
EXPERIENCING TO EXCEL



POWER OF EXCEL

- Organize and manage large amounts of data
- Perform complex calculations and data analysis
- Create charts and graphs to visualize data
- Automate tasks with formulas and functions
- Collaborate with others on spreadsheets

GETTING STARTED WITH EXCEL

- Understand the basic layout of Excel: Excel consists of a grid of cells, rows, columns, and worksheets.
- Entering and formatting data: Learn how to enter data into cells, format cells to improve readability, and use different data types.
- Using formulas and functions: Formulas and functions are powerful tools that allow you to perform calculations and manipulate data. We will explore some basic formulas and functions to get you started.
- Creating charts and graphs: Learn how to create different types of charts and graphs to visualize your data.

TAKING YOUR EXCEL SKILLS TO NEXT LEVEL

- PivotTables and PivotCharts: PivotTables are a powerful tool for summarizing and analyzing large datasets. PivotCharts are charts that are created from PivotTables.
- Data validation: Data validation helps to ensure that only valid data is entered into specific cells.
- Conditional formatting: Conditional formatting allows you to format cells based on certain conditions, making it easier to identify trends and patterns in your data.
- Macros: Macros are a series of recorded keystrokes or mouse clicks that can automate repetitive tasks.

DATA MANIPULATION TECHNIQUES

Data forms the backbone of any analysis that you do in Excel. And when it comes to data, there are tons of things that can go wrong – be it the structure, placement, formatting, extra spaces, and so on.



FILTERING

- Filtering is a process of sorting data by a certain criteria. It's an effective way to identify subsets of data from the larger dataset.
- Lets say, we have a dataset with monthly sales data from 2020-2023 and lets say you want to see the sales number for only 2023. [Excel filter function](#) is useful if you want to see the total sales for the year only, or if you want to know how many months had positive growth.
- First, identify which column contains the filter criteria that will be used to filter your data. In this case, we can create a new column called "Sales Growth."
- Next, highlight your "Sales Growth" column and select "Filter" from the Data menu on the toolbar. This will open a dialogue box where you can input your filtering criteria. In this example, we are using ">0%" as my filter criterion to calculate total sales for years with positive revenue growth > 0%.

SORTING

- Sorting is another technique of data analysis and is used to rearrange the order of your data. It's an easy way of exploring and understanding your data.
- For example, let's say you had a list of 5 different numbers:
1, 10, 2, 3, 4
- If you want to know [how to sort in excel](#), here's an example: You want to sort this list in ascending order (from lowest to highest), we would click on the column heading for this list and then select "Sort Ascending". This will arrange the list like this:
1, 2, 3, 4, 10.
- By sorting the numbers in ascending order we can see that they are increasing in size. If we wanted to change the sort order to descending (highest to lowest) we would click on Column A and select "Sort Descending" like so:
10, 4, 3, 2, 1.
- Again by sorting in descending order from highest number to lowest number we can see that they're decreasing in size.

GROUPING

- Grouping is an excellent way to analyze your data. Grouping is when you organize data into smaller sets. You can use this technique to make it easier to analyze the relationships in your data like quantifying averages, totals, and percentages.
- Grouping makes it easy for you to identify patterns in your data. For example, if you wanted to know how many people are in each age group (20-25, 26-30 etc.), then you can group that information by age group and then count the number of people in each one.
- The best thing about grouping is that it helps you quickly identify relationships in your data set because it shows you which items are grouped together. This means that if there's a trend between two different groups of data, then grouping will be able to show you this connection.

PIVOTING

- Pivoting data involves taking a data table and turning it on its side to show an aggregate perspective.
- For example, let's say you have a list of monthly income brackets and want to see the monthly income distribution for each bracket. That is you want to see how many people fall in certain income brackets.
- In our example, we would start with one column containing all of the monthly income brackets. In the next column, we would add a [pivot table in excel](#) that contains the count of people for each income bracket.
- Pivoting is very helpful in aggregating vast amount of data so you can focus on the important information. If you have a huge dataset, extracting relevant information can be time-consuming without using pivots.
- If you're looking for a way to simplify data analysis in Excel, pivoting is an effective tool!

TRANSPOSING

- Data can be transposed by using the [Excel TRANSPOSE](#) function. It is a very efficient way to take any data, for example: lets say your data is organized horizontally like below

5 10 15 20 25

- and you would like to turn it into a vertical format like this:

5

10

15

20

25

- the Transpose function can help out in this case.
- This is helpful when you want to switch rows and columns or swap columns or rows with each other.

CHANGING DATA TYPES

- One thing that might be useful to know is how changing data types can affect your data analysis. This can be done through [excel text functions](#).
- Two different types of data are text and number. Text data is any kind of information that isn't numerical. For example, a person's name or the title of a book. Numeric data will always be numbers based and may only have numbers in them, such as 3.1, 4.5, and so on.
- If you want to change the type of your data from one type to another, you can change the data type as Data→Data Type→Text or Number.

Changing Data Types

- You can choose the Home tab in Excel and it will give you an option under the Numbers section to go for either a general format or a number format.
- You can further refine your selection by selecting one or more options from each of these categories: Text; Numeric; Date & Time; Logical or even a custom formatting as you may like.

ADDING COLUMNS AND ROWS

- Adding columns or rows to your data is a great way to make your work more efficient. For instance, if you were working with a table of data on different subjects and wanted to look at their answers in relation to each other, it would be more convenient for you (and the people you're sharing the data with) if you had both answers in one column.
- Naming Columns and Rows
- To name columns and rows in Excel, first select the cells that need naming. Then go to Data > Data Tools > Name Columns and Rows and type the name of the first cell into the first dialogue box. Continue typing or clicking until all of your cells are named.

NAMING COLUMNS OR ROWS

- Every column and row in a spreadsheet has a default name, but these names can be changed. This is helpful when you're summarizing data and want to apply the same column or row title consistently.
- To rename a column, right-click on any cell in that column and select "column name." Type in the new name and press enter. To rename a row, right-click on any cell in that row and select "Row Labels." Type in the new name and press enter.

INSERTING COLUMNS OR ROWS

- One of the simplest data manipulation techniques in Excel is inserting columns or rows.
- This technique lets you analyze your data with more clarity and precision by adding more columns or rows to your spreadsheet. It can be used to show different aspects of your data, such as different years, regions, products etc.

FORMATTING DATA

Let's say you have a worksheet with thousands of rows of data. It would be extremely difficult to see patterns and trends just from examining the raw information. Similar to charts and sparklines, **conditional formatting** provides a way to visualize data and make worksheets easier to understand.


UNDERSTANDING CONDITIONAL FORMATTING

- Conditional formatting allows you to automatically apply formatting—such as **colors**, **icons**, and **data bars**—to one or more cells based on the **cell value**. To do this, you'll need to create a **conditional formatting rule**. For example, a conditional formatting rule might be: **If the value is less than \$2000, color the cell red**. By applying this rule, you'd be able to quickly see which cells contain values less than \$2000.

	A	B	C	D	E
2	Salesperson	May	June	July	August
3	Albertson, Kathy	\$3,799.00	\$557.00	\$3,863.00	\$1,117.00
4	Allenson, Carol	\$18,930.00	\$1,042.00	\$9,355.00	\$1,100.00
5	Altman, Zoey	\$5,725.00	\$3,072.00	\$6,702.00	\$2,116.00
6	Bittiman, William	\$1,344.00	\$3,755.00	\$4,415.00	\$1,089.00
7	Brennan, Michael	\$8,296.00	\$3,152.00	\$11,601.00	\$1,122.00
8	Carlson, David	\$3,945.00	\$4,056.00	\$3,726.00	\$1,135.00
9	Collman, Harry	\$8,337.00	\$4,906.00	\$9,007.00	\$2,113.00
10	Counts, Elizabeth	\$3,742.00	\$521.00	\$4,505.00	\$1,024.00
11	David, Chloe	\$7,605.00	\$3,428.00	\$3,973.00	\$1,716.00

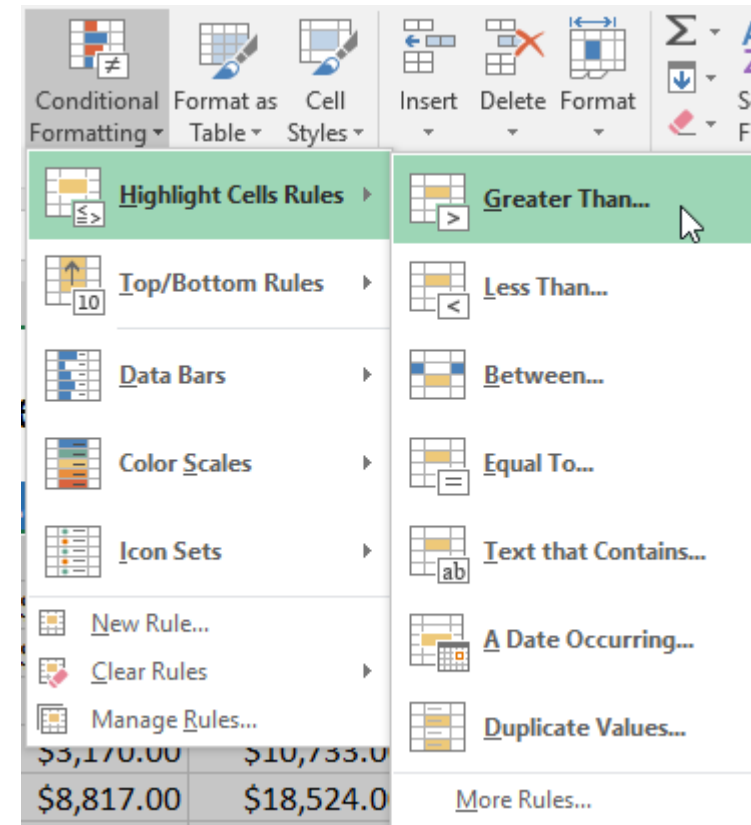
TO CREATE CONDITIONAL FORMATTING RULE

- In our example, we have a worksheet containing sales data, and we'd like to see which salespeople are meeting their monthly sales goals. The sales goal is \$4000 per month, so we'll create a conditional formatting rule for any cells containing a value higher than 4000.
- Select the **desired cells** for the conditional formatting rule.

	A	B	C	D	E	F	G
1	 Westbrook Parker Sales Data						
2	Salesperson	May	June	July	August	September	October
3	Albertson, Kathy	\$3,799.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00
4	Allenson, Carol	\$18,930.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00
5	Altman, Zoey	\$5,725.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00
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12	Davis, William	\$5,304.00	\$1,562.00	\$2,945.00	\$1,176.00	\$9,642.00	\$13,714.00
13	Dumlao, Richard	\$9,333.00	\$2,779.00	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00
14	Farmer, Kim	\$1,103.00	\$3,470.00	\$3,862.00	\$1,040.00	\$10,024.00	\$18,389.00
15	Ferguson, Elizabeth	\$1,333.00	\$1,913.00	\$4,596.00	\$1,126.00	\$5,503.00	\$10,686.00
16	Flores, Tia	\$12,398.00	\$2,883.00	\$2,142.00	\$2,014.00	\$13,547.00	\$21,983.00
17	Ford, Victor	\$3,251.00	\$4,931.00	\$8,283.00	\$1,054.00	\$9,543.00	\$11,967.00
18	Hodges, Melissa	\$4,624.00	\$4,798.00	\$8,420.00	\$1,389.00	\$10,468.00	\$12,677.00
19	Jameson, Robinson	\$2,552.00	\$4,459.00	\$2,248.00	\$1,058.00	\$6,267.00	\$14,982.00
20	Kellerman, Frances	\$4,281.00	\$4,172.00	\$11,074.00	\$1,282.00	\$2,365.00	\$9,380.00

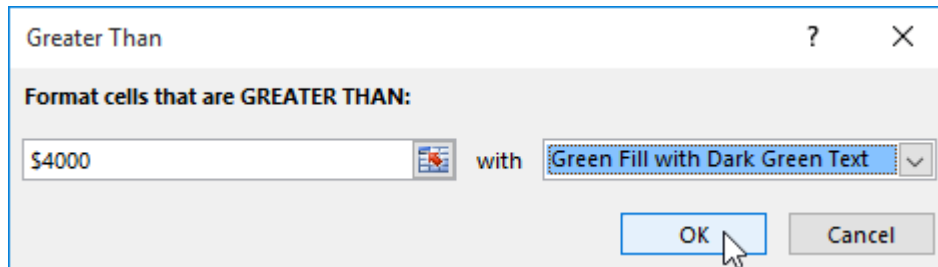
UNDERSTANDING CONDITIONAL FORMATTING

- From the **Home** tab, click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over the desired **conditional formatting type**, then select the **desired rule** from the menu that appears. In our example, we want to **highlight cells** that are **greater than \$4000**.



UNDERSTANDING CONDITIONAL FORMATTING

- A dialog box will appear. Enter the **desired value(s)** into the blank field. In our example, we'll enter 4000 as our value.
- Select a **formatting style** from the drop-down menu. In our example, we'll choose **Green Fill with Dark Green Text**, then click **OK**.
- The conditional formatting will be applied to the selected cells. In our example, it's easy to see which salespeople reached the \$4000 sales goal for each month.




Greater Than

Format cells that are GREATER THAN:

















\$4000 with Green Fill with Dark Green Text

OK Cancel

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2	Salesperson	May	June	July	August	September	October
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6	Bittiman, William	\$1,344.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00
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13	Dumlao, Richard	\$9,333.00	\$2,779.00	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00
14	Farmer, Kim	\$1,103.00	\$3,470.00	\$3,862.00	\$1,040.00	\$10,024.00	\$18,389.00
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19	Jameson, Robinson	\$2,552.00	\$4,459.00	\$2,248.00	\$1,058.00	\$6,267.00	\$14,982.00
20	Kellerman, Frances	\$4,281.00	\$4,172.00	\$11,074.00	\$1,282.00	\$2,365.00	\$9,380.00

CONDITIONAL FORMATTING PRESETS

















- Excel has several predefined styles—or **presets**—you can use to quickly apply conditional formatting to your data. They are grouped into three categories:
- **Data Bars** are horizontal bars added to each cell, much like a **bar graph**.

 \$3,863.00	 \$1,117.00	 \$8,237.00	 \$8,690.00
 \$9,355.00	 \$1,100.00	 \$10,185.00	 \$18,749.00
 \$6,702.00	 \$2,116.00	 \$13,452.00	 \$8,046.00
 \$4,415.00	 \$1,089.00	 \$4,404.00	 \$20,114.00

- **Color Scales** change the color of each cell based on its value. Each color scale uses a **two- or three-color gradient**. For example, in the **Green-Yellow-Red** color scale, the **highest** values are green, the **average** values are yellow, and the **lowest** values are red.

\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00
\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00
\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00
\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00


Icon Sets add a specific icon to each cell based on its value.

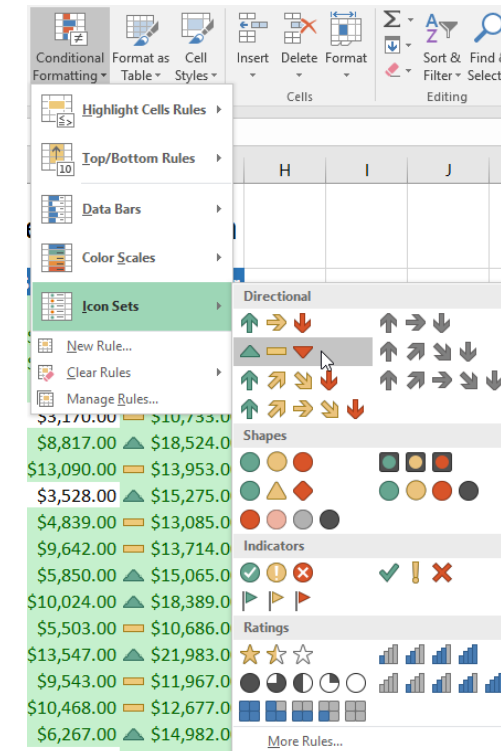
 \$3,863.00	 \$1,117.00	 \$8,237.00	 \$8,690.00
 \$9,355.00	 \$1,100.00	 \$10,185.00	 \$18,749.00
 \$6,702.00	 \$2,116.00	 \$13,452.00	 \$8,046.00
 \$4,415.00	 \$1,089.00	 \$4,404.00	 \$20,114.00

TO USE PRESETS CONDITIONAL FORMATTING

- Select the **desired cells** for the conditional formatting rule.


- Click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over the **desired preset**, then choose a **preset style** from the menu that appears.

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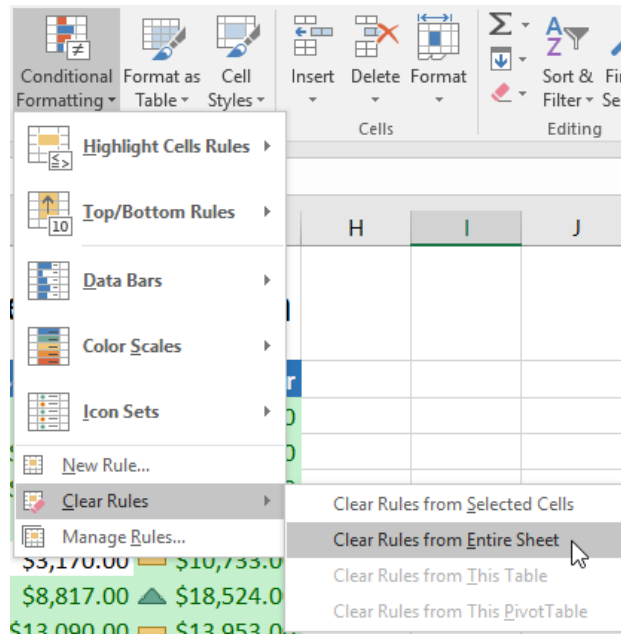
TO USE PRESETS CONDITIONAL FORMATTING

- The conditional formatting will be applied to the selected cells.


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10	Counts, Elizabeth	▼ \$3,742.00	▼ \$521.00	▼ \$4,505.00	▼ \$1,024.00	▼ \$3,528.00	▲ \$15,275.00
11	David, Chloe	▼ \$7,605.00	▼ \$3,428.00	▼ \$3,973.00	▼ \$1,716.00	▼ \$4,839.00	▼ \$13,085.00
12	Davis, William	▼ \$5,304.00	▼ \$1,562.00	▼ \$2,945.00	▼ \$1,176.00	▼ \$9,642.00	▼ \$13,714.00
13	Dumlao, Richard	▼ \$9,333.00	▼ \$2,779.00	▼ \$7,549.00	▼ \$1,101.00	▼ \$5,850.00	▲ \$15,065.00
14	Farmer, Kim	▼ \$1,103.00	▼ \$3,470.00	▼ \$3,862.00	▼ \$1,040.00	▼ \$10,024.00	▲ \$18,389.00
15	Ferguson, Elizabeth	▼ \$1,333.00	▼ \$1,913.00	▼ \$4,596.00	▼ \$1,126.00	▼ \$5,503.00	▼ \$10,686.00
16	Flores, Tia	▼ \$12,398.00	▼ \$2,883.00	▼ \$2,142.00	▼ \$2,014.00	▼ \$13,547.00	▲ \$21,983.00
17	Ford, Victor	▼ \$3,251.00	▼ \$4,931.00	▼ \$8,283.00	▼ \$1,054.00	▼ \$9,543.00	▼ \$11,967.00
18	Hodges, Melissa	▼ \$4,624.00	▼ \$4,798.00	▼ \$8,420.00	▼ \$1,389.00	▼ \$10,468.00	▼ \$12,677.00
19	Jameson, Robinson	▼ \$2,552.00	▼ \$4,459.00	▼ \$2,248.00	▼ \$1,058.00	▼ \$6,267.00	▲ \$14,982.00
20	Kellerman, Frances	▼ \$4,281.00	▼ \$4,172.00	▼ \$11,074.00	▼ \$1,282.00	▼ \$2,365.00	▼ \$9,380.00

TO REMOVE CONDITIONAL FORMATTING

- Click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over **Clear Rules**, then choose which rules you want to clear. In our example, we'll select **Clear Rules from Entire Sheet** to remove all conditional formatting from the worksheet.

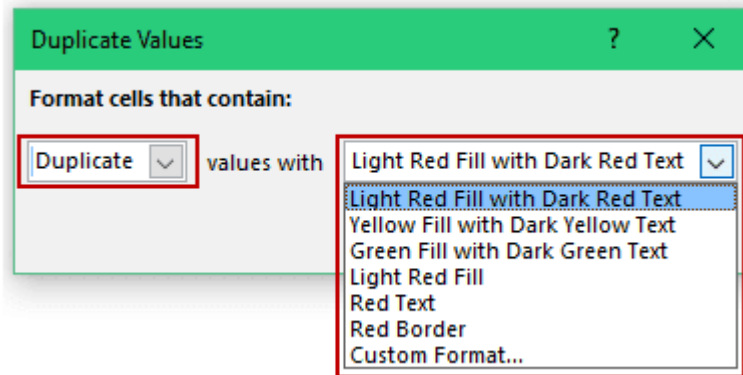


- The conditional formatting will be removed.

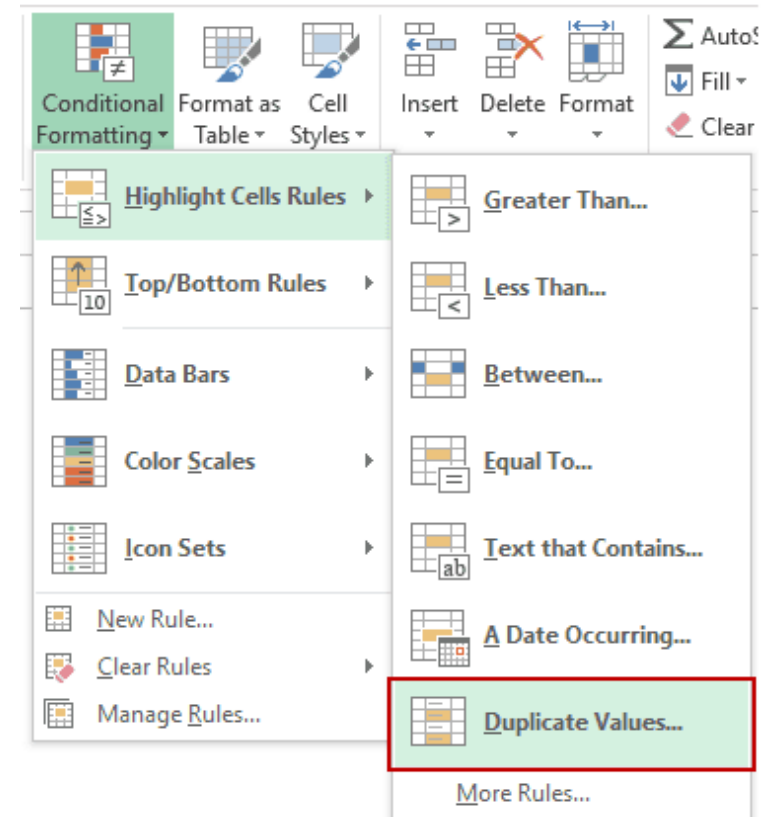
	A	B	C	D	E	F	G
1	 Westbrook Parker Sales Data						
2	Salesperson	May	June	July	August	September	October
3	Albertson, Kathy	\$3,799.00	\$557.00	\$3,863.00	\$1,117.00	\$8,237.00	\$8,690.00
4	Allenson, Carol	\$18,930.00	\$1,042.00	\$9,355.00	\$1,100.00	\$10,185.00	\$18,749.00
5	Altman, Zoey	\$5,725.00	\$3,072.00	\$6,702.00	\$2,116.00	\$13,452.00	\$8,046.00
6	Bittiman, William	\$1,344.00	\$3,755.00	\$4,415.00	\$1,089.00	\$4,404.00	\$20,114.00
7	Brennan, Michael	\$8,296.00	\$3,152.00	\$11,601.00	\$1,122.00	\$3,170.00	\$10,733.00
8	Carlson, David	\$3,945.00	\$4,056.00	\$3,726.00	\$1,135.00	\$8,817.00	\$18,524.00
9	Collman, Harry	\$8,337.00	\$4,906.00	\$9,007.00	\$2,113.00	\$13,090.00	\$13,953.00
10	Counts, Elizabeth	\$3,742.00	\$521.00	\$4,505.00	\$1,024.00	\$3,528.00	\$15,275.00
11	David, Chloe	\$7,605.00	\$3,428.00	\$3,973.00	\$1,716.00	\$4,839.00	\$13,085.00
12	Davis, William	\$5,304.00	\$1,562.00	\$2,945.00	\$1,176.00	\$9,642.00	\$13,714.00
13	Dumlao, Richard	\$9,333.00	\$2,779.00	\$7,549.00	\$1,101.00	\$5,850.00	\$15,065.00
14	Farmer, Kim	\$1,103.00	\$3,470.00	\$3,862.00	\$1,040.00	\$10,024.00	\$18,389.00
15	Ferguson, Elizabeth	\$1,333.00	\$1,913.00	\$4,596.00	\$1,126.00	\$5,503.00	\$10,686.00
16	Flores, Tia	\$12,398.00	\$2,883.00	\$2,142.00	\$2,014.00	\$13,547.00	\$21,983.00
17	Ford, Victor	\$3,251.00	\$4,931.00	\$8,283.00	\$1,054.00	\$9,543.00	\$11,967.00
18	Hodges, Melissa	\$4,624.00	\$4,798.00	\$8,420.00	\$1,389.00	\$10,468.00	\$12,677.00
19	Jameson, Robinson	\$2,552.00	\$4,459.00	\$2,248.00	\$1,058.00	\$6,267.00	\$14,982.00
20	Kellerman, Frances	\$4,281.00	\$4,172.00	\$11,074.00	\$1,282.00	\$2,365.00	\$9,380.00

TO QUICKLY IDENTIFY DUPLICATES

- Conditional formatting in Excel can be used to identify duplicates in a dataset.
- Here is how you can do this:
- Select the dataset in which you want to highlight duplicates.

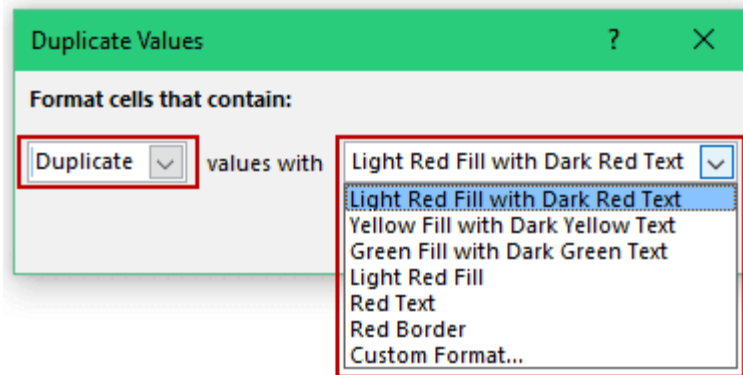


- Go to Home -> Conditional Formatting -> Highlighting Cell Rules -> Duplicate Values.

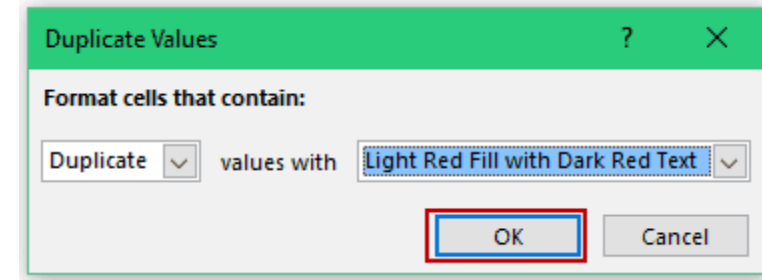


TO QUICKLY IDENTIFY DUPLICATES

- In the Duplicate Values dialogue box, make sure Duplicate is selected in the left drop down. You can specify the format to be applied by using the right drop down. There are some existing formats that you can use, or specify your own format using the Custom Format option.



- Click OK.



This would instantly highlight all the cells that have a duplicate in the selected data set. Your dataset can be in a single column, multiple columns, or in a non-contiguous range of cells.

Highlighting Duplicate Values In a Single Column

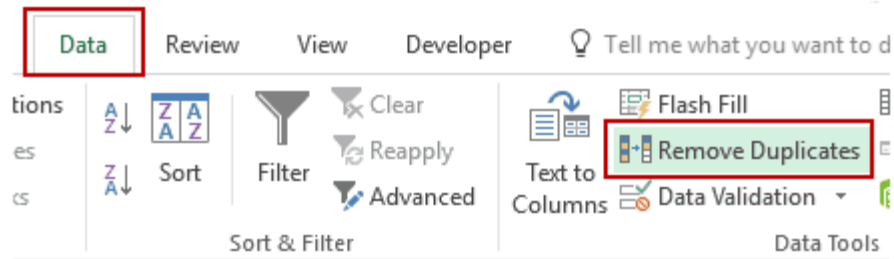
	A
1	1
2	2
3	3
4	1
5	4
6	5
7	6
8	5
9	8
10	9

Highlighting Duplicate Values In Multiple Columns

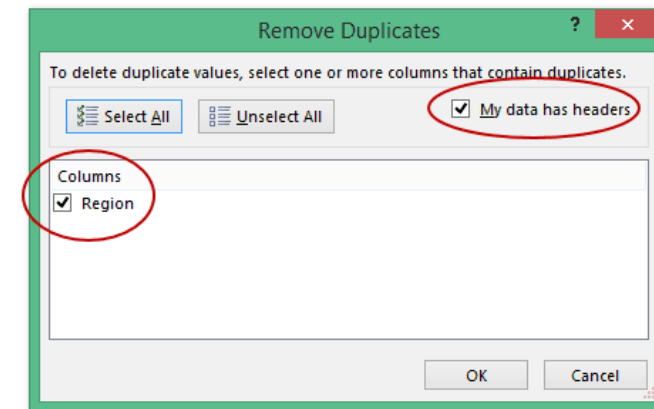
	A	B
1	1	21
2	2	23
3	3	34
4	1	43
5	4	5
6	5	25
7	6	65
8	5	1
9	8	8
10	9	54

TO REMOVE DUPLICATE FROM SINGLE COLUMN

- If you have the data in a single column and you want to remove all the duplicates, here are the steps:
- Select the data.
- Go to Data → Data Tools → Remove Duplicates.



- In the Remove Duplicates dialog box:
 - If your data has headers, make sure the 'My data has headers' option is checked.
 - Make sure the column is selected (in this case there is only one column).



- Click OK.

This would remove all the duplicate values from the column, and you would have only the unique values.

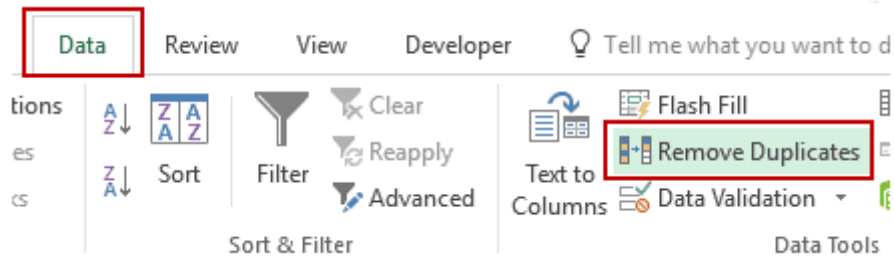
TO REMOVE DUPLICATE FROM MULTIPLE COLUMN

- Suppose you have the data as shown:
- In that data, row #2 and #16 have the exact same data for Sales Rep, Region, and Amount, but different dates (same is the case with row #10 and #13). This could be an entry error where the same entry has been recorded twice with different dates.

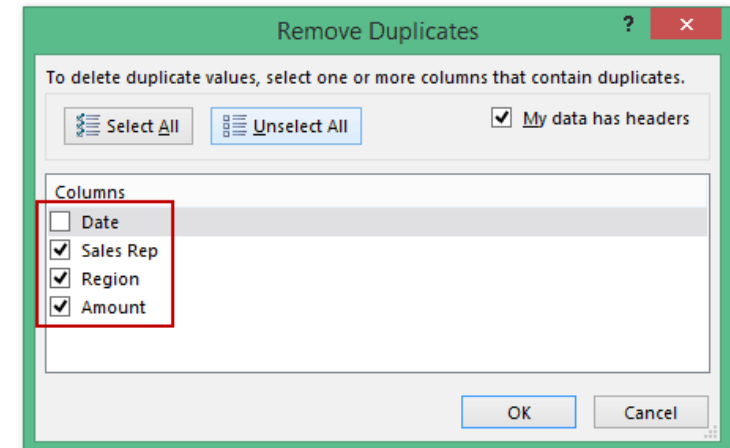
	A	B	C	D
1	Date	Sales Rep	Region	Amount
2	22-07-2015	John	China	\$ 16,543
3	22-07-2015	Jack	US	\$ 32,434
4	23-07-2015	Jill	Canada	\$ 534
5	22-07-2015	Joe	Brazil	\$ 5,243
6	22-07-2015	Jinie	US	\$ 34,536
7	22-07-2015	Jasmine	Canada	\$ 23,424
8	22-07-2015	John	Brazil	\$ 2,342
9	23-07-2015	Jack	China	\$ 6,547
10	23-07-2015	Jill	US	\$ 5,000
11	23-07-2015	Joe	Canada	\$ 31,235
12	23-07-2015	Jinie	Brazil	\$ 6,465
13	24-07-2015	Jill	US	\$ 5,000
14	23-07-2015	Joe	Canada	\$ 4,325
15	22-07-2015	Jinie	Brazil	\$ 2,346
16	23-07-2015	John	China	\$ 16,543

TO REMOVE DUPLICATE FROM MULTIPLE COLUMN

- Select the data.
- Go to Data -> Data Tools -> Remove Duplicates.



- In the Remove Duplicates dialog box:
 - If your data has headers, make sure the 'My data has headers' option is checked.
 - Select all the columns except the Date column.



- Click OK.

This would remove the 2 duplicate entries.

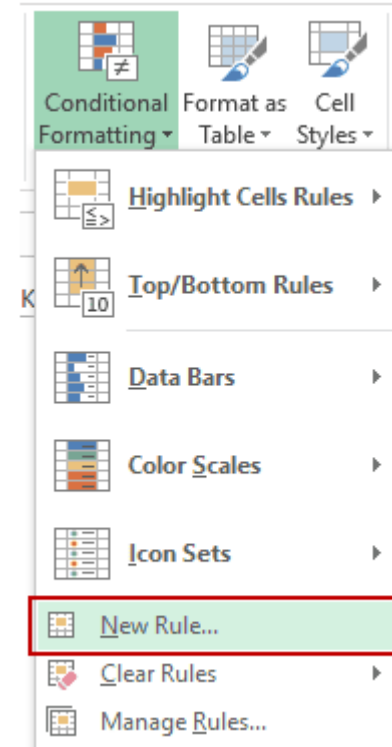
HIGHLIGHTING ERRORS OR BLANKS

- If you work with a lot of numerical data and calculations in Excel, you'd know the importance of identifying and treating cells that have errors or are blank. If these cells are used in further calculations, it could lead to erroneous results.
- Conditional Formatting in Excel can help you quickly identify and highlight cells that have errors or are blank.
- Suppose we have a dataset as shown:

	A
1	1
2	2
3	3
4	
5	#N/A
6	#DIV/0!
7	4
8	5

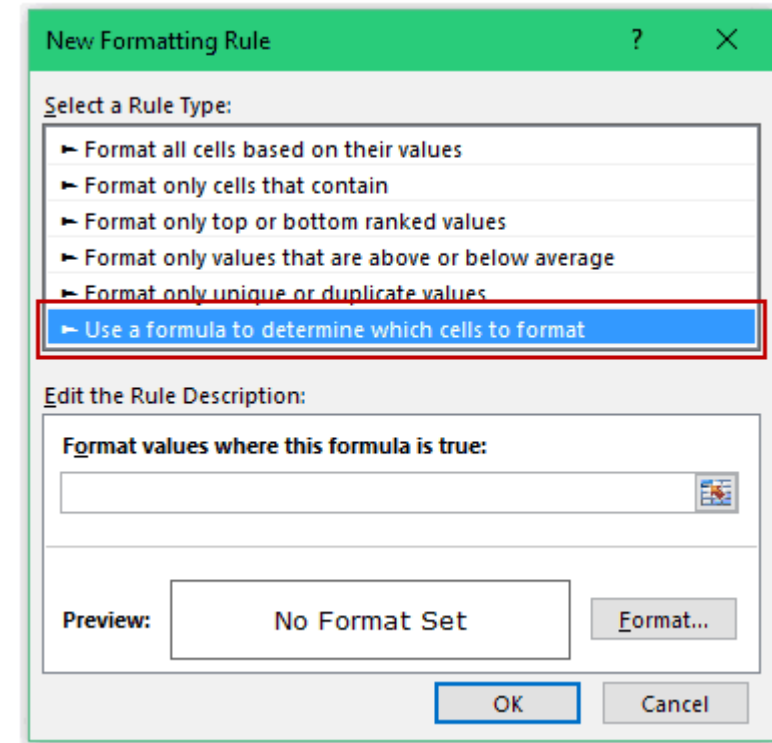
HIGHLIGHTING ERRORS OR BLANKS

- This data set has a blank cell (A4) and errors (A5 and A6).
- Here are steps to highlight the cells that are empty or have errors in it:
 - Select the dataset in which you want to highlight blank cells and cells with errors.
 - Go to Home → Conditional Formatting → New Rule.



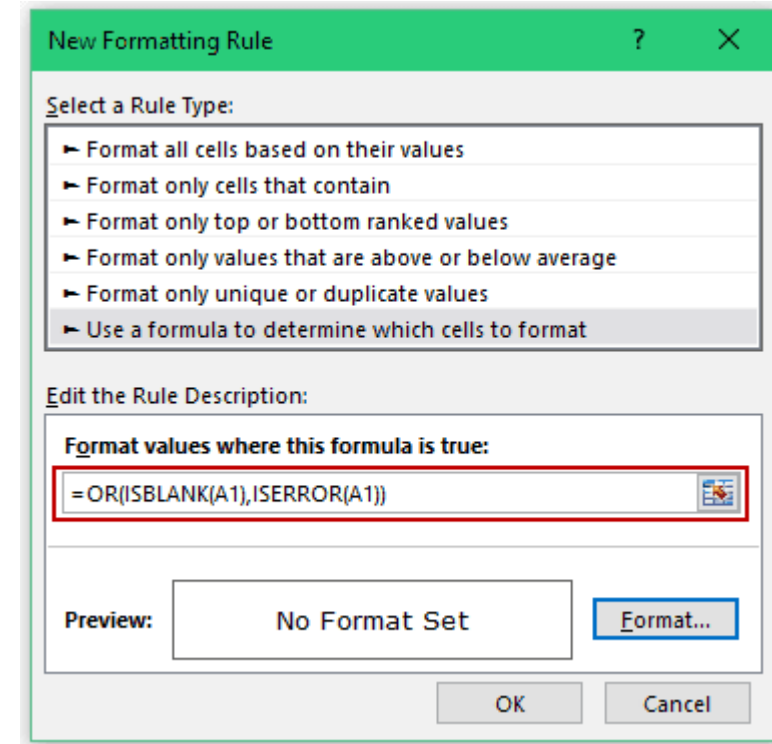
HIGHLIGHTING ERRORS OR BLANKS

- In the New Formatting Rule dialogue box select Use a formula to determine which cells to format.



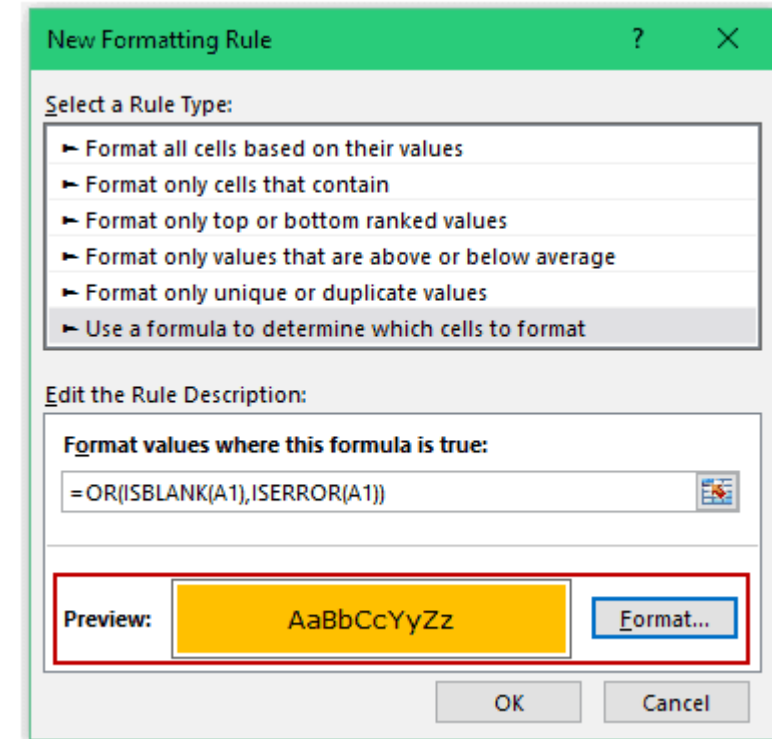
HIGHLIGHTING ERRORS OR BLANKS

- Enter the following formula in the field in the 'Edit the Rule Description' section:
`=OR(ISBLANK(A1),ISERROR(A1))`
- The above formula checks all the cells for two conditions – whether it is blank or not and whether it has an error or not. If any of the conditions is TRUE, it returns TRUE.



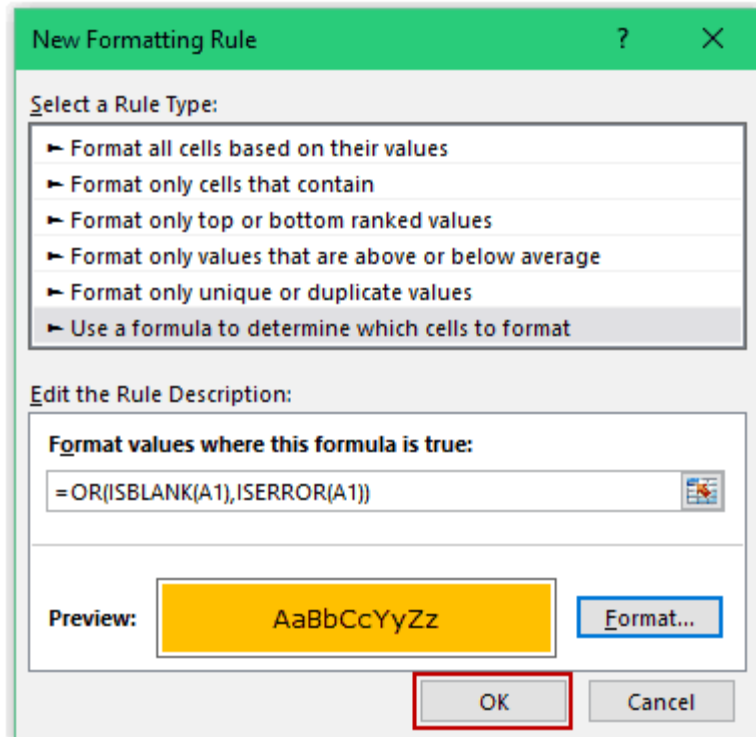
HIGHLIGHTING ERRORS OR BLANKS

- Set the format that you want to apply to the cells that are blank or have errors. To do this, click on the Format button. It will open the 'Format Cells' dialogue box, where you can specify the format.



HIGHLIGHTING ERRORS OR BLANKS

- Click Ok.



- This would instantly highlight all the cells that are either blank or have errors in it.

	A
1	1
2	2
3	3
4	
5	#N/A
6	#DIV/0!
7	4
8	5

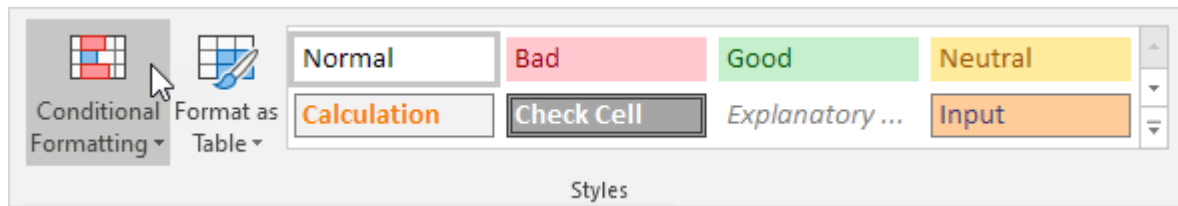
CREATING HEAT MAPS

- To create a heat map in Excel, simply use conditional formatting. A heat map is a graphical representation of data where individual values are represented as colors.
- To create a heat map, execute the following steps.
- 1. Select the range B3:M11.

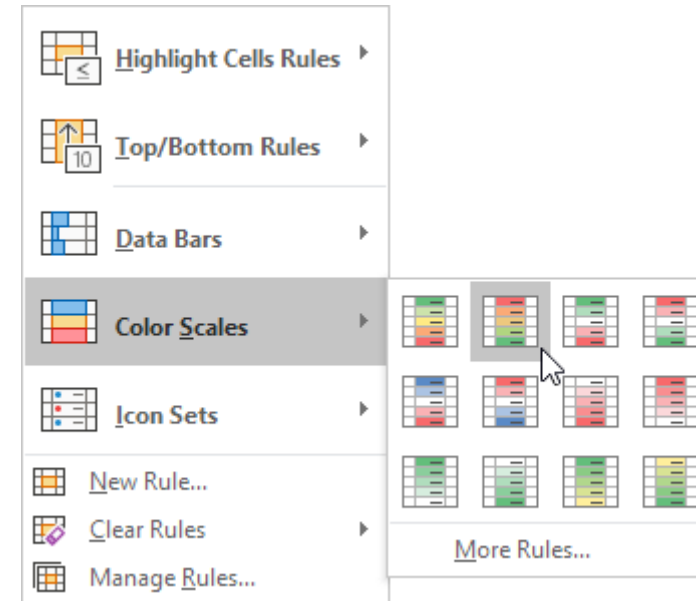
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Average Monthly Temperatures at Central Park, New York													
2		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
3	2009	27.9	36.7	42.4	54.5	62.5	67.5	72.7	75.7	66.3	55.0	51.2	35.9	
4	2010	32.5	33.1	48.2	57.9	65.3	74.7	81.3	77.4	71.1	58.1	47.9	32.8	
5	2011	29.7	36.0	42.3	54.3	64.5	72.3	80.2	75.3	70.0	57.1	51.9	43.3	
6	2012	37.3	40.9	50.9	54.8	65.1	71.0	78.8	76.7	68.8	58.0	43.9	41.5	
7	2013	35.1	33.9	40.1	53.0	62.8	72.7	79.8	74.6	67.9	60.2	45.3	38.5	
8	2014	28.6	31.6	37.7	52.3	64.0	72.5	76.1	74.5	69.7	59.6	45.3	40.5	
9	2015	29.9	23.9	38.1	54.3	68.5	71.2	78.8	79.0	74.5	58.0	52.8	50.8	
10	2016	34.5	37.7	48.9	53.3	62.8	72.3	78.7	79.2	71.8	58.8	49.8	38.3	
11	2017	38.0	41.6	39.2	57.2	61.1	72.0	76.8	74.0	70.5	64.1	46.6	33.4	
12														

CREATING HEAT MAPS

- 2. On the Home tab, in the Styles group, click Conditional Formatting.



- 3. Click Color Scales and click a subtype.



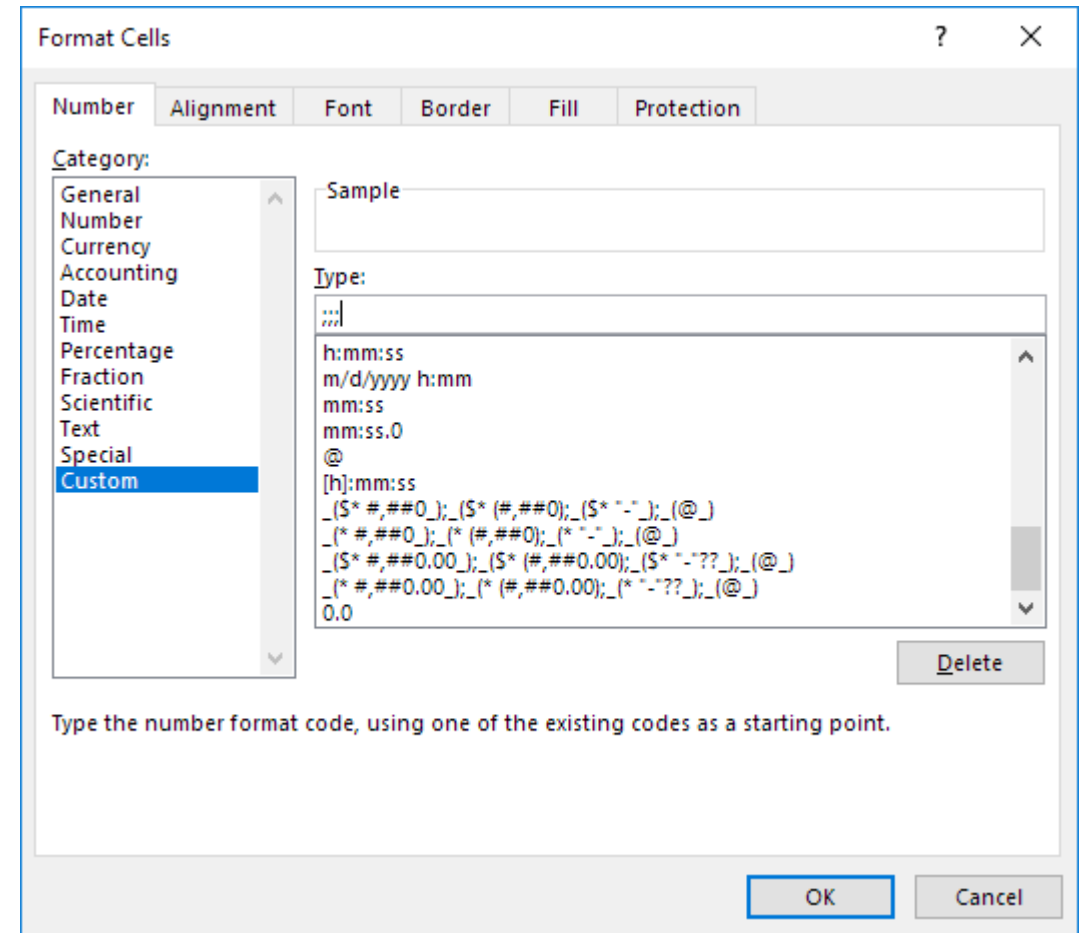
CREATING HEAT MAPS

- Result. A heat map with numbers.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Average Monthly Temperatures at Central Park, New York													
2		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
3	2009	27.9	36.7	42.4	54.5	62.5	67.5	72.7	75.7	66.3	55.0	51.2	35.9	
4	2010	32.5	33.1	48.2	57.9	65.3	74.7	81.3	77.4	71.1	58.1	47.9	32.8	
5	2011	29.7	36.0	42.3	54.3	64.5	72.3	80.2	75.3	70.0	57.1	51.9	43.3	
6	2012	37.3	40.9	50.9	54.8	65.1	71.0	78.8	76.7	68.8	58.0	43.9	41.5	
7	2013	35.1	33.9	40.1	53.0	62.8	72.7	79.8	74.6	67.9	60.2	45.3	38.5	
8	2014	28.6	31.6	37.7	52.3	64.0	72.5	76.1	74.5	69.7	59.6	45.3	40.5	
9	2015	29.9	23.9	38.1	54.3	68.5	71.2	78.8	79.0	74.5	58.0	52.8	50.8	
10	2016	34.5	37.7	48.9	53.3	62.8	72.3	78.7	79.2	71.8	58.8	49.8	38.3	
11	2017	38.0	41.6	39.2	57.2	61.1	72.0	76.8	74.0	70.5	64.1	46.6	33.4	
12														

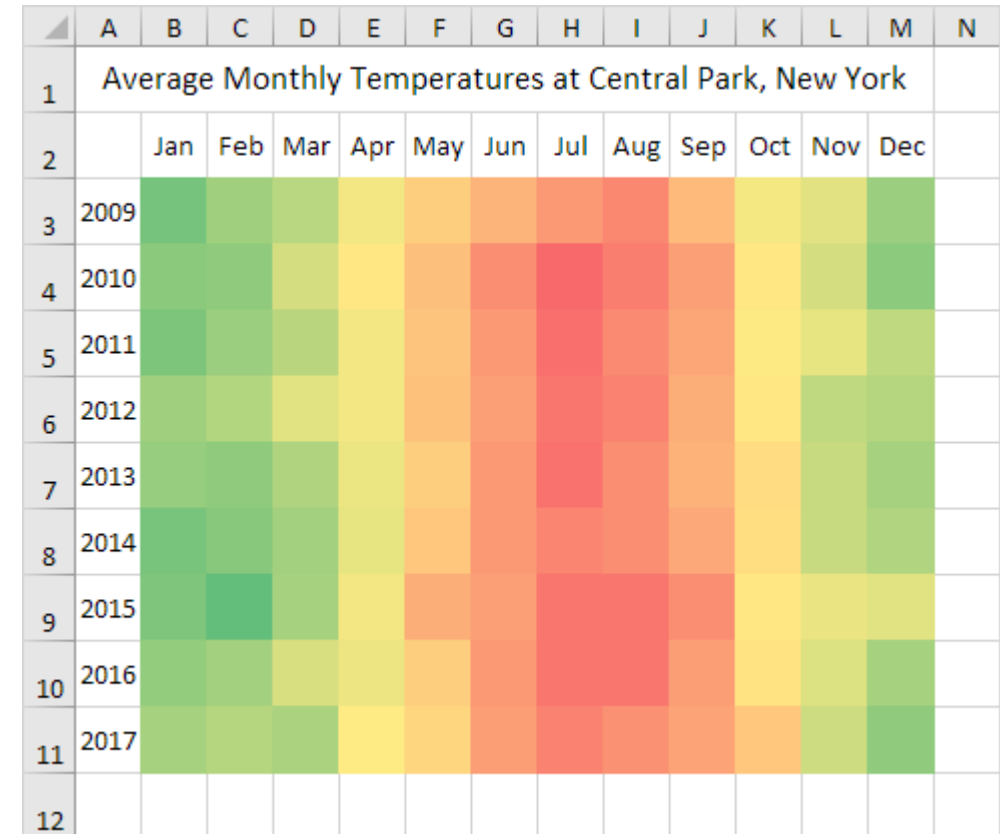
CREATING HEAT MAPS

- 4. Select the range B3:M11.
- 5. Right click, and then click [Format Cells](#) (or press CTRL + 1).
- 6. Select the Custom category.
- 7. Type the following number format code: ;;;



CREATING HEAT MAPS

- 8. Click OK.
- Result. A heat map in Excel.




TABLES

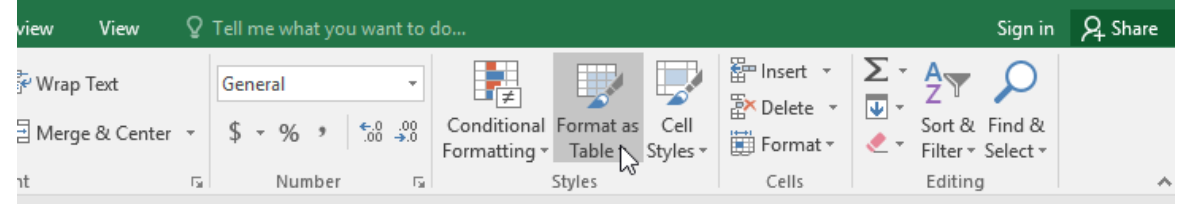
Once you've entered information into your worksheet, you may want to format your data as a **table**. Just like regular formatting, tables can improve the **look and feel** of your workbook, and they'll also help **organize** your content and make your data easier to use. Excel includes several **tools** and **predefined table styles**, allowing you to create tables quickly and easily.

TO FORMAT DATA AS A TABLE

- Select the **cells** you want to format as a table. In our example, we'll select the cell range **A2:D9**.

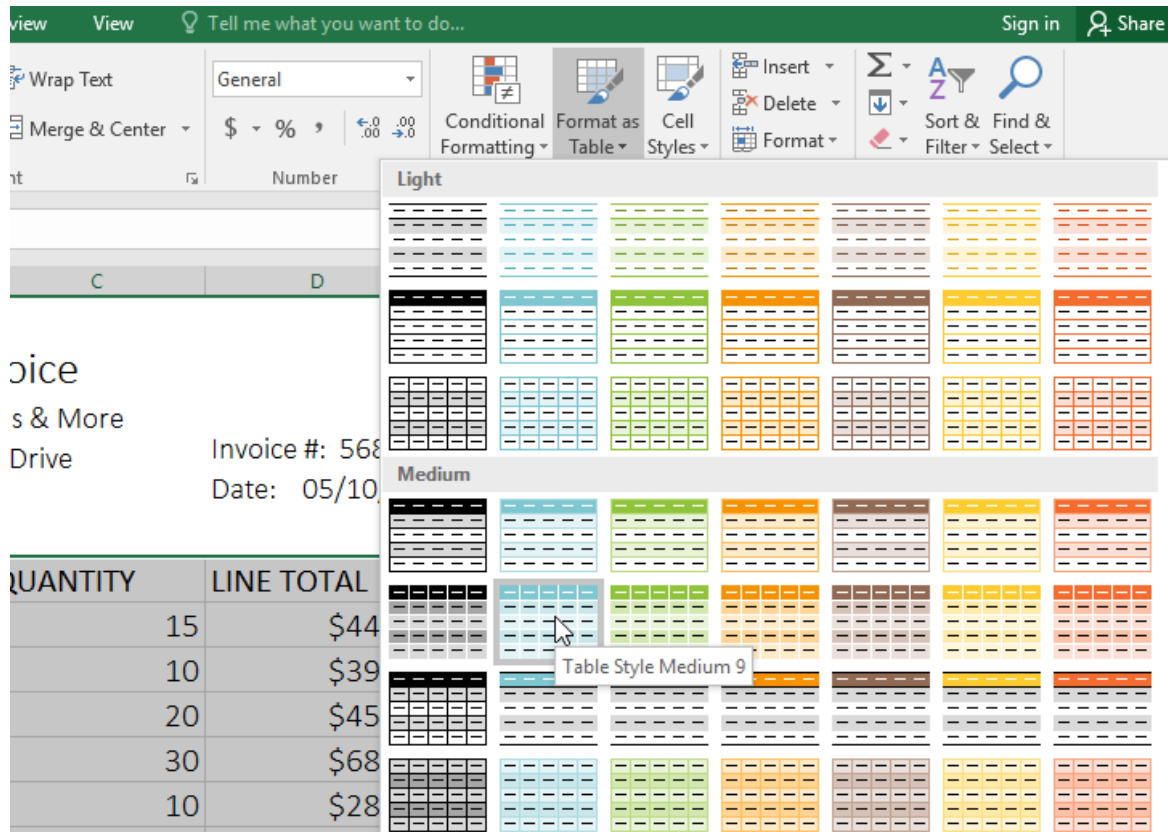
<div><div>Catering Invoice Sabrosa Empanadas & More 1202 Biscayne Bay Drive Orlando, FL 32804</div><div>Invoice #: 5686B Date: 05/10/16</div></div>			
MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
Empanadas: Beef Picadillo	\$2.99	15	\$44.85
Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90
Tamales: Chicken Tinga	\$2.29	20	\$45.80
Tamales: Vegetable	\$2.29	30	\$68.70
Arepas: Carnitas	\$2.89	10	\$28.90
Arepas: Queso Blanco	\$2.49	20	\$49.80
Beverages: Horchata	\$1.89	25	\$47.25

From the **Home** tab, click the **Format as Table** command in the **Styles** group.



TO FORMAT DATA AS A TABLE

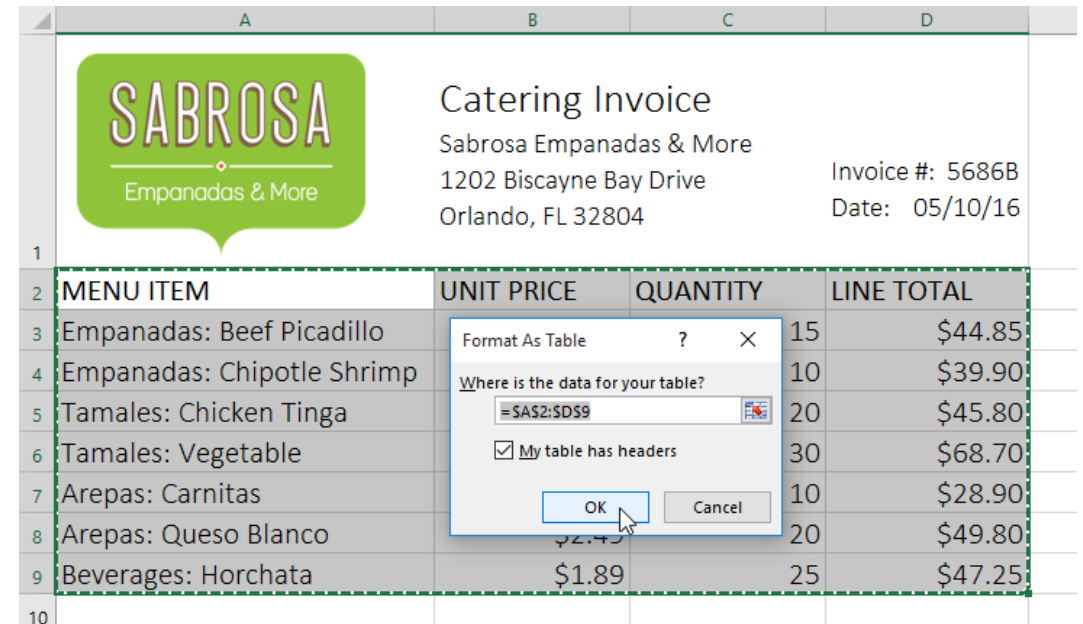
- Select a **table style** from the drop-down menu.



The screenshot shows the Microsoft Excel ribbon with the 'Format as Table' button highlighted. A dropdown menu is open, displaying various table styles categorized into 'Light' and 'Medium'. The 'Table Style Medium 9' is selected. In the background, a catering invoice is visible, showing a table with columns for 'QUANTITY' and 'LINE TOTAL'.

QUANTITY	LINE TOTAL
15	\$44.85
10	\$39.90
20	\$45.80
30	\$68.70
10	\$28.90
	\$49.80
	\$47.25

- A dialog box will appear, confirming the selected **cell range** for the table.
- If your table has **headers**, check the box next to **My table has headers**, then click **OK**.



The screenshot shows the 'Format As Table' dialog box in Excel. The 'Where is the data for your table?' field is set to '=SAS2:SD\$9'. The checkbox 'My table has headers' is checked. The 'OK' button is highlighted. In the background, a catering invoice is visible, showing a table with columns for 'MENU ITEM', 'UNIT PRICE', 'QUANTITY', and 'LINE TOTAL'.

MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
Empanadas: Beef Picadillo		15	\$44.85
Empanadas: Chipotle Shrimp		10	\$39.90
Tamales: Chicken Tinga		20	\$45.80
Tamales: Vegetable		30	\$68.70
Arepas: Carnitas		10	\$28.90
Arepas: Queso Blanco		20	\$49.80
Beverages: Horchata	\$1.89	25	\$47.25

TO FORMAT DATA AS A TABLE

- The cell range will be formatted in the selected **table style**.

	A	B	C	D
1	<div><div></div><div><div>Catering Invoice</div><div>Sabrosa Empanadas & More 1202 Biscayne Bay Drive Orlando, FL 32804</div><div>Invoice #: 5686B Date: 05/10/16</div></div></div>			
2	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
3	Empanadas: Beef Picadillo	\$2.99	15	\$44.85
4	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90
5	Tamales: Chicken Tinga	\$2.29	20	\$45.80
6	Tamales: Vegetable	\$2.29	30	\$68.70
7	Arepas: Carnitas	\$2.89	10	\$28.90
8	Arepas: Queso Blanco	\$2.49	20	\$49.80
9	Beverages: Horchata	\$1.89	25	\$47.25
10				


MODIFYING TABLES

It's easy to modify the look and feel of any table after adding it to a worksheet. Excel includes several options for customizing tables, including **adding rows or columns** and changing the **table style**.

TO ADD ROWS OR COLUMNS TO A TABLE

If you need to fit more content into your table, you can modify the **table size** by including additional rows and columns. There are two simple ways to change the table size:

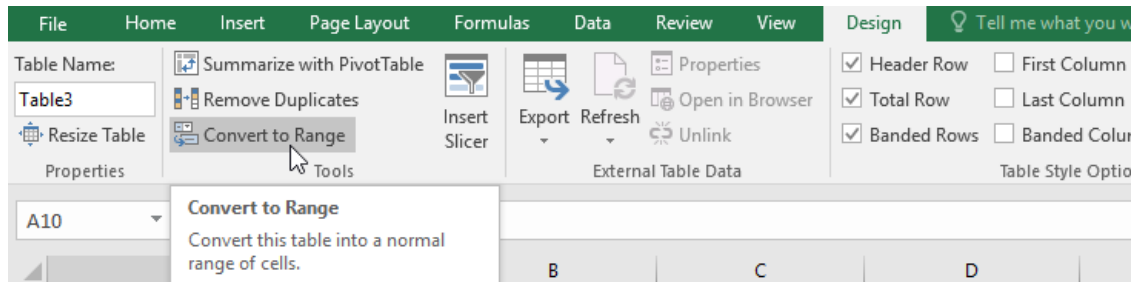
- Enter **new content** into any adjacent row or column. The row or column will be roped into the table automatically.
- Click and drag the **bottom-right corner** of the table to create additional rows or columns.

	A	B	C	D
1		Catering Invoice Sabrosa Empanadas & More 1202 Biscayne Bay Drive Orlando, FL 32804		
			Invoice #: 5686B	Date: 05/10/16
2	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
3	Empanadas: Beef Picadillo	\$2.99	15	\$44.85
4	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90
5	Tamales: Chicken Tinga	\$2.29	20	\$45.80
6	Tamales: Vegetable	\$2.29	30	\$68.70
7	Arepas: Carnitas	\$2.89	10	\$28.90
8	Arepas: Queso Blanco	\$2.49	20	\$49.80
9	Beverages: Horchata	\$1.89	25	\$47.25
10	Beverages: Lemonade			
11				

	A	B	C	D
		Catering Invoice Sabrosa Empanadas & More 1202 Biscayne Bay Drive Orlando, FL 32804		
			Invoice #: 5686B	Date: 05/10/16
1				
2	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
3	Empanadas: Beef Picadillo	\$2.99	15	\$44.85
4	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90
5	Tamales: Chicken Tinga	\$2.29	20	\$45.80
6	Tamales: Vegetable	\$2.29	30	\$68.70
7	Arepas: Carnitas	\$2.89	10	\$28.90
8	Arepas: Queso Blanco	\$2.49	20	\$49.80
9	Beverages: Horchata	\$1.89	25	\$47.25
10				
11				
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TO REMOVE A TABLE

- Select **any cell** in your table, then click the **Design** tab.
- Click the **Convert to Range** command in the **Tools** group.




- A dialog box will appear. Click **Yes**.

The screenshot shows an Excel spreadsheet with a table representing a catering invoice. The table has columns: MENU ITEM, UNIT PRICE, QUANTITY, and LINE TOTAL. A dialog box is open over the table, asking: 'Do you want to convert the table to a normal range?' with 'Yes' and 'No' buttons. The 'Yes' button is being clicked.

MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
Empanadas: Beef		15	\$44.85
Empanadas: Chipotle		10	\$39.90
Tamales: Chicken		20	\$45.80
Tamales: Vegetarian		30	\$68.70
Arepas: Carnitas	\$2.89	10	\$28.90
Arepas: Queso Blanco	\$2.49	20	\$49.80
Beverages: Horchata	\$1.89	25	\$47.25
Total			\$325.20

TO REMOVE A TABLE

- The range will no longer be a table, but the cells will retain their data and formatting.

	A	B	C	D
1		Catering Invoice Sabrosa Empanadas & More 1202 Biscayne Bay Drive Orlando, FL 32804		
			Invoice #: 5686B Date: 05/10/16	
2	MENU ITEM	UNIT PRICE	QUANTITY	LINE TOTAL
3	Empanadas: Beef Picadillo	\$2.99	15	\$44.85
4	Empanadas: Chipotle Shrimp	\$3.99	10	\$39.90
5	Tamales: Chicken Tinga	\$2.29	20	\$45.80
6	Tamales: Vegetable	\$2.29	30	\$68.70
7	Arepas: Carnitas	\$2.89	10	\$28.90
8	Arepas: Queso Blanco	\$2.49	20	\$49.80
9	Beverages: Horchata	\$1.89	25	\$47.25
10	Total			\$325.20
11				



THANK YOU