



MICROSOFT EXCEL INTERMEDIATE



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About this Manual

This course manual is for you to keep and is intended as a reference so that it can be referred to during your daily work. Each section covers a different topic with easy to follow step-by-step instructions.

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TOPIC B

Apply Advanced Conditional Formatting

Nearly every organization needs people who can ask Excel questions about its data to get the information leaders need to make important decisions. But often, workbooks and worksheets contain massive amounts of data that can take up thousands of rows and columns. It can be intimidating and confusing to scan across such large worksheets to identify overall patterns in your data or to quickly determine what areas personnel need to direct their attention to. Anyone who's ever examined a large worksheet knows this to be true. Although you've likely applied some basic conditional formatting to highlight particular values in your worksheets, this doesn't necessarily reveal all of the patterns or trends present in your data. You need a way to format your worksheets so that these patterns or trends stand out immediately. Fortunately, Excel's conditional formatting capabilities go far beyond simple highlighting.

Additionally, once you've gotten the answers you need about your data to enable leaders to make informed decisions, you'll need to present that data to them in a way they can use. You'll need to be able to capitalize on Excel's more advanced conditional formatting capabilities to help reveal nuanced patterns in your worksheets that would otherwise be difficult, if not impossible, to discern. Developing these skills will allow you and your organizational leaders to leverage all of the hard work that went into developing your workbooks and analyzing your raw data in the first place.

Data Bars

Although it's helpful to identify and highlight values that fall above or below a certain threshold, or that fall within some particular range near the top or the bottom of a set of numbers, there is a lot more going on in your data at all levels. So, Excel includes a number of more advanced and more detailed conditional formatting options than those available in the **Highlight Cells Rules** and the **Top/Bottom Rules** menus. One of these is data bars.

Data bars are graphical representations of the relative value of data in a range of cells. Data bars appear in worksheet cells behind displayed values, giving worksheet viewers an instant picture of where particular cell values lie when compared to other cell data. The larger the value is in a particular cell, the longer the data bar will be. Excel includes a variety of pre-formatted data-bar styles and provides you with several options for customizing their appearance and behavior. You can access the data bars commands and options by selecting **HOME**→**Styles**→**Conditional Formatting**→**Data Bars**.

Number of Books Sold	Sell Price	Income Earned	Income Per Title
316,237	\$ 3.99	\$1,261,785.63	\$84,119.04
344,944	\$ 5.99	\$2,066,214.56	\$147,586.75
255,650	\$ 7.99	\$2,042,643.50	\$1,021,321.75
83,399	\$10.99	\$916,555.01	\$83,323.18
16,892	\$ 2.99	\$50,507.08	\$3,367.14
283,588	\$10.99	\$3,116,632.12	\$445,233.16
43,921	\$ 5.99	\$263,086.79	\$65,771.70
231,823	\$ 3.99	\$924,973.77	\$71,151.83
140,462	\$ 2.99	\$419,981.38	\$38,180.13
225,503	\$ 2.99	\$674,253.97	\$674,253.97
214,442	\$10.99	\$2,356,717.58	\$294,589.70
295,514	\$12.99	\$3,838,726.86	\$3,838,726.86
43,062	\$23.99	\$1,033,057.38	\$93,914.31
197,522	\$10.99	\$2,170,766.78	\$723,588.93
496,293	\$23.99	\$11,906,069.07	\$11,906,069.07
213,766	\$23.99	\$5,128,246.34	\$5,128,246.34
365,614	\$ 9.99	\$3,652,483.86	\$304,373.66
307,741	\$ 5.99	\$1,843,368.59	\$460,842.15

Figure 3-2: Data bars give worksheet viewers an instant snapshot of relative values.

Color Scales

Like data bars, *color scales* give worksheet viewers a graphical representation of the relative values of cell data. Instead of appearing as bars of various lengths, however, color scales use various shades of either two or three colors to represent relative values. In a two-color scale, Excel displays high and low values in various shades of the two colors; the darker the color, the closer the value is to either the very highest or the very lowest values. You can use a three-color scale to represent low-, middle-, and high-range values. Excel includes a number of pre-formatted color scales and provides you with various options for customizing these to suit your needs. You can access the color scales commands and options by selecting **HOME**→**Styles**→**Conditional Formatting**→**Color Scales**.



Note: It is possible to apply more than one type of conditional formatting to the same range of cells.

Number of Books Sold	Sell Price	Income Earned	Income Per Title
316,237	\$ 3.99	\$1,261,785.63	\$84,119.04
344,944	\$ 5.99	\$2,066,214.56	\$147,586.75
255,650	\$ 7.99	\$2,042,643.50	\$1,021,321.75
83,399	\$10.99	\$916,555.01	\$83,323.18
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43,921	\$ 5.99	\$263,086.79	\$65,771.70
231,823	\$ 3.99	\$924,973.77	\$71,151.83
140,462	\$ 2.99	\$419,981.38	\$38,180.13
225,503	\$ 2.99	\$674,253.97	\$674,253.97
214,442	\$10.99	\$2,356,717.58	\$294,589.70
295,514	\$12.99	\$3,838,726.86	\$3,838,726.86
43,062	\$23.99	\$1,033,057.38	\$93,914.31
197,522	\$10.99	\$2,170,766.78	\$723,588.93
496,293	\$23.99	\$11,906,069.07	\$11,906,069.07
213,766	\$23.99	\$5,128,246.34	\$5,128,246.34

Figure 3–3: Color scales use two or three colors of various shades to represent relative cell values.

Icon Sets

Icon sets function in much the same way as data bars and color scales, but they use sets of icons to represent relative values. For example, you can use icon sets to identify relative values using a star-rating system: one star could represent very low values, three stars could represent mid-range values, and five stars could represent the highest values. Or, you might want to use a downward-facing red arrow to represent low values and an upward-facing green arrow to represent high values. Excel includes an extensive set of pre-formatted icon sets and provides you with further customization options. You can access the icon sets commands and options by selecting

HOME→**Styles**→**Conditional Formatting**→**Icon Sets**.



Note: Data bars, color scales, and icon sets appear only in cells that contain some type of numeric data, such as values or dates. They do not work with data types such as text and logical values.

Number of Books Sold	Sell Price		Income Earned	Income Per Title
43,062	\$23.99	↓	\$1,033,057.38	\$93,914.31
197,522	\$10.99	↓	\$2,170,766.78	\$723,588.93
496,293	\$23.99	↑	\$11,906,069.07	\$11,906,069.07
213,766	\$23.99	→	\$5,128,246.34	\$5,128,246.34
365,614	\$ 9.99	↓	\$3,652,483.86	\$304,373.66
307,741	\$ 5.99	↓	\$1,843,368.59	\$460,842.15
380,640	\$ 7.99	↓	\$3,041,313.60	\$608,262.72
159,593	\$ 3.99	↓	\$636,776.07	\$53,064.67
269,278	\$ 3.99	↓	\$1,074,419.22	\$1,074,419.22
491,853	\$12.99	→	\$6,389,170.47	\$3,194,585.24
188,565	\$ 2.99	↓	\$563,809.35	\$140,952.34
366,628	\$23.99	↑	\$8,795,405.72	\$1,099,425.72
115,011	\$ 2.99	↓	\$343,882.89	\$24,563.06
102,016	\$ 2.99	↓	\$305,027.84	\$50,837.97
142,362	\$ 9.99	↓	\$1,422,196.38	\$118,516.37
237,358	\$ 9.99	↓	\$2,371,206.42	\$2,371,206.42

Figure 3-4: Use icon sets to graphically represent relative values with a variety of symbols or pictures.

Custom Conditional Formats

In addition to the preconfigured conditional formatting options available in Excel 2013, you have the option of creating completely custom conditional formats to suit your needs. The tools available in Excel enable you to create specific rules you can use to apply conditional formatting and to tailor the display of conditionally formatted cells using an incredible array of options. You can start with one of Excel's pre-formatted options and then adjust it to better suit your needs. Or, you can create completely from-scratch sets of rules and formatting options. In addition to the built-in cell formatting options and the data bars, color scales, and icon sets, you can use nearly any of Excel's cell formatting options, such as number, font, and border formatting, to format cells that meet the conditions you set. The cell formatting options not available for use as conditional formats are those on the **Protection** and **Alignment** tabs in the **Format Cells** dialog box.

The New Formatting Rule Dialog Box

The **New Formatting Rule** dialog box enables you to create fully customized conditional formatting rules and to customize the display of cells that meet the given criteria. The **New Formatting Rule** dialog box is divided into two sections: the **Select a Rule Type** list and the **Edit the Rule Description** section.

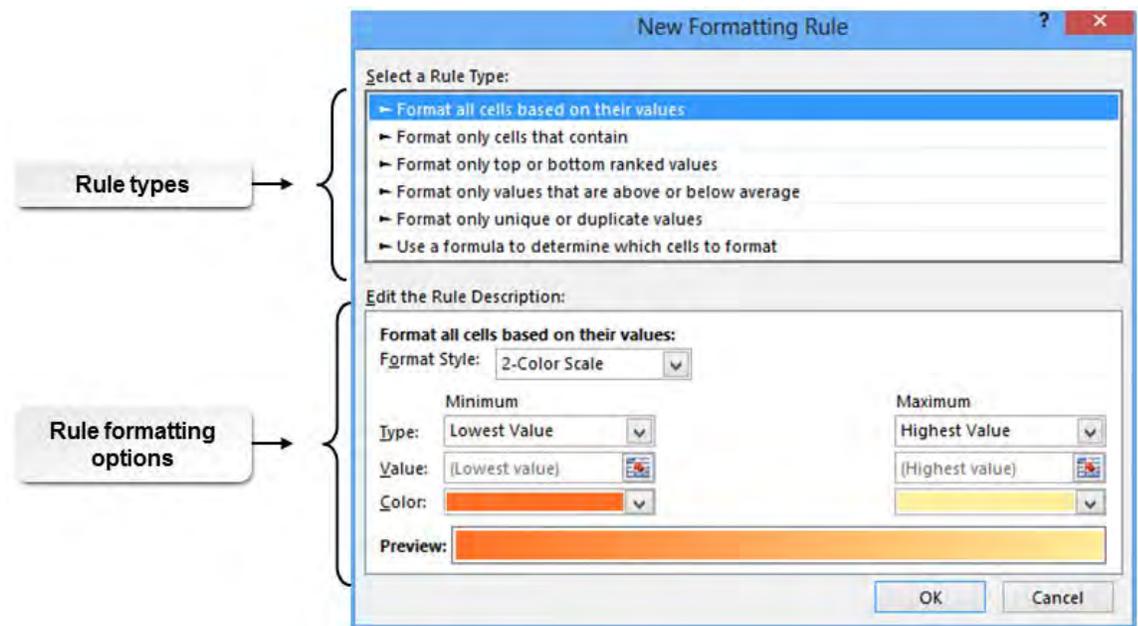


Figure 3–5: Add new conditional formatting rules by using the *New Formatting Rule* dialog box.

The **Select a Rule Type** list displays six categories of rule types from which you can select the general kind of rule you wish to use to apply conditional formatting. The following table provides some detail on what these categories represent.

Rule Type	Will Apply Formatting to Cells
Format all cells based on their values	Based on the relative values of the data in a range. This is the same rule type used by data bar, color scale, and icon set conditional formatting.
Format only cells that contain	Based on both the type of data contained in a specified range and the specific values. You can use this rule type to format cells based on criteria such as numerical values, specific text entries, particular dates, or cell errors.
Format only top or bottom ranked values	Containing values that fall within a specified percentage of the top or bottom range of values. For example, you can apply formatting to the top 5 percent of values or the bottom 22 percent of values.
Format only values that are above or below average	Containing values that are either above or below the average value of all data in the selected range. You can also use this rule type to apply formatting to values that fall either above or below the first, second, or third standard deviation.
Format only unique or duplicate values	That contain data that is either unique in the specified range or that duplicates values in other cells in the specified range.
Use a formula to determine which cells to format	That pass a logical test specified by a formula or function.

The **Edit the Rule Description** section displays the commands and options you will use to configure the parameters of whichever rule you select and to customize the display of cell formatting. The commands and options that appear in the **Edit the Rule Description** section vary dramatically depending on the rule type you select in the **Select a Rule Type** list. Typically, you will be presented with options for setting the particular values or content types Excel will use as thresholds/identifiers to apply the selected formatting. The specific formatting options also vary

greatly, but selecting several of the rule types will prompt Excel to display the **Format** button in the **Edit the Rule Description** section. Selecting the **Format** button opens the **Format Cells** dialog box, providing you with access to a wide array of formatting options. You can access the **New Formatting Rule** dialog box by selecting **HOME**→**Styles**→**Conditional Formatting**→**New Rule**.

The Conditional Formatting Rules Manager Dialog Box

You can use the **Conditional Formatting Rules Manager** dialog box to add, delete, edit, and manage conditional formatting rules in your workbooks. The **Conditional Formatting Rules Manager** dialog box contains a number of commands, components, and options that provide you with a high level of control over your conditional formatting rules. From here, you can simultaneously manage all conditional formatting rules present in an entire workbook. You can access the **Conditional Formatting Rules Manager** dialog box by selecting **HOME**→**Styles**→**Conditional Formatting**→**Manage Rules**.

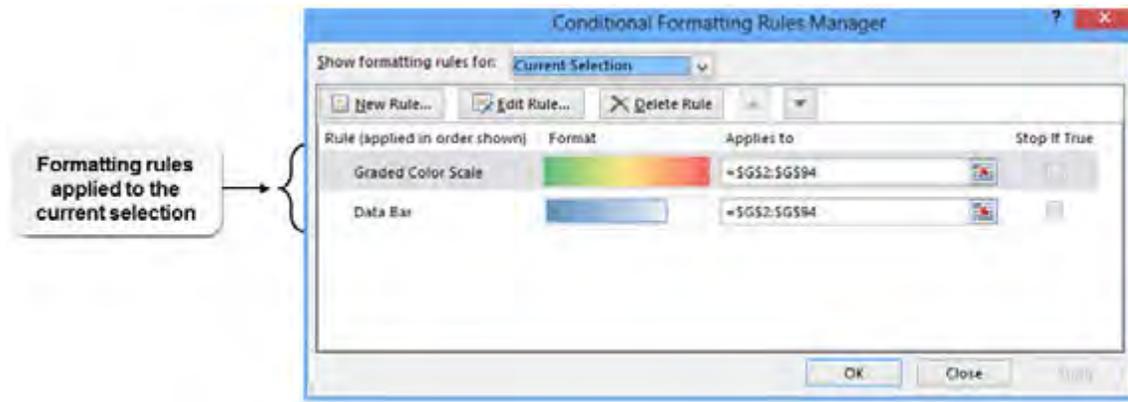


Figure 3-6: Use the **Conditional Formatting Rules Manager** dialog box to manage all conditional formatting within a particular workbook.

The following table describes the various elements of the **Conditional Formatting Rules Manager** dialog box.

Conditional Formatting Rules Manager Dialog Box Element	Description
Show formatting rules for drop-down menu	Enables you to select which workbook element to display applied formatting rules for. This can be for the currently selected range of cells, for any of the worksheets in the workbook, and for particular objects like tables.
New Rule button	Opens the New Formatting Rule dialog box, which you can use to create a new conditional formatting rule.
Edit Rule button	Opens the Edit Formatting Rule dialog box, which enables you to edit the currently selected rule. This is essentially the same as the New Formatting Rule dialog box, only you use it to edit existing conditional formatting rules.
Delete Rule button	Deletes the currently selected rule.
Move Up and Move Down buttons	Use these to change the order of rule precedence.
Rule (applied in order shown) column	Displays all of the specific rules applied to the selection in the Show formatting rules for drop-down menu.

Conditional Formatting Rules Manager Dialog Box Element	Description
Format column	Displays a preview of the specific formatting associated with each rule.
Applies to column	Displays the cell or range to which each rule applies.
Stop If True check boxes	Enable you to select how far down the list of displayed rules to stop applying formatting. You use this feature if you need to open a workbook in an earlier version of Excel that does not support the same type or the same number of conditional formatting rules. For example, if you have five conditional formatting rules applied to a particular worksheet, but you have the workbook containing that worksheet open in an older version of Excel that supports only three rules, you could check the Stop If True check box for the third rule to tell Excel to apply only the top three rules.

Rule Precedence

The **Conditional Formatting Rules Manager** dialog box displays all rules applied to the selection in the **Show formatting rules for** drop-down menu in order of *rule precedence*. This is the order in which Excel evaluates and applies conditional formatting to the cells. Rules that appear above other rules have a higher precedence.

Where there are no conflicts, all conditional formatting applied to the same range of cells will appear simultaneously. Where there are conflicts, Excel will default to displaying the formatting with a higher precedence. For example, let's say you apply two conditional formatting rules to the same cell, and both of the formats indicate applying a background fill, one yellow and one red, to the cells. In cells containing data that matches the criteria of both rules, Excel will display the formatting that has a higher precedence in the **Conditional Formatting Rules Manager** dialog box. This is because a cell cannot have two different background fills applied to it at the same time. However, you can, for example, display a data bar on top of a cell background. If those are the two formats applied to a cell, both will appear in the cell and the precedence is moot.

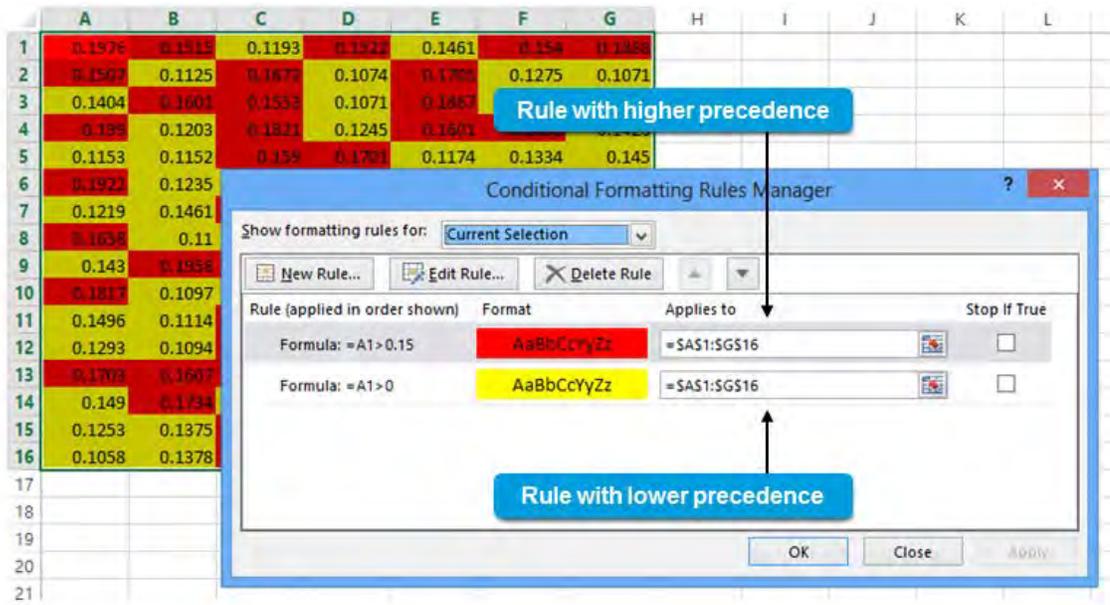
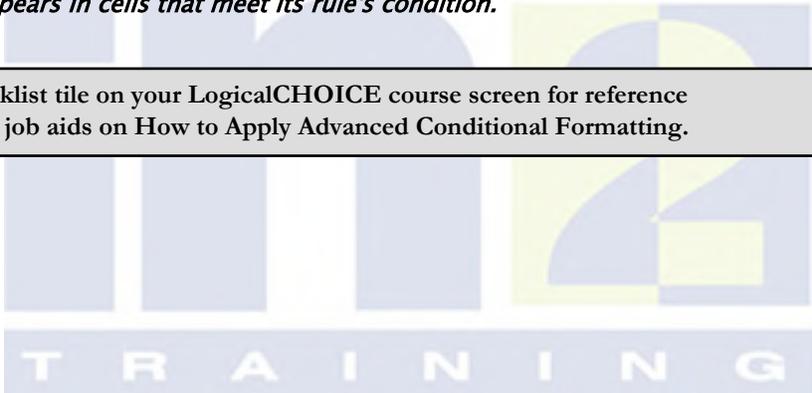


Figure 3-7: Here, all cells meet the criteria for the rule applying yellow fill formatting, but only some cells meet the criteria for the red-fill formatting. As the red-fill formatting rule has precedence, the red fill appears in cells that meet its rule's condition.

Access the Checklist tile on your LogicalCHOICE course screen for reference information and job aids on How to Apply Advanced Conditional Formatting.



ACTIVITY 3–3

Applying Advanced Conditional Formatting

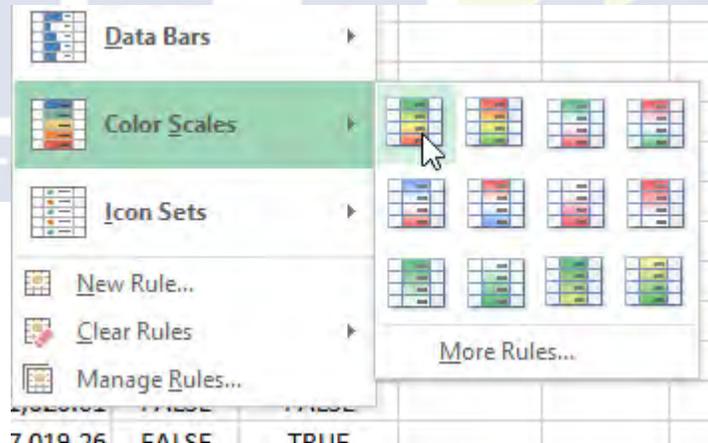
Before You Begin

The `my_author_data_03.xlsx` file is open.

Scenario

You've received another request from your supervisor regarding the author data workbook. Some of Fuller and Ackerman's senior leaders would like to review the performance of existing authors before fully integrating the newly acquired authors into the tracking data. Specifically, they have asked to be able to tell, at a glance, where authors lie in terms of overall sales. And, in order to more easily be able to determine who of the existing authors is most worth future investment, they would like to see which authors have had the greatest impact on income per published title. However, they are interested in this only for authors who generate \$1,000,000 or more per published title. You decide to apply some of Excel's advanced conditional formatting options to the **Income Earned** and the **Income Per Title** columns to accommodate this request.

1. Use color scales to display the relative performance of each author in terms of overall income earned.
 - a) Select the range **G2:G94**.
 - b) Select **HOME**→**Styles**→**Conditional Formatting**→**Color Scales** and then select the first option in the **Color Scales** gallery.



2. Apply custom conditional formatting to include data bars for all authors who generate more than \$1,000,000 in income per title.
 - a) Select the range **H2:H94**.
 - b) Select **HOME**→**Styles**→**Conditional Formatting**→**New Rule**.
 - c) In the **New Formatting Rule** dialog box, in the **Select a Rule Type** list, ensure that **Format all cells based on their values** is selected.
 - d) In the **Format Style** drop-down menu, select **Data Bar**.
 - e) In the **Minimum** section, in the **Type** drop-down menu, select **Number**.
 - f) In the **Value** field, type **1000000**
 - g) In the **Maximum** section, ensure that **Automatic** is selected in the **Type** drop-down menu.

- h) In the **Bar Appearance** section, select the **Color** drop-down arrow and then, from the **Standard Colors** section of the **Color** gallery, select **Red**.

Edit the Rule Description:

Format all cells based on their values:

Format Style: **Data Bar** Show Bar Only

Type: **Number** Minimum **Automatic** Maximum

Value: **1000000** (Automatic)

Bar Appearance:

Fill: **Solid Fill** Color: **Red** Border: **No Border** Color: **Black**

Negative Value and Axis... Bar Direction: **Context**

Preview: 

OK **Cancel**

- i) Select **OK**.
3. Select any cell to deselect the range **H2:H94** and then scroll through the worksheet to review the authors' performance.
4. Save and close the workbook.