leave the “Replace with:” entry blank (Figure 17). Click on the Replace All button (or depress the A key). You will then receive a message box stating how many changes Excel made. After clicking OK on the message box to dismiss it, you will see that the 0 in cell G3 has been replaced with a blank (Figure 18).

This method also works when the formula returns an error value. In the “Find what:” field, enter “#N/A”.

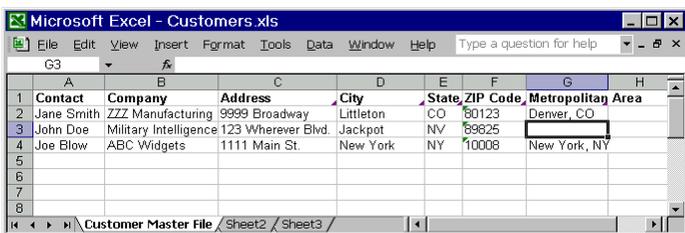


Figure 18. Results of Replacing 0 with blanks.

Data Type Workarounds

The Vlookup function properly works only when the data in both files is of the same type. Both sets of data either need to be text or numeric. If one set of data is of one type, and the other of another type, the function yields an error (#N/A). In that case, you need to transform one of the data sets from one type to another.

Let's use our example to illustrate. We're back to using the Vlookup function in all the cells in the Customer Master File worksheet as shown in Figure 7. Type "80123" in cell G2. Once you enter it, Excel assumes it's a number. The formula's result in cell G3 changes from "Denver, CO" to "#N/A", an error (Figure 19). Why? Because the entry for 80123 in the ZIP-Metro worksheet is a text entry (see Figure 2), now differing from the source entry.

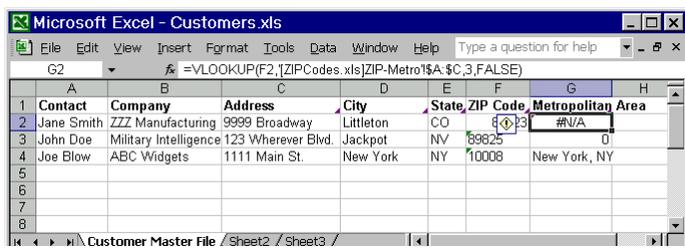


Figure 19. Results of changing a ZIP Code from text to numeric.

If you have a small number of entries, as in our example, you can easily change numeric data to text by preceding it with an apostrophe (single quotation mark). This can be

done cell-by-cell.

For a large number of entries, you may want to set-up a new column of text data using the Text function. To illustrate, we've changed all the ZIP Codes in the Customer Master File worksheet to numeric. We will create a new column of Text ZIP Code data in column H of the Customer Master File worksheet. The syntax of the Text function is **TEXT(value, format_text)**. For the value parameter, enter the cell address with the numeric data. For the format_text argument, any valid Category format shown in the Format Cells dialog box under the Number tab. Since we want all numbers shown as text in our example, we'll use "0" for the number format_text argument. In cell H2, enter "**=text(f2,0)**" as shown in Figure 20.

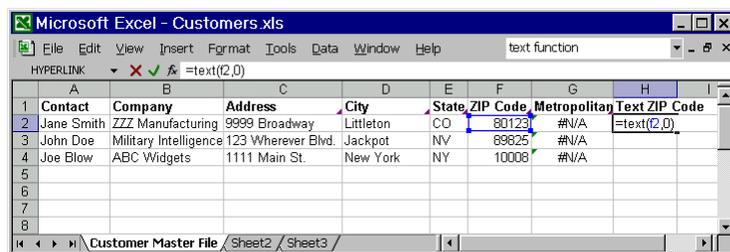


Figure 20. Entering the Text function

After completing the entry, you'll see the value 80123 left-aligned in cell H2. The natural left-alignment means that the value is text. Now change the Vlookup function in cell G2 to find the text value in cell H2 (instead of the numeric cell F2). Replace the F2 in cell G2 with H2. You'll note that the value in cell G2 returns to "Denver, CO".

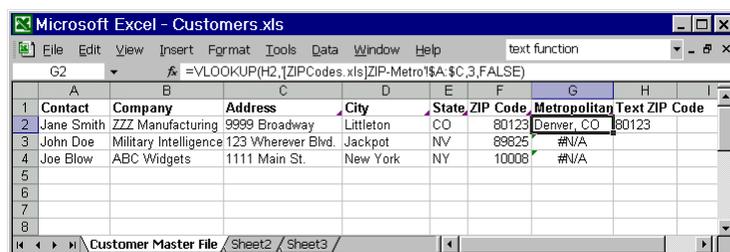


Figure 21. Results of the Text function.

Please note that you cannot change numeric data to text by changing the cell format to text; that only changes the data's display, not its underlying type. You must have both underlying types of data match, no matter how they are formatted.

What if you need the reverse change, converting text data to numeric? Again, if you don't have a lot of data to change, you can go cell-by-cell and re-enter data or eliminate any apostrophes (single quotation marks). You can also utilize a Paste Special trick to convert text data to numeric. By using a numeric Operation setting from the Paste Special dialog box, Excel performs the desired conversion.

Using our example ZIP-Metro worksheet, let's see how you can do this. First, type "1" in cell D1 of the ZIP-Metro worksheet. We will copy this cell to cells A2:A4 of the worksheet and use the Multiply operation. Copy cell D1 by using the Edit->Copy menu or Ctrl C. Select cells A2:A4. Then use the Edit->Paste Special menu to bring forth the Paste Special dialog box. On the Operation frame of the box, click on "Multiply" to select the radio button (Figure 22). Then click the OK button or depress the

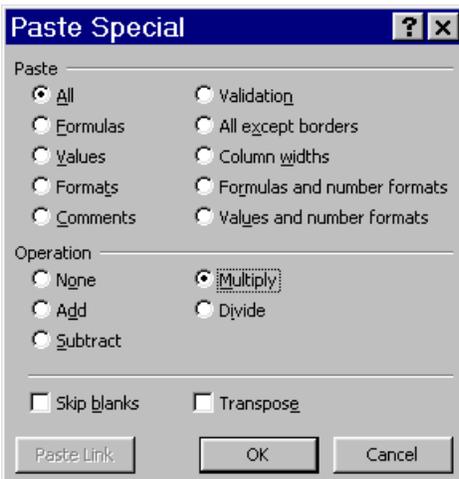


Figure 22. Paste Special dialog box with Multiply selected.

numeric (Figure 23).

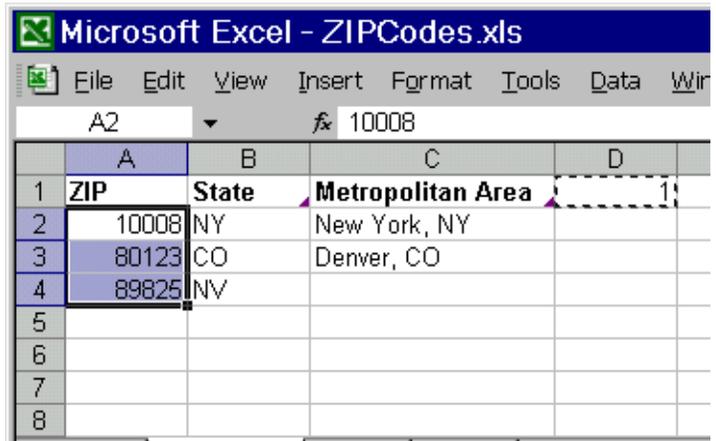


Figure 23. Results of using Paste Special, Multiply to change text to numeric.

How does this impact our Customer Master File? Recall from the previous section that we changed range F2:F4 from text to numeric. We received errors in the Vlookup function because the ZIP-Metro worksheet's data was text (see Figure 20). Now that the ZIP-Metro worksheet contains numeric data, the Vlookup once again returns valid data from the ZIP-Metro worksheet (Figure 24).

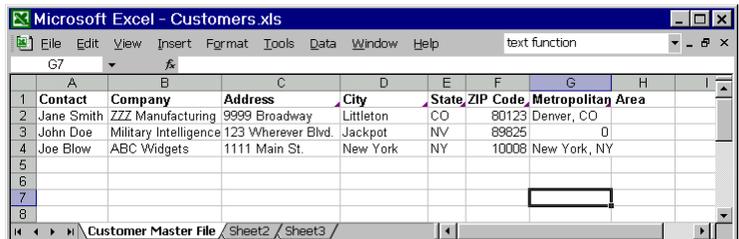


Figure 24. Results of using the Vlookup function where both numeric data types.

While the Edit->Paste Special technique transforms text data to numeric, you may also want to create a separate column of numeric data. The Value worksheet function can be used for this. Using the Value function is fairly straightforward. You only enter the cell address you want converted as its argument. Bear in mind that if you want a separate column on the reference data sheet, it must be positioned to the left of the data

you want returned using the Vlookup function.

Other Applications of the Vlookup Function

The Vlookup function has many uses. Some of the ways we've used it in the past include:

1. Appending text information to numeric data. Our example illustrates one application of attaching text information (metropolitan area) to numeric (ZIP code). Another fairly common and similar approach is appending SIC Code descriptions to SIC Code numbers stored in a customer master file. If you're in consumer marketing, you may want to append PRIZM descriptions to PRIZM codes.
2. Adding data based on B2B titles. You may want to add data like department or rank within a company to customer records based on job titles.
3. Enhancing records based on summary data. In our ZIP code example, we added a metropolitan area description. We could have added other data for the ZIP code, such as total population, median age, etc. Likewise, if we had summarized usage or purchase data for a month by customer, we can append this data to customer master records to build a monthly history file.
4. De-normalizing data for analysis. Most relational database management systems, like Oracle, keep data in what is known as 3rd normal form. This scheme stores data in many non-redundant tables, which is ideal for on-line transaction processing. If you need to analyze data, however, performance lags. The Vlookup function enables you to build workbooks with redundant data better suited to analysis.
5. Competitive analysis. If you know what ZIP codes your competition serves, you can compare this with your own coverage. You can also look at licensed areas.

For example, we combined information from the FCC's wireless licensing database to compare the licensed areas of various companies.

We know there are many other uses for this versatile function. While most data will be organized vertically, if you have organized your data horizontally, the Hlookup function can be used similarly to the Vlookup function.

Merging Worksheets

The lookup functions (Vlookup and Hlookup) work well when there's a complete dataset and you're appending data to it. What happens when you want to merge data and take complete records from different worksheets? Let's say you have a worksheet with customer usage data that only includes customers that have used your service. Each month you get a new worksheet with usage activity for the month. You want to create a spreadsheet that appends data for customers who have already used your service, and add new records for customers who have just started with you the previous month.

Excel does not provide any tools for doing this in its standard implementation. One option would be to use the Vlookup to append the monthly data for previous customers and to copy the other records for new customers to the bottom of your spreadsheet. The pitfalls of this approach include making errors in the process and it can be time consuming. Using macros can alleviate these problems, but macros can be time consuming to build from scratch. Our company, InfoTech Marketing, has already created merge macros. We can apply them to your specific situation. Give us a call at 800-506-0252 to see if this makes sense for you.

De-Duping Data

De-duping, or finding and removing duplicate data, poses a challenge when using Excel for database manipulation. Duplicate data emerges from many sources. If you create a worksheet from a text file of mainframe computer output, duplicate data may be in different sections of the mainframe report. If your Excel file comes from user input to your Web site, users may accidentally enter their data multiple times. Many more examples exist.

In most cases, to eliminate duplicate data, you'll need to start by combining values from multiple cells into one. Then you'll want to sort the data. A simple formula can then be entered to highlight the duplicates. You can then decide if they are true duplicates or not, and eliminate them as needed.

To combine data from multiple cells, you can either use the Concatenate function or the ampersand (&) operator. Since the ampersand operator is easier to use, the examples that follow utilize it.

To illustrate, we'll use a sample workbook containing a Duplicate Customers worksheet. (You can download the Duplicate Customers.xls workbook from www.infotechmarketing.net/Excel_examples.htm). Figure 25 shows this worksheet. In looking at this worksheet, it appears that John Doe may be entered 3 times and Joe Blow twice. Two of the John Doe entries are exactly the same, while one

varies in the State column. For Joe Blow, the addresses are the same, but the company differs.

You must decide exactly what you want to consider as a duplicate. Then, if a duplicate is indicated, which row you want to retain. Obviously, data that's exactly the same in two different rows should be eliminated. What if the data is similar, but not exact? You must make an informed decision about it. In this example, we will use data with the same contact, address, city, and ZIP to ascertain duplicates.

We will use column G to combine the data. Let's start with cell G2. You can begin by entering the "=" sign. Then click on cell A2 to place cell A2 into the formula. Type the "&" (ampersand) sign to concatenate additional cells. Click on cell C2, enter &, click on cell D2, enter &, and click on cell F2. The complete formula is shown in Figure 26.

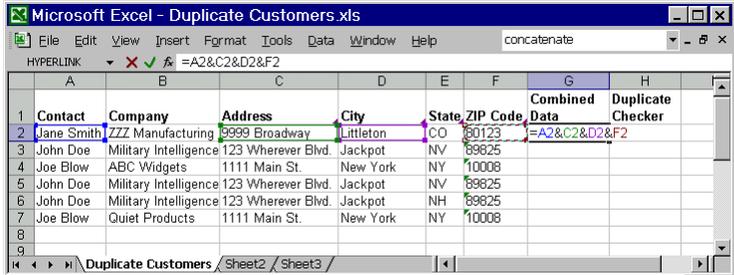


Figure 26. Combining cells using &

After you press the Enter key, cell G2 displays the concatenated data. Copy this cell to range G3:G7. Your worksheet should look like Figure 27.

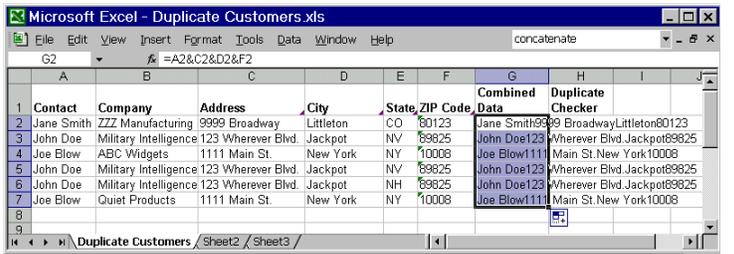


Figure 27. Data combined in column H.



Figure 25. Duplicate Customers worksheet.

You now need to sort the data by the Combined Data column (column G). Select the entire worksheet. Go ahead and sort the data. It should then look like Figure 28.



Figure 28. Sorted data on column G.

The next step is to evaluate the combined data for each row to the previous row. This is easily done by a simple formula. We will use column H to check for duplicates. In cell H3, enter “=g3=g2” (Figure 29). Upon com-

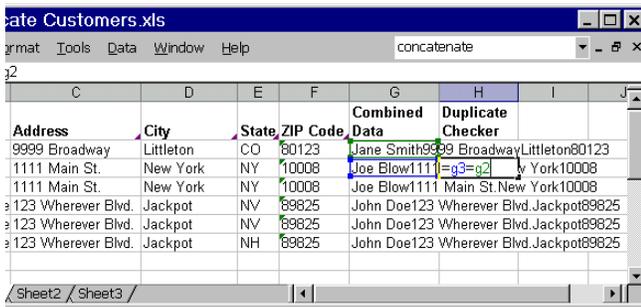


Figure 29. Formula comparing two rows.

pleting the entry, the cell’s value changes to “FALSE”. After copying this cell to range H3:H7, you’re spreadsheet should display “TRUE” in cells H4, H6, and H7 (Figure 30).

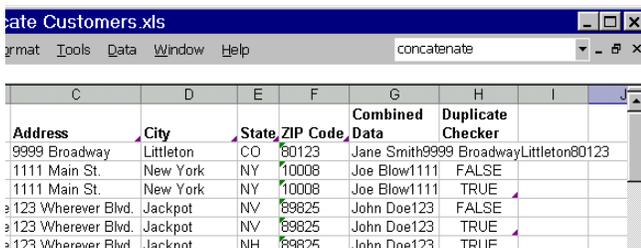


Figure 30. Results of formula comparing cell to same column, previous row.

The TRUE cells are duplicates with the previous row. We recommend that you select the rows you want to delete and use Edit→Clear→All to clear the rows with duplicate data. Once finished, sort the data. The blank rows will move to the bottom and the data you want to retain will be at the spreadsheet’s top.

You can also use Edit→Delete to remove the unwanted rows, but this makes some or the formulas fail as the rows are removed. You must continually re-copy the formula if you delete the rows. Excel gives you other ways to also remove the duplicate data, but we won’t cover them here.

In a small spreadsheet like we’ve used in the example, you easily spot the values to consider changing. In a large spreadsheet, you may want to better visualize the duplicate rows. Excel’s conditional formatting feature enables this. You can change the color of the duplicate cells based on the formula’s result.

In our example, let’s change the format of each “TRUE” result to red and make it bold. The steps to do this are fairly simple:

1. Select the column with the duplicate checking results. In our example, this is column H (Figure 31).

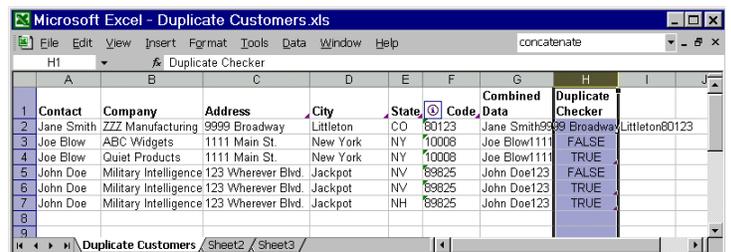


Figure 31. Column H selected for conditional formatting.

2. Use Format→Conditional Formatting to invoke the Conditional Formatting dialog box.

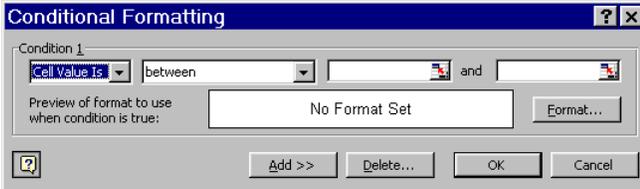


Figure 32. Initial Conditional Formatting dialog box.

3. Modify the dialog box by changing the second box from “between” to “equal to” by use of the drop-down box. You then have one blank box on the right. Type “TRUE” (Figure 33).

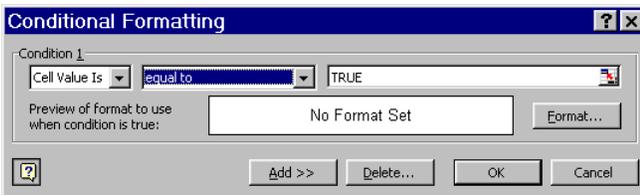


Figure 33. Partially completed Conditional Formatting dialog box.

4. Click on the Format button. In the Format Cells dialog box, select Bold for the Font Style. Click on the Color drop-down box and click on the red color from the palette options. The Conditional Formatting dialog box now displays a partial alphabet in bold and red (Figure 34).

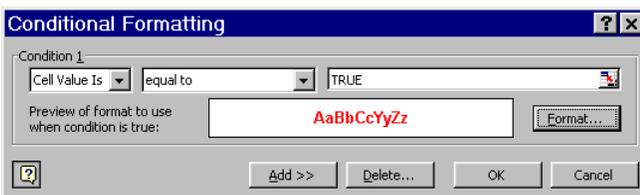


Figure 34. Completed Conditional Formatting dialog box.

Upon clicking the OK button or depressing the Enter key, the “TRUE” values now stand out in bold, red type.

Using a Macro to Find Duplicates

If you have a large spreadsheet, you may want a more automated approach to finding duplicates. At InfoTech Marketing, we’ve developed a macro that can be used to either highlight duplicate rows or automatically delete them. The user controls what range the macro checks for duplicates and the resulting action to take.

Mitigating Hyperlink Problems

When you enter a Web site URL in a cell, Excel recognizes certain patterns to establish a hyperlink. In Excel 2002, Excel automatically inserts hyperlinks when a cell begins with any of the following and auto formatting is used:

```
http://
www.
ftp://
mailto:
file://
news:
\\
```

You typically want Excel to do this because it saves data entry time. You can run into problems, however, when your spreadsheet contains multiple cells referencing the same URL. Excel only stores the true URL once, and then points additional references to it. If your spreadsheet does not change, this works fine. If you sort the data, however, the hyperlinks no longer properly work if you’ve copied the hyperlink from one cell to another, used FILL, or in other conditions.

Why would you have the same URL in a spreadsheet database? You may have a contacts database with multiple contacts from the same company that share that company’s

URL. Also, perhaps you've cut and pasted a table from the Internet with multiple rows for the same company. In these cases, if you sort the data, the URL references will probably lose their accuracy.

To play it safe, you should use the Hyperlink function when entering URLs. The Hyperlink function retains the actual URL for each occurrence. The syntax is:

Hyperlink("link",display). The link can actually be a URL, a cell or named range in a spreadsheet, or other location data (see the Help menu for more possibilities). In our example, we'll work just with URLs. Excel shows the display parameter in the cell as blue and underlined. If you omit the display parameter, the cell shows the link. You normally want to display a name that you enter in the function, but you can also refer to a cell for the display.

To further explain this, we'll use a simple example. The Hyperlink Customers worksheet contains multiple URL references to the same Web sites that are just entered into the worksheet without using the function. (You can download the Hyperlinks.xls workbook from www.infotechmarketing.net/Excel_examples.htm). The two companies shown are InfoTech Marketing and Sales & Marketing Source (both operated by the author). In both cases, the first URL for each company has been entered by hand (in cells

C2 and C6). Subsequently, they have been copied to ranges C3:C5 and C7:C8, respectively. If you move your cursor over the cells, you should see that they refer to the appropriate Web site (see Figure 35). If you click one of the cells, you should be taken to the correct Web site.

Now sort the worksheet. Select all the cells and sort by Contact (column A). Your spreadsheet should look like Figure 36. Note that as you move your cursor over the cells, the URL displayed in the pop-up box may differ from the URL in the cell. Figure 36 shows that cell C4 displays www.smsource.com, while the box shows a different URL, www.infotechmarketing.net. If you click on cell C4, Excel launches the Web site shown in the box, not in the cell. Certain cells, like C6, display a URL but no longer produce a hyperlink pop-up box. If you click on cell C6, nothing happens.



Figure 36. Sorted worksheet with inaccuracies.

To show the correct hyperlinks, we'll use the Hyperlink function in column D. Starting with the original Hyperlink Customers worksheet (Figure 35), enter "=**hyperlink**("www.infotechmarketing.net")" in cell D2. After depressing the Enter key, the display should be the same as cell C2 to its left. Copy cell D2 to range D3:D5.

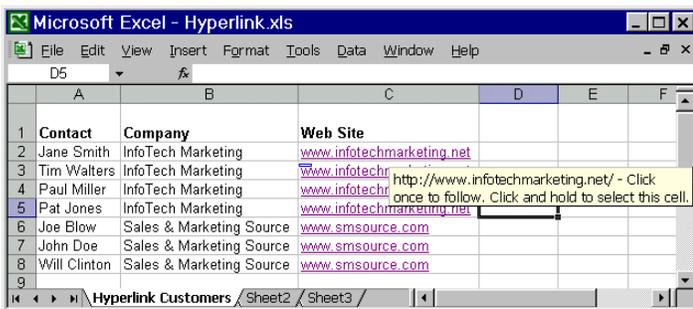


Figure 35. Hyperlink Customers worksheet. When cursor passes over cell, correct URL shows.



Figure 37. Hyperlink function.

For cell D6, in addition to the URL, we'll enter a name to display. Type "=**HYPERLINK**("www.smsource.com","Sales & Marketing Source")" in cell D6 (see Figure 38).

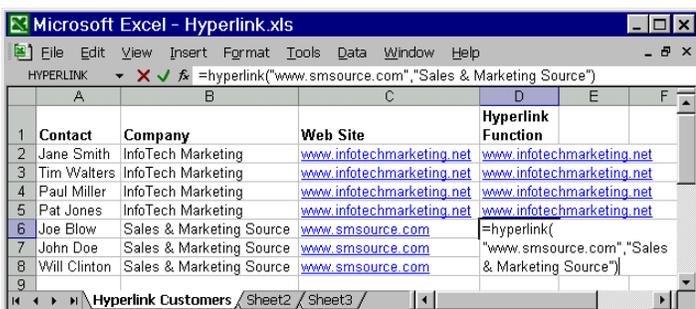


Figure 38. Hyperlink function with display parameter.

Enter the formula and copy it to range D7:D8. You should see "Sales & Marketing Source" displayed in cells D6:D8. As you pass your cursor over the cells in column D, the URL in the hyperlink pop-up box should be the same as the URL in each cell. Your spreadsheet should look like Figure 39.

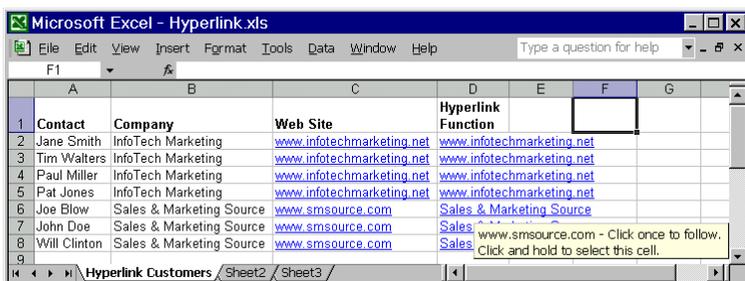


Figure 39. Spreadsheet with Hyperlink functions entered in column D.

Sort the data by Contact (column A) once again. As you move your cursor over columns C and D, you'll see that the hyperlink pop-up box for the cells in column D containing the Hyperlink function shows the correct URL, while column C without the function is inaccurate (see Figure 40). The Hyperlink function maintains the proper hyperlink, while the data entered and copied in column C is now inaccurate.



Figure 40. Sorted worksheet. Column C without Hyperlink function inaccurate; Column D with hyperlink function retains proper links.

So far, we've shown that you should enter hyperlinks using the Hyperlink function instead of merely letting Excel automatically create hyperlinks. What if you have already entered the URLs without the hyperlinks? Manually changing the hyperlinks can be a big task, especially if you have a lot of them. Macros can automate this task, saving you time. At InfoTech Marketing, we've developed a macro to help automate this process. The macro looks at the current cell and hyperlink values and places them in the Hyperlink function appropriately. If no hyperlink value is found, the macro prompts the user for a value. You then restart the macro, preceding much faster than manually fixing your hyperlinks.

Conclusion

Excel provides the means of automating many repetitive tasks when using spreadsheets as databases. You'll often need to append data to a master file, which the Vlookup

function facilitates. Eliminating duplicates can be a big task, but concatenating data from multiple cells and using comparison formulas makes the task more manageable. And if you have hyperlinks in your spreadsheet, you should use the Hyperlink function to retain data integrity.

InfoTech Marketing can help you automate these tasks even more. We've developed macros to append data, merge worksheets, de-dup, and convert text to the Hyperlink function. See if we can apply these techniques to your data. Call Tim Walters at 720-732-4588 to see if our solutions make sense for you.

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