EXCEL ‹‹‹‹‹‹

By Bill Jelen

Obscure Custom Number Formats

The Home tab of Excel 2007 offers 11 different built-in number formats, including General, Currency, Accounting, and more. While these and the other formats in Excel 2007 and 2003 let you control the number of decimal places, thousands separator, and currency symbols, you can achieve amazing control over the display of values by using custom number formatting codes.

The number formatting codes in this article are entered in the Format Cells dialog box. To get there, select a cell, press Ctrl+1 (or right-click on the cell and choose Format Cells…), click the Number tab, then choose Custom in the left list box. A box labeled "Type:" appears in the dialog. The formatting codes discussed here go in that box.

Controlling Number of Digits Displayed with 0, #, or ?

A format of 00000.00 forces the cell to display five digits before the decimal point and two digits after the decimal point. If the cell contains a value such as 123.4, Excel will show leading and trailing zeroes: 00123.40. If you replace the zeroes with pound signs (#), then Excel

will display digits in each place, but it will leave off the trailing and leading zeroes if there are fewer digits than pound signs. For example, #,##0.0## will always show one decimal place, but it will show up to three decimal places if the cell contains a value with three or more decimal places.

If you want to have your decimal points always line up, consider replacing the # with a question mark (?). A format of 0.0?? will show at least one and up to three decimal places, but Excel will add spaces to allow decimal points to line up (see rows 6-8 of Figure 1).

Displaying Numbers in Thousands or Millions

A comma before the decimal point indicates that you want to show a thousands separator. Add a comma after the format code to indicate that the number should be displayed in thousands. Each comma will divide the number by an additional thousand in the display: For example, #,##0,K will show numbers in thousands with a "K" abbreviation, while #,##0.0,,"MM" will show numbers in millions with a "MM" abbreviation (see rows 10 and 12 in Figure 1).

Adding Text to the Number

You can add some text before or after the number by enclosing the text in quotes.

"Please Remit "$#,##0.00 will show the number with the words "Please Remit" before it. Don't forget to include some 0, #, or ? characters outside the quoted text. Otherwise, only the text will appear, and you won't see the number that's actually entered in the cell (see rows 13–14).

If you need to add a single character, you can leave off the quotes, but precede the character with a backslash. #,##0,\M will show the number in thousands with the "M" abbreviation after it (see row 11). Further, without any apparent explanation or logic, there are several letters that can be entered without the backslash: A, C, F, I, J, K, L, O, P, Q, R, T, U, V, W, X, and Z. My theory is that these are letters that are never used as abbreviations for years, months, days, hours, minutes, or seconds in any language.

If you want to leave the same amount of space that would normally be taken up by another character, use an underscore and that character. Some of the

Figure 1

	A	B	C
1	**Value**	**Displays As**	**When Using this Format**
2	123.4	00123.400	00000.000
3	123.4	123.4	#.###
4	123.45	123.45	#.###
5	123.4567	123.457	#.###
6	123.4	123.4	?.???
7	123.45	123.45	?.???
8	123.4567	123.457	?.???
9	1234567	1,234,567	#,##0
10	1234567	1,235K	#,##0,K
11	1234567	1M	#,##0,,\M
12	1234567	1.2MM	#,##0.0,,"MM"
13	123	Remit $123	"Remit "$0
14	123	Remit	"Remit "
15	123	********** 123	**0
16	123	~~~~~~ 123	*~0
17	123	123.00 DR	0.00 "DR";0.00 "CR"
18	-123	123.00 CR	0.00 "DR";0.00 "CR"
19	123	123	[Green]0;[Red]-0;[Blue]--
20	0	--	[Green]0;[Red]-0;[Blue]--
21	-123	-123	[Green]0;[Red]-0;[Blue]--
22	30	Under	[>=80]"Over";[Red][<40]"Under";0
23	50	50	[>=80]"Over";[Red][<40]"Under";0
24	90	Over	[>=80]"Over";[Red][<40]"Under";0
25	876	876	[>999999]0,,"M";[>999]#,##0,K;0
26	87654	88K	[>999999]0,,"M";[>999]#,##0,K;0
27	87654321	88M	[>999999]0,,"M";[>999]#,##0,K;0

accounting formats use _) after positive numbers. This portion of the formatting code tells Excel to leave as much space as a right parenthesis would normally occupy in order to allow the positive and negative numbers to line up properly.

To fill a cell with leading characters, show the character after an asterisk: *~0 will fill the spaces before the number with tildes. Use two asterisks to fill the space before a number with asterisks like a check printer would do.

Four Zones for Positive, Negative, Zero, and Text

A number format can contain up to four zones separated by semicolons. If you specify one zone, it's used for all numbers. If you specify two zones, the first zone is used for positive and zero, and the second zone is used for negative. If you specify three zones, the first zone is positive, the second zone is negative, and the third zone is zero. The optional fourth zone is used for cells that contain text.

0.00 "DR";0.00 "CR" will show debits and credits. Note that the negative numbers won't have a minus sign because you didn't include a hyphen in that zone.

[Green]0;[Red]-0;[Blue]"—" will show positive numbers in green, negative numbers in red with a minus sign, and will replace zeroes with a pair of blue dashes. The color names must appear in square brackets and at the beginning of the zone. These formats predate conditional formatting and are limited to eight colors: black, blue, cyan, green, magenta, red, white, and yellow.

Hiding Value for a Zone

You can hide values for a zone by leaving that zone blank. For example, 0;;@ will display positive numbers and text values. Negative values and zero will be hidden. Use three semicolons to hide all values.

Specifying up to Two Conditions

The traditional four zones handle positive, negative, and zero values. But you can start a zone with your own condition in square brackets. The condition should start with a logical operator fol-

lowed by a value. Follow the condition with the number format for that condition. You can specify conditions for up to two zones and then specify a third zone to use for all other formats.

Say that you want to show values that occur between 60 and 80 but report other values as outside the limits. Use [<60][Red]"Under Limit";[>80][Blue]"Over Limit";0.0.

Perhaps you want to display numbers in millions, thousands, or units depending on the size of the number. Use [>999999]0,,"M";[>999]#,##0,K;0.

People in my Power Excel seminars have asked how to build a formula that would concatenate certain text before a number. By using the custom number formats in this article, you can solve that problem without a formula at all. Further, while Excel might be displaying words and numbers in the cell, the actual value in the cell is only a number and can be used in other calculations. **SF**

Bill Jelen is the author of Excel Gurus Gone Wild *and 24 other books about Excel. Send questions for future articles to IMA@MrExcel.com.*