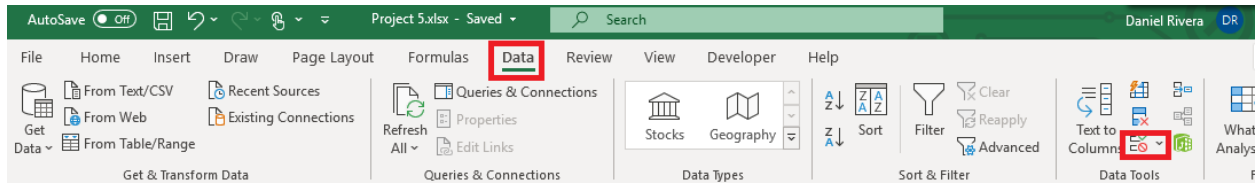


Project 5 – Data Validation and Conditional Formatting

In this project, we will go over how to perform data validation and formatting based on certain conditions. For this project, please download the *Project 5* Excel document from my website: www.DanRiveraPMP.com/ms-excel-for-project-managers

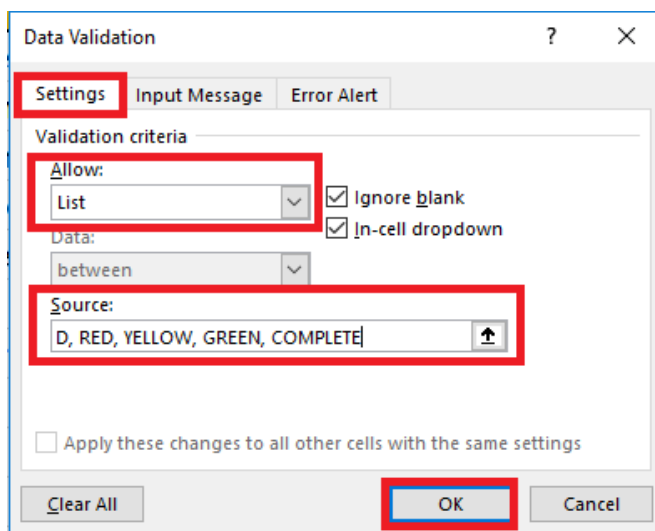
Step 1: Click on the column F column bar to select the entire column. From the *Data Tools* group under the *Data menu*, click on the *Data Validation* icon.



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected in the ribbon. The 'Data Tools' group is expanded, and the 'Data Validation' icon is highlighted with a red box. Below the ribbon, a table is visible with columns A through F. Column F is highlighted in light green, indicating it is selected.

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	
9	Accounting	Financial Data Consolidation Engine	\$ 105,000	\$ 110,000	-5%	

Step 2: Within the *Data Validation* dialogue box, go to the *Settings* tab. Within the *Allow* drop-down list, select *List*. This tells Excel that only certain values will be accepted for the cell range previously selected above. Within the *Source* box, list the specific values that you want the user to select separated by commas. The commas tell Excel to list each item separately in the list box. In this case, enter *In Progress, Red, Yellow, Red, Complete* separated by commas and then click *OK* when done.

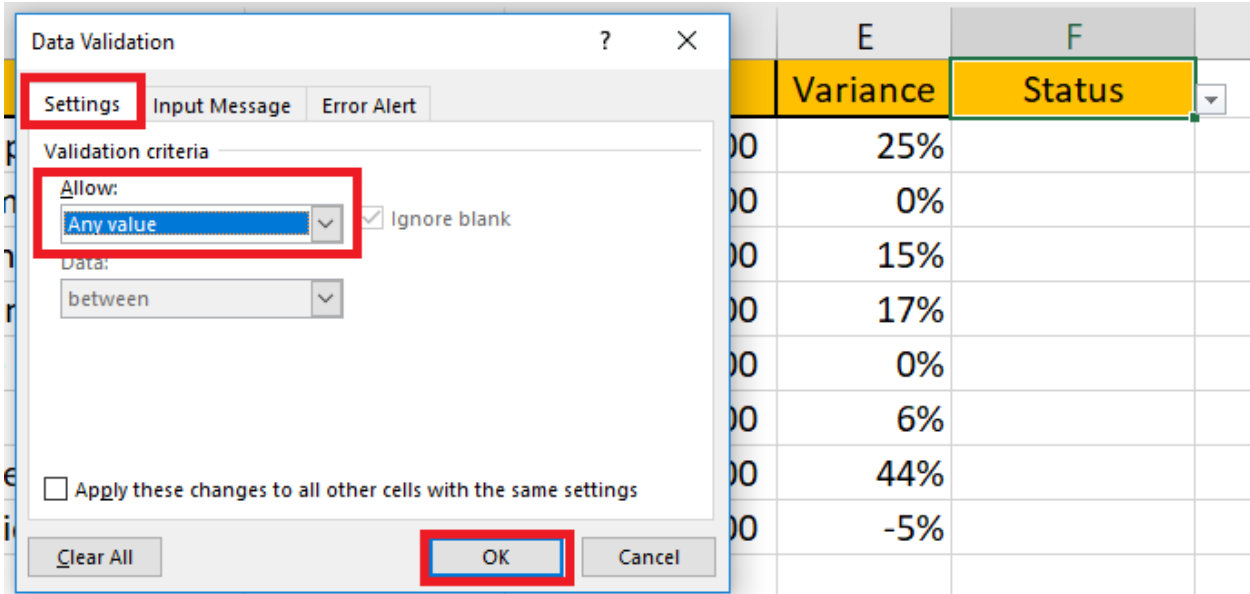


The screenshot shows the 'Data Validation' dialog box with the 'Settings' tab selected. The 'Allow' dropdown is set to 'List', and the 'Source' field contains the text 'D, RED, YELLOW, GREEN, COMPLETE'. The 'OK' button is highlighted with a red box.

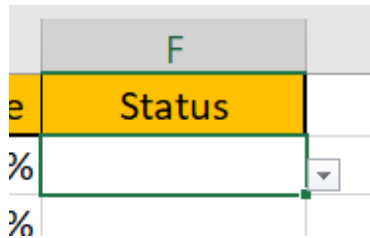
Validation criteria
Allow: List
Data: between
Source: D, RED, YELLOW, GREEN, COMPLETE

Project 5 – Data Validation and Conditional Formatting

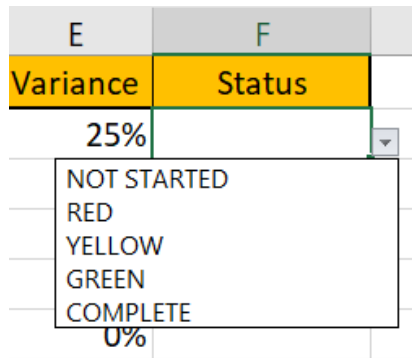
Step 3: The only issue with what you've done so far is that the Status column header also has the restriction of data values you defined in the previous step. To remove this validation for this cell only click on cell F1 and leverage the previous 2 steps to arrive at the Data Validation dialogue box below. Within the Allow drop-down box, select Any Value and then click OK.



You will now notice that the drop-down arrow next to cell F2 has disappeared but the drop-down list for the data entry area for the rest of Column F has remained.



Step 4: Click on the drop-down arrow next to the cell. For each row until row 9, pick a value so that each project has a status.



Project 5 – Data Validation and Conditional Formatting

Step 5: Within cell F2, type in your name and press Enter. You will notice that Excel immediately gives an error message that you did not select the appropriate value from the drop-down list. This ensures that the user will not enter wrong data into this cell.

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Daniel
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	
5	Human Resources	People Soft integrat			17%	
6	Marketing	Customer Home Pa			0%	
7	Marketing	Data Mastering			6%	
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000	-5%	

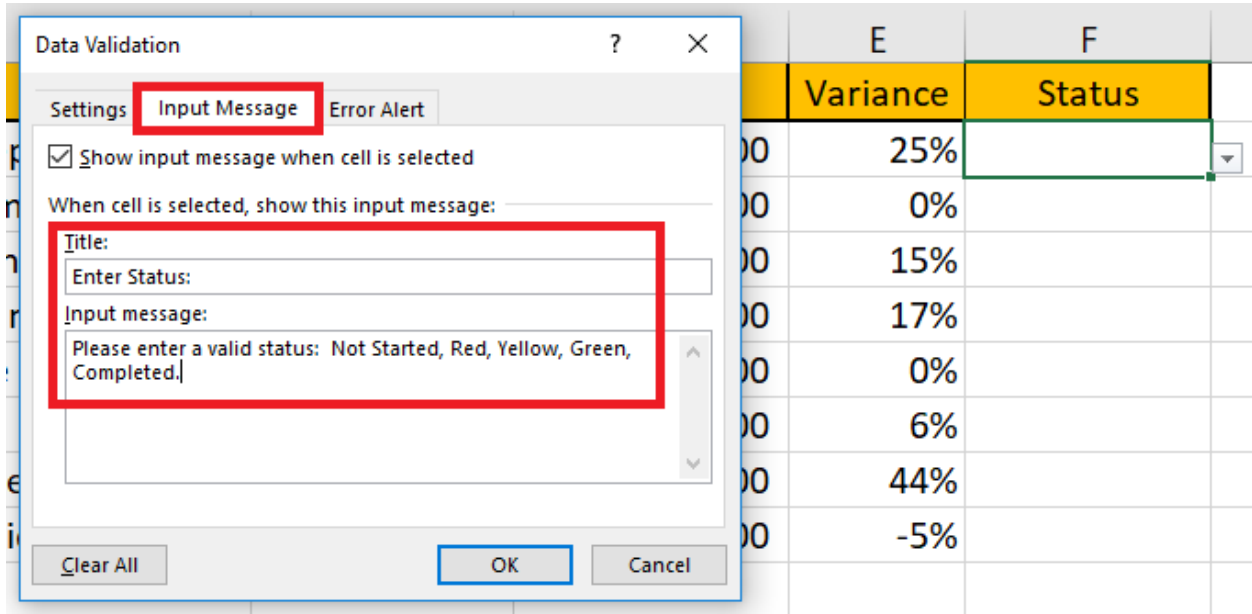
What we'll do next is to insert an Input Box to help the user know what valid values are to be expected when they work with the Status column. Also, instead of the above generic Excel error message, we want to give the user a more constructive error message to help them correct their mistake.

Step 6: Repeat steps 1 and 2 from page 1 and you should arrive at the below message. Select *No*.

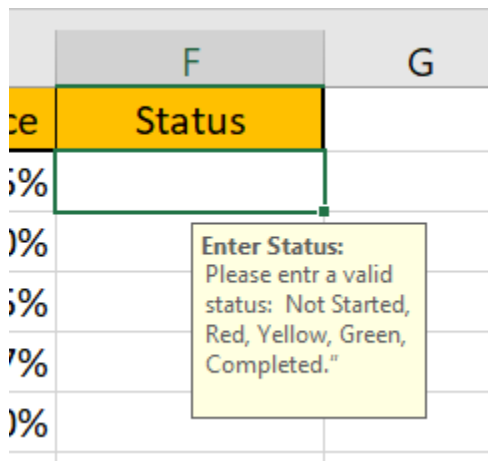
	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	
5	Human Resources	People				
6	Marketing	Custom				
7	Marketing	Data M				
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000	-5%	

Project 5 – Data Validation and Conditional Formatting

Step 7: Within the Data Validation dialogue box, go into the *Input Message* tab. For the *Title* parameter, enter “*Enter status:*” Then, for the Input message box, enter “*Please entr a valid status: Not Started, Red, Yellow, Green, Completed.*” Click OK.

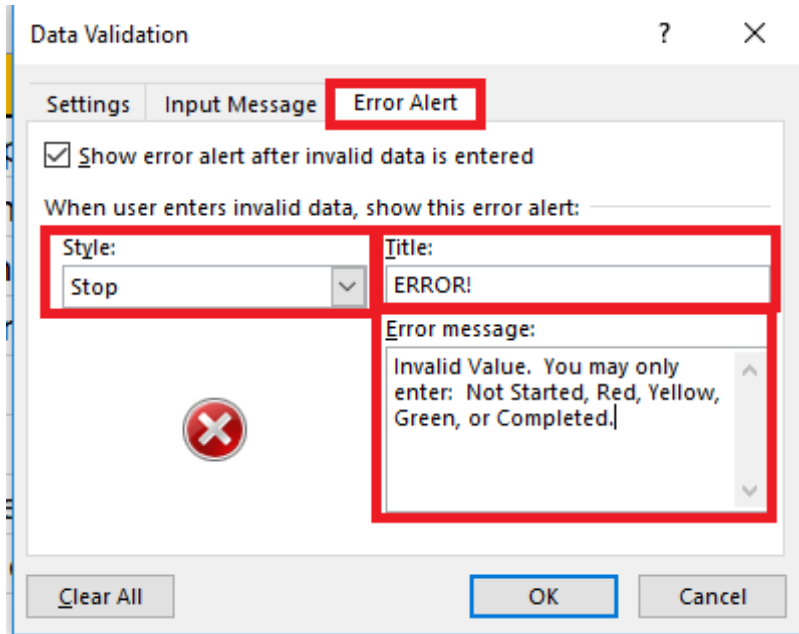


Step 8: Click anywhere outside of the Column F range so that column is no longer selected. Then, click into cell F2. You should now see the below input box.



Project 5 – Data Validation and Conditional Formatting

Step 9: Now, we will need a message box in the event the user enters an invalid value. Repeat steps 1, 2 and 6 from before so that you arrive at the *Data Validation* dialog box. Go into the *Error Alert* tab. For this project, select *Stop* for the Style. Within the *Title* box, type “*ERROR!*” Within the *Error Message* box, type: “*Invalid Value: You may only enter: Not Started, Red, Yellow, Red, or Completed.*” Click *OK*.



Step 10: Go into cell F2, and type your name. You should get the below error message...

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Daniel
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	
4	Human Resources	Reporting Automation			15%	
5	Human Resources	People Soft integration			17%	
6	Marketing	Customer Home Page			0%	
7	Marketing	Data Mastering			6%	
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	
9	Accounting	Financial Data Consolidation Engine	\$ 105,000	\$ 110,000	-5%	

An error message box is overlaid on the table, displaying the text: 'Invalid Value. You may only enter: Not Started, Red, Yellow, Green, or Completed.' The error message box has a red 'X' icon and buttons for 'Retry', 'Cancel', and 'Help'.

Now, we will work with conditional formatting to quickly indicate a color if the project is in red, green, or yellow status.

Project 5 – Data Validation and Conditional Formatting

Step 11: Enter the below values in Column F by selecting the values from the drop-down list box.

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Red
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	Not Started
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	Yellow
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	Green
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	Completed
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	Red
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	Yellow
9	Accounting	Financial Data Consolidation Engine	\$ 105,000	\$ 110,000	-5%	Green

Step 12: Select Column F from rows 2 to 9 then drop down the *Conditional Formatting* list within the *Home* menu. Click on *Manage Rules*.

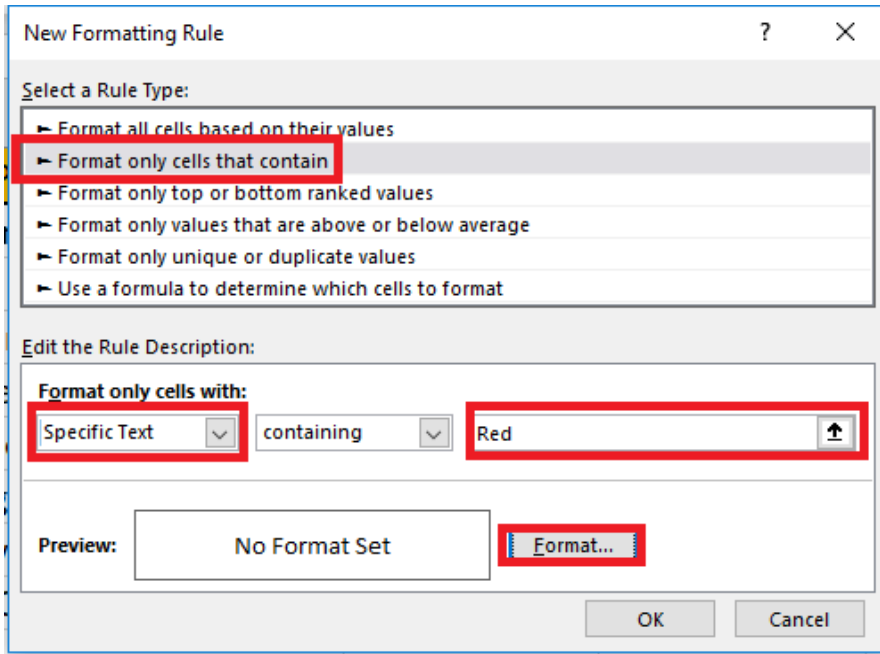
The screenshot shows the Excel ribbon with the 'Home' tab selected. The 'Conditional Formatting' button is highlighted with a red box. A dropdown menu is open, showing options like 'Highlight Cells Rules', 'Top/Bottom Rules', 'Data Bars', 'Color Scales', 'Icon Sets', 'New Rule...', 'Clear Rules', and 'Manage Rules...'. The 'Manage Rules...' option is also highlighted with a red box. Below the ribbon, the spreadsheet from Step 11 is visible, with column F selected. A 'Manage Rules' tooltip is also present at the bottom right of the screenshot.

Step 13: Within the Conditional Formatting Rules manager, select *New Rule*.

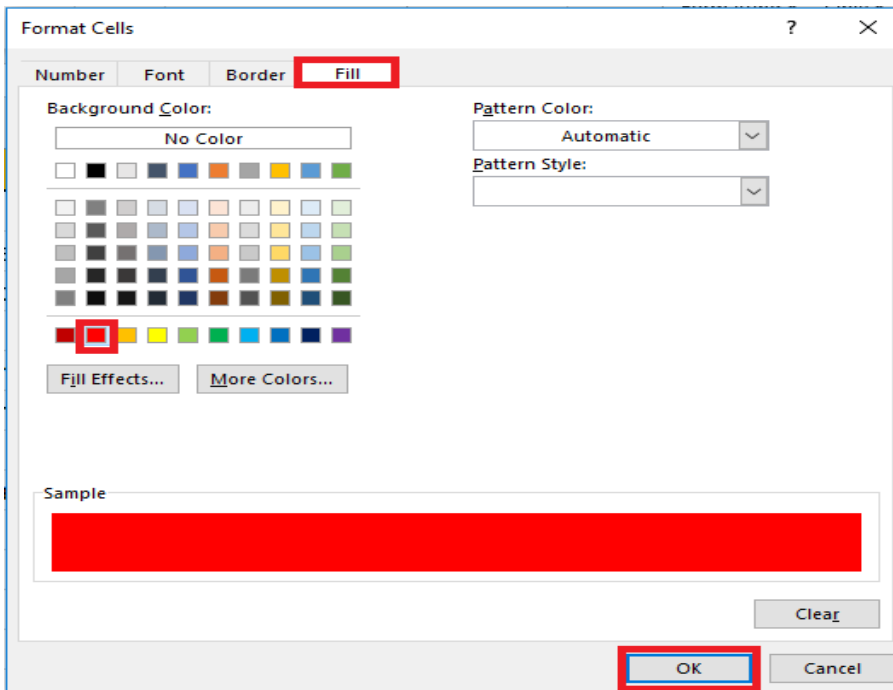
The screenshot shows the 'Conditional Formatting Rules Manager' dialog box. The 'Show formatting rules for:' dropdown is set to 'Current Selection'. The 'New Rule...' button is highlighted with a red box. Below the buttons, there is a table with columns: 'Rule (applied in order shown)', 'Format', 'Applies to', and 'Stop If True'.

Project 5 – Data Validation and Conditional Formatting

Step 14: When the *Formatting Rule* dialog appears, select *Format only cells that contain* from the Rule Type box. Then, select *Specific Text* from the Format only cells with box and enter *Red* for the text to be formatted. Then, click on the *Format* button.



Step 15: In the Format Cells dialog box, click on the *Fill* tab and select *Red* as the color to fill in the cell. Then, click on *OK*.



Project 5 – Data Validation and Conditional Formatting

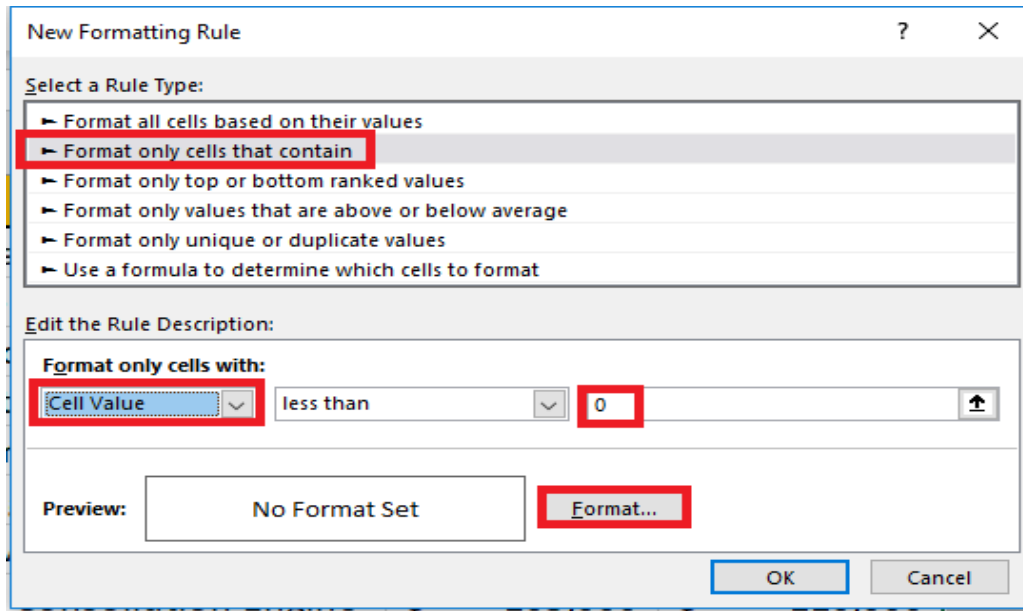
Step 16: Click OK three times to exit out of all sub-screens and your worksheet should look as below...

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Red
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	Not Started
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	Yellow
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	Green
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	Completed
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	Red
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	Yellow
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000	-5%	Green

Step 17: Repeat steps 12 through 16 for Green and Yellow colors. Your sheet should look similar to below.

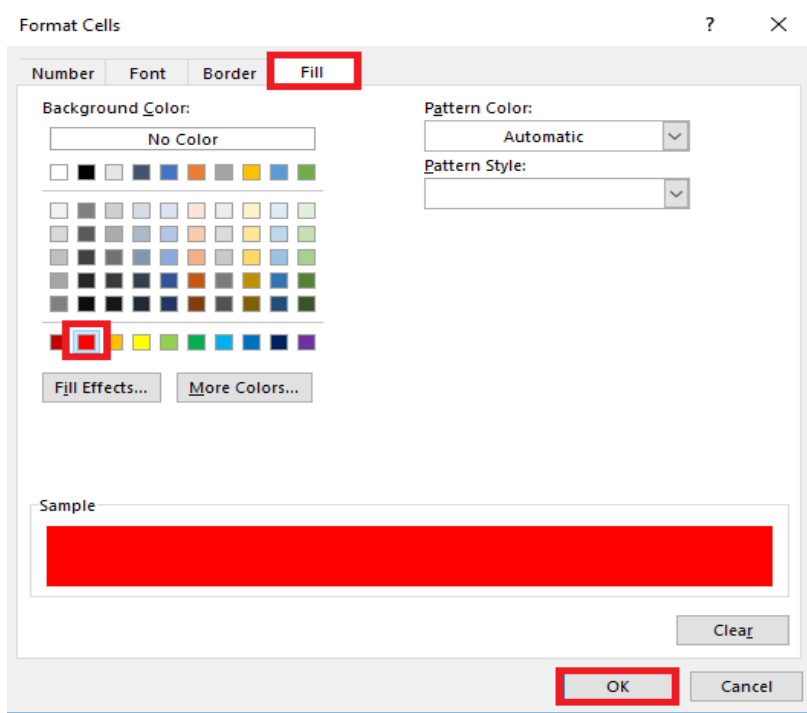
	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Red
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	Not Started
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	Yellow
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	Green
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	Completed
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	Red
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	Yellow
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000	-5%	Green

Step 18: Now, we'll highlight the variances that are below 0%. Any variance in the negative means that the project is over budget and requires attention. Select Column E cells from rows 2 through 9. Repeat steps 12 and 13. Within the *Formatting Rule* dialogue, select *Format only cells that contain* from the *select a Rule Type* box. Then, select *Cell Value* from the *Format only cells with* box. Select *less than* and enter *0*. Click *Format*.



Project 5 – Data Validation and Conditional Formatting

Step 19: In the *Format Cells* box, go into the *Fill* tab and select the red color. Click *OK* three times to get back to your worksheet.



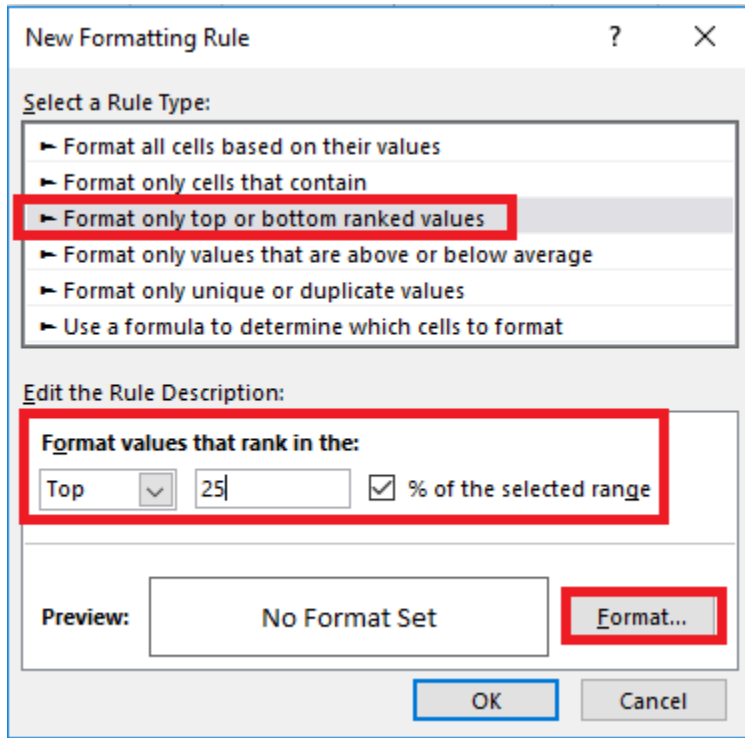
Your spreadsheet should look similar to the below...

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Red
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	Not Started
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	Yellow
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	Green
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	Completed
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	Red
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	Yellow
9	Accounting	Financial Data Consolidation Engine	\$ 105,000	\$ 110,000	-5%	Green

Project 5 – Data Validation and Conditional Formatting

Next, we'll highlight the top 25% of project spend leveraging the stats in Column D.

Step 20: Select Column D cells from rows 2 through 9. Repeat steps 12 and 13. From the *Formatting Rule* dialog box, select *Format only top of bottom ranked values*. Within the *Edit Rule* box, enter the parameters as noted in the second Red box below. Note that you have the option of either selecting the top 25 values or the percentage of top values in the range. In this case, we'll be using 25% of the top values.



Step 21: Repeat step 19 to attain the Red highlighted formatting for cells that meet the above condition. Your sheet should look similar to the below...

	A	B	C	D	E	F
1	Program	Project	Budget	Actuals	Variance	Status
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$ 750,000	25%	Red
3	Finance	General Ledger Automation	\$ 300,000	\$ 300,000	0%	Not Started
4	Human Resources	Reporting Automation	\$ 750,000	\$ 640,000	15%	Yellow
5	Human Resources	People Soft integration	\$ 300,000	\$ 250,000	17%	Green
6	Marketing	Customer Home Page	\$ 15,000	\$ 15,000	0%	Completed
7	Marketing	Data Mastering	\$ 425,000	\$ 400,000	6%	Red
8	Accounting	Journal Entry web screen	\$ 27,000	\$ 15,000	44%	Yellow
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000	-5%	Green

Since you wanted to take the top 25% of values to be highlighted, this basically meant that you wanted to highlight all values over \$620,000. This value is the result of taking the sum of Column D (\$2,480,000) then multiplying it by 25%.

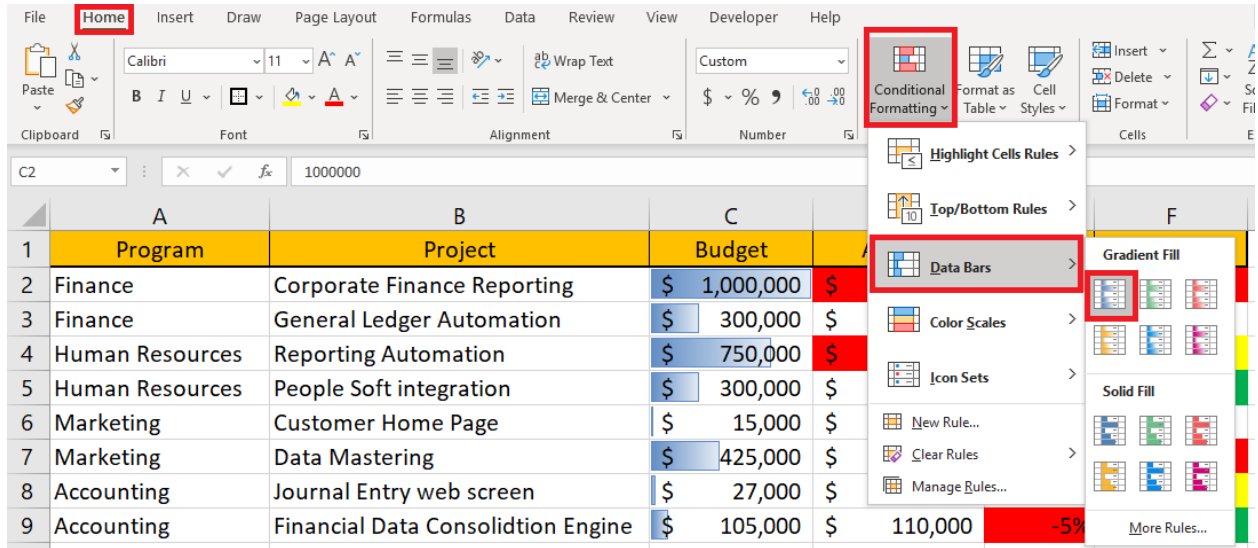
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Project 5 – Data Validation and Conditional Formatting

Finally, we will insert data bars into the Budget column (C) so that we can visually represent the scale of values within this column.

Step 22: Select Column C cells from rows 2 through 9. From the Home menu drop-down the Conditional Formatting menu. Hover over Data Bars then select one of the fill options to the right. In this case, we've selected the blue fills. As noted below, you will notice that Column C now has data bars corresponding to the values within.



	A	B	C	
1	Program	Project	Budget	
2	Finance	Corporate Finance Reporting	\$ 1,000,000	\$
3	Finance	General Ledger Automation	\$ 300,000	\$
4	Human Resources	Reporting Automation	\$ 750,000	\$
5	Human Resources	People Soft integration	\$ 300,000	\$
6	Marketing	Customer Home Page	\$ 15,000	\$
7	Marketing	Data Mastering	\$ 425,000	\$
8	Accounting	Journal Entry web screen	\$ 27,000	\$
9	Accounting	Financial Data Consolidtion Engine	\$ 105,000	\$ 110,000 -5%

Highlighting data bars offers the user a chance to quickly identify large values compared to lower values.

This concludes this Project 5. As always, if you have questions please contact me at my website using this link: www.DanRiveraPMP.com/ms-excel-for-project-managers