Formula Override Conditional Formatting Alert

April 23, 2015   Jeff Lenning   Excel, Features, Functions   Conditional Formatting, ISFORMULA, NOT

2 comments

Let me ask you a question. How do you know when a user has entered a value into a formula cell, essentially overriding your formula? Since this is Excel, there are several ways to address this issue, but starting with Excel 2013, we can use conditional formatting with the new ISFORMULA function.

Objective

Our worksheet has a range of formulas. In the screenshot below, the orange columns contain values while the blue columns contain formulas.

Order	Date	Item	Amount	Tax	Subtotal	Shipping	Total
10502	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10503	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10504	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10505	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10506	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10507	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10508	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10509	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10510	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10511	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10512	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10513	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10514	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13

Our goal is to change the formatting of the formula cell when the user enters a value, essentially replacing our formula with a static value. For example, if the user enters a different shipping amount, we want to format the cell fill with gray as shown for order 10504 below.

Order	Date	Item	Amount	Tax	Subtotal	Shipping	Total
10502	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10503	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10504	4/23/2015	AA201	9.99	0.80	10.79	5.00	15.79
10505	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10506	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10507	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10508	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10509	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10510	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10511	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10512	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10513	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10514	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13

The good news is that beginning with Excel 2013, we can use the ISFORMULA function and a simple conditional formatting rule so that Excel automatically applies the desired cell formatting.

ISFORMULA

The first step is to understand the new ISFORMULA function. The ISFORMULA function was introduced in Excel 2013 and returns TRUE when the argument cell contains a formula and FALSE when it doesn't.

For example, if A1 contains a formula, the following formula returns TRUE:

```
=ISFORMULA(A1)
```

In our worksheet, we want to format the cell when the cell does not contain a formula, so, we would actually want to apply conditional formatting with the following formula:

```
=NOT(ISFORMULA(A1))
```

The NOT function returns TRUE when A1 does not contain a formula, that is, it returns TRUE when a user entered a value into the cell.

Now, let's set up the conditional formatting rule.

Conditional Formatting

To begin, we simply select the entire range of formula cells, in our case, the blue columns as shown below.

	B	C	D	E	F	G	H	I
6	Order	Date	Item	Amount	Tax	Subtotal	Shipping	Total
7	10502	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
8	10503	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
9	10504	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10	10505	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
11	10506	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
12	10507	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
13	10508	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
14	10509	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
15	10510	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
16	10511	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
17	10512	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
18	10513	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
19	10514	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13

We take note of the active cell. You'll notice that we selected the range F7:I19, however, only a single cell is active, F7. We make a mental note of this active cell, and then open the conditional formatting dialog with the following Ribbon icon:

› Home > Conditional Formatting > New Rule

In the New Formatting Rule dialog, we "Use a formula to determine which cells to format" and enter our =NOT(ISFORMULA(F7)) formula and reference the active cell (F7), as shown below.

New Formatting Rule

Select a Rule Type:
- ► Format all cells based on their values
- ► Format only cells that contain
- ► Format only top or bottom ranked values
- ► Format only values that are above or below average
- ► Format only unique or duplicate values
- ► Use a formula to determine which cells to format

Edit the Rule Description:

Format values where this formula is true:

=NOT(ISFORMULA(F7))

Preview: AaBbCcYyZz   Format...

OK   Cancel

We select the desired cell formatting by clicking the Format button. Once we click OK and apply the rule to the selected cells, Excel will automatically format the cells whenever a user replaces a formula cell with a static cell value, as shown below.

Order	Date	Item	Amount	Tax	Subtotal	Shipping	Total
10502	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10503	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10504	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10505	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10506	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
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10509	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
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10511	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10512	4/23/2015	AA201	9.99	0.80	10.79	3.50	14.29
10513	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13
10514	4/23/2015	AB101	7.99	0.64	8.63	2.50	11.13

And that is the ISFORMULA and conditional formatting method to address the issue. If you have any tips or alternatives, please share by posting a comment below…thanks!

Additional Resources

‣ Sample Excel file
‣ Conditional Formatting posts

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2 comments:

Catherine Reed
April 23, 2015 at 2:00 pm • Reply

I do not have Excel 2013 yet so I cannot test this – what happens if the user enters a formula which is really a constant because it does not refer to any other cells. In your example, I could see the shipping being made up of 2 pieces, postage and a flat handling charge and the user enters +3+2 instead of 5

jefflenning Post author
April 23, 2015 at 2:28 pm • Reply

Hiya Catherine!

To the ISFORMULA function, it would be considered a formula even if it doesn't reference a cell and contains only an expression such as +3+2. If A1 contained +3+2 or =3+2, ISFORMULA(A1) returns TRUE.

Thanks,
Jeff

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