Excel Data 1: Sort and Filter

Excel Data 1: Sort and Filter
1.5 hour Classroom* / 1.0 hour Zoom Session

* Classroom sessions include time to repeat exercises for practice

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Sorting Data

On the far right side of the **Home** tab, you will find a large Sort & Filter button. The menu you see when you Click on the button is reflected in the Sort & Filter group of the **Data** tab.
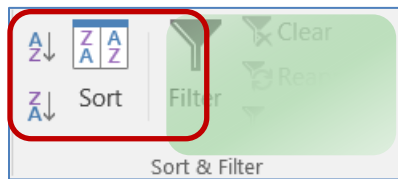
If you make a selection of cells, Excel will think you only want to sort or filter by that selection. But if your dataset has no blank rows and no blank columns Excel will see the whole range as one dataset.
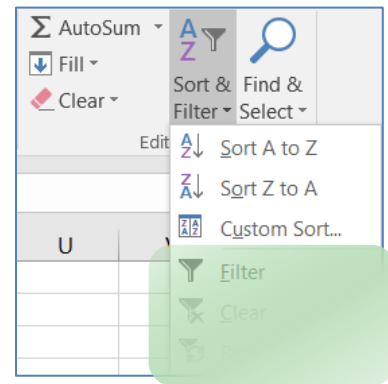
The dataset can have blank cells, but not completely blank columns/rows; if you are not sure that your dataset is consistent, click inside one cell, and press Ctrl-A. This will select all the cells within the dataset. A second "Ctrl-A", or pressing the shortcut in an empty cell, will select the entire sheet.

When you have completed a sort, you can Click the Undo button (or Ctrl-Z). Excel will undo the sort **and** it will select the dataset it used in the sort.

Ascending Sorts

- **Text**: Sort alphabetically from A to Z
- **Numbers**: Sort from smallest number to largest number
- **Dates**: Sort from the oldest date to the newest date

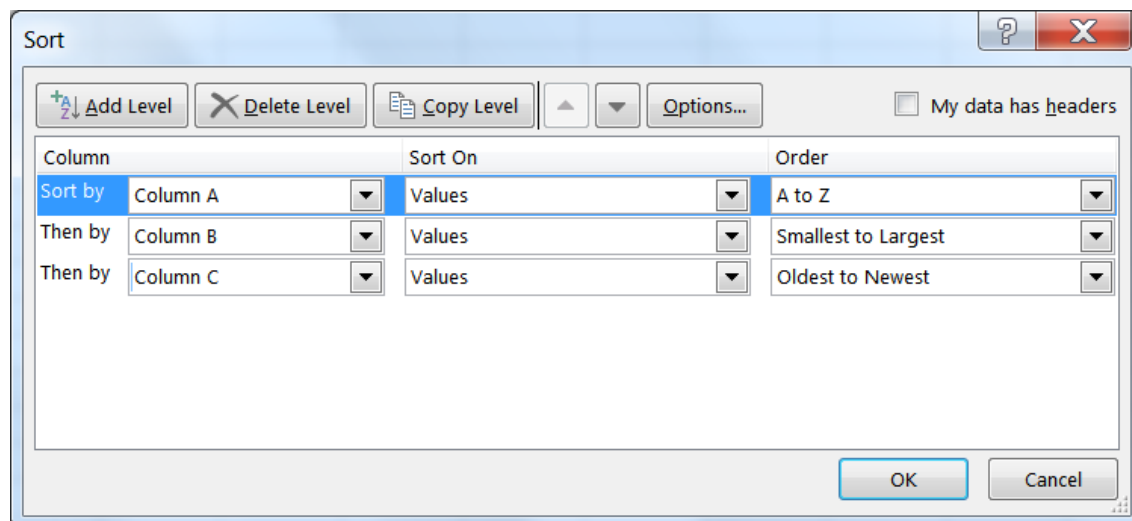|	A	B	C
1	Apples	123	1/1/1971
2	Bananas	456	2/2/1982
3	Cherries	789	3/3/1993

Descending Sorts

- **Text**: Sort alphabetically from Z to A
- **Numbers**: Sort from largest number to smallest number
- **Dates**: Sort from the newest date to the oldest date

|	A	B	C
1	Cherries	789	3/3/1993
2	Bananas	456	2/2/1982
3	Apples	123	1/1/1971

Custom Sorts

When you first open this window, Excel will show the most recent sort options. If you have not created a sort yet, this window may be blank. If you were expecting your titles (First Name, Last Name…) instead of the column headings (Column A, Column B), click the **My data has headers** option.

| Column		Sort On		Order	
Sort by	Column A	Values		A to Z	
Then by	Column B	Values		Smallest to Largest	
Then by	Column C	Values		Oldest to Newest	

Column: The column drop-down menu will show the names of your columns, your 'fields'. If your data does not have titles, Excel lists the column heading letters instead.

Sort On: You can Sort on the values of the cells, the cell colors, the font colors, or the cell icons.
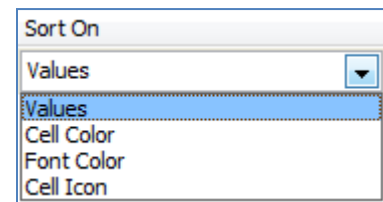
Order: The order options change depending on the values in the cells.

Text

Number

Date

**Font Color**

Cell Color
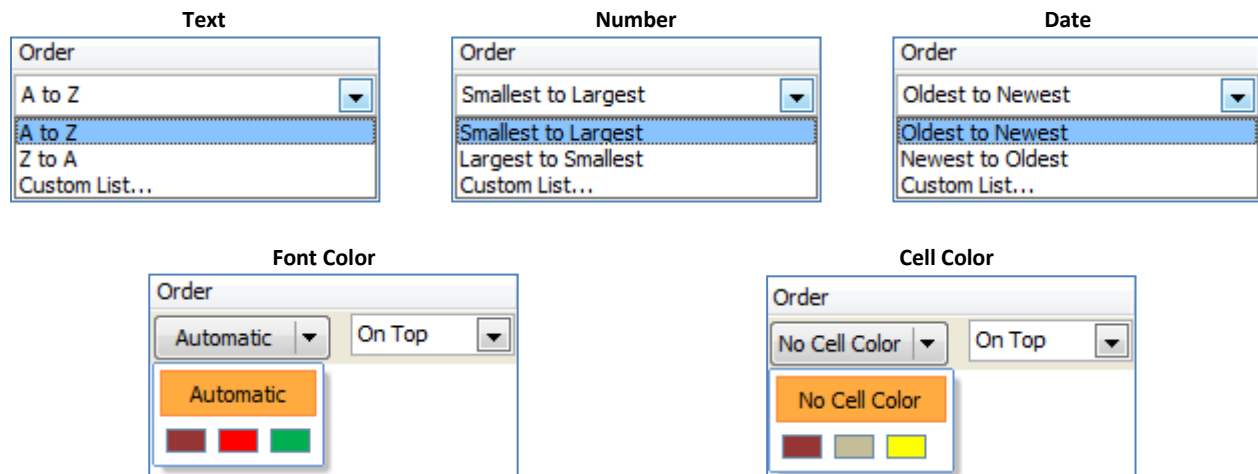
Custom Lists

Custom lists can be built through the Excel Options under the **File** menu in the **Advanced** section under **General**. Or by choosing **Custom List…** option at the bottom of each order box above.

If you choose this option, you will be able to select from one of these lists. Alphabetically, April comes before January. With the Custom List order, we can ensure January comes first.

These custom lists will work as patterns with the fill handle. Notice the "Shopping" list? Once I set this up, I can type any of the words in a cell and use the fill handle to follow this pattern.
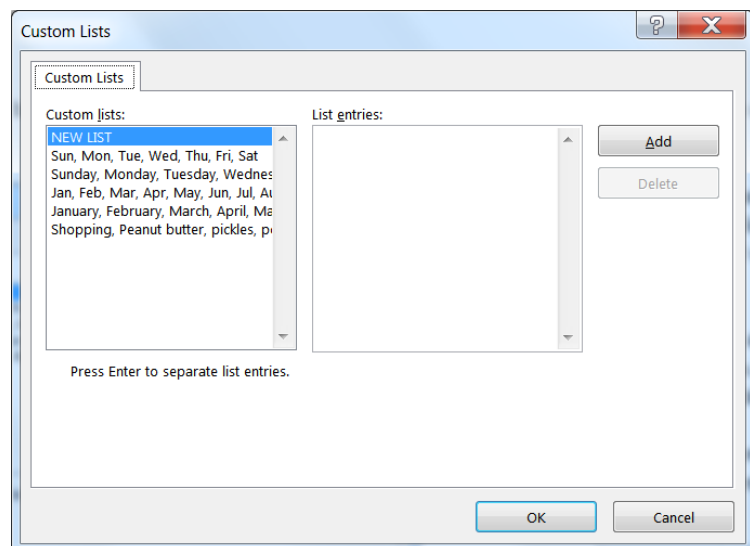
Sort Options

- **Case sensitive:** Sort lowercase letters before uppercase letters
- **Orientation:** Sort vertically (top to bottom, sort rows) or horizontally (left to right, sort columns)
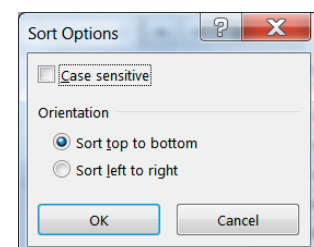
Filtering Data

Filters hide rows (records) based on your criteria. You can turn the filter on and off by choosing **Filter** from the **Sort & Filter** button on the Home tab, or choosing the **Filter** button on the Data tab.

Excel will place a drop-down arrow at the end of each cell in the title row (the first row of the dataset). When you Click on this arrow, we see several options including our sort orders:

- Sort Ascending, Descending, and by color

- Clear the Filter from this column

- Filter by Color

- Set a custom filter (text, number, date)

- Search for a matching value in the column

- List of values in the column (field). **Select All** will toggle between everything and nothing.
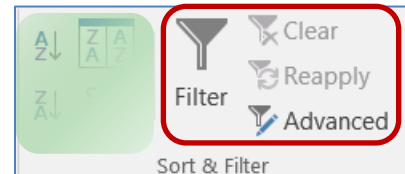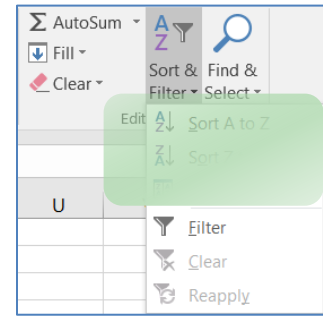
Once a filter has been set Excel will hide all the rows that do not match the criteria. The status bar will show how many records (rows) were found that matched. The row numbers of the original data will remain the same, but will appear blue. The dropdown arrows of the columns that are being filtered will show the filter icon (funnel). The double line between the row numbers indicate hidden rows.

Custom Filters
Depending on the data in the column, you will have the option to set a custom filter based on text, numbers, and dates.

Text Filters	Number Filters	Date Filters
Equals...	Equals...	Equals...
Does Not Equal...	Does Not Equal...	Before...
Begins With...	Greater Than...	After...
Ends With...	Greater Than Or Equal To...	Between...
Contains...	Less Than...	Tomorrow
Does Not Contain...	Less Than Or Equal To...	Today
Custom Filter...	Between...	Yesterday
	Top 10...	Next Week
	Above Average	This Week
	Below Average	Last Week
	Custom Filter...	Next Month
		This Month
		Last Month
		Next Quarter
		This Quarter
		Last Quarter
		Next Year
		This Year
		Last Year
		Year to Date
		All Dates in the Period ▶
		Custom Filter...

If you choose one of the options on the Filter List with the ellipsis (…), you will see a Custom Auto Filter window such as this. From here, we can set up to two filters.
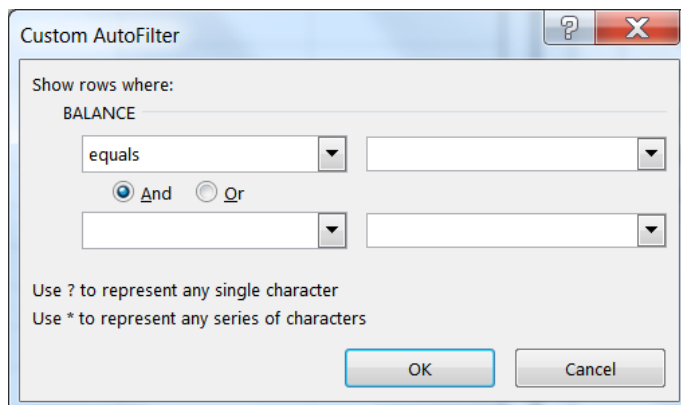
Be careful with the AND/OR relationships. If you ask Excel to show the rows where the City equals Jacksonville **AND** the City equals Gainesville, you will get no results, because one cell cannot equal both values. However, if you ask for the same using the OR, Excel will show all the records for both cities. Or's tend to work for exact matches (Equals This **OR** Equals That), whereas AND's tend to work for ranges (Greater than This **AND** Less than That).

You can use the "Wildcards" ? and * to help you with your filter. ? is used for one character, * for multiple.

      Equals Jacks* -> Jacksonville, Jacksonville Beach, Jackson Heights
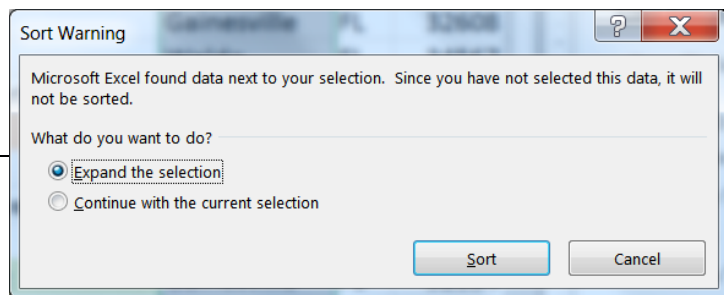
The **Search** option on the filter menu is a "contains" filter. When you type in the **Search** the results on the filter menu becomes a shorter list.

Class Exercise Sort

- Open file SortCustomers.xlsx

Simple Sorts

    - Click in the title CITY in cell D1

    - Home Tab -> Sort and Filter -> Sort A to Z (ascending)

    - Undo

        - Sort is "undone" and sorted dataset is selected

    - Select Column D (City)

    - Home Tab -> Sort and Filter -> Sort A to Z (ascending)

        - Say OK to the message

    - Undo

Sort Warning

Microsoft Excel found data next to your selection. Since you have not selected this data, it will not be sorted.

What do you want to do?

◉ Expand the selection

◯ Continue with the current selection

[Sort] [Cancel]

Default Sort Order

    - Right-Click Column A (LAST)

    - Insert a Column

    - Title the new column SORT (A1)

    - In A2 type: 1

    - In A3 type: 2

    - Select both numbers

    - Double-Click the fill handle to copy the pattern to the end of the dataset

    - Sort by column CITY

   - Sort by column SORT

    - Delete Column A

Blank Columns (every column should have a heading)

    - Select Column B (FIRST)

    - Insert a Column

    - Sort by CITY Z to A (descending) - Notice the first and last names no longer match up

    - **Undo** - Notice the last name column is left out of the selection

    - In B1 type: SUFFIX

    - Sort by City Z to A

    - Undo until the new column (SUFFIX) is gone

Custom Sort

Multiple levels

    - Click on the large sort button on the Data tab

    - Set the sort order for CITY, BALANCE, and DUE DATE

       - Use the Add Level buttons to create new lines

    - View the Results
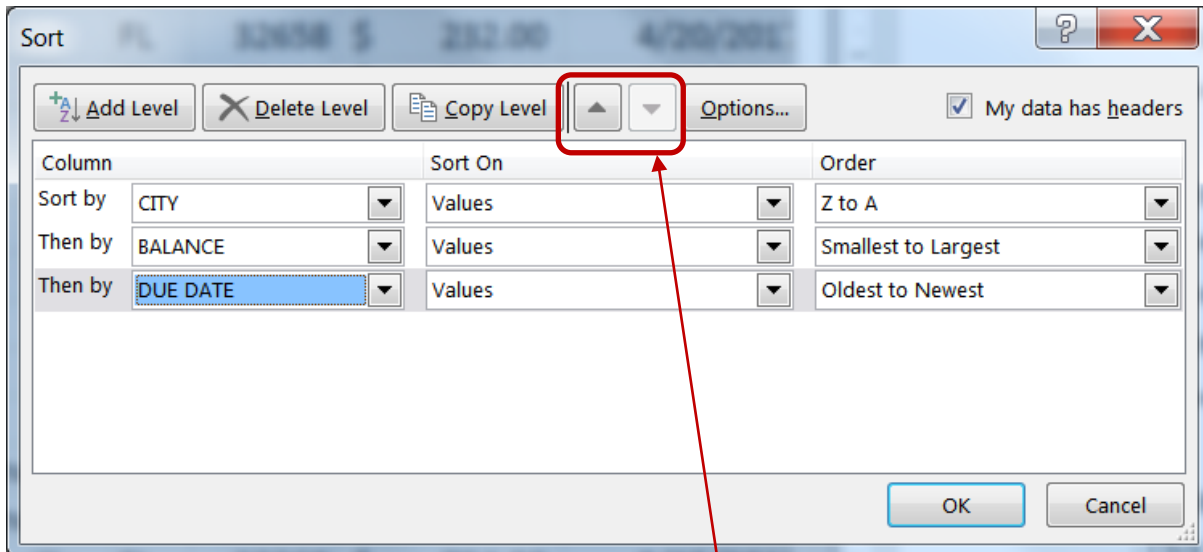
Custom Sort - Rearranging

    - Open the Custom Sort again

    - Select the DUE DATE row and use the arrows to move it ▲ ▼

    - Set the sort order for CITY, DUE DATE, and BALANCE

    - View the Results

	D	E	F	G	H
1	CITY	ST	ZIP	BALANCE	DUE DATE
2	Gainesville	FL	32608	$ 17.00	7/13/2018
3	Gainesville	FL	32684	$ 131.00	7/13/2018
4	Gainesville	FL	32655	$ 270.00	7/13/2018
5	Gainesville	FL	32732	$ 532.00	7/18/2018
6	Gainesville	FL	32608	$ 106.00	9/2/2018

Custom Sort - Resetting

    - Click in the Column A (LAST)

    - Click the Ascending button

    - Open the Custom Sort window

       - Sort order has been reset

Custom Sort - by Color
- Open the Custom Sort window

- Sort by Address, Sort on Cell Color, Order Green "On Top"

- **Copy Level** and set the Order to Peach "On Top"

- **Add Level** -> Balance, smallest to largest
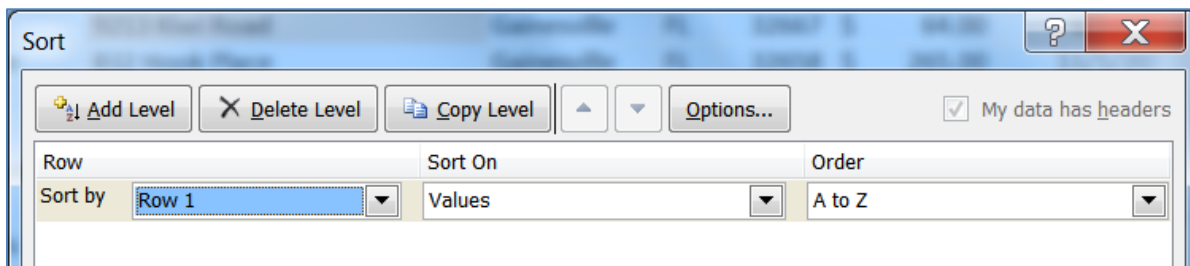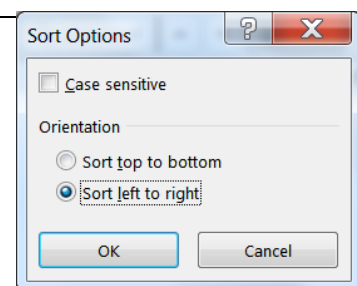
- View the Results
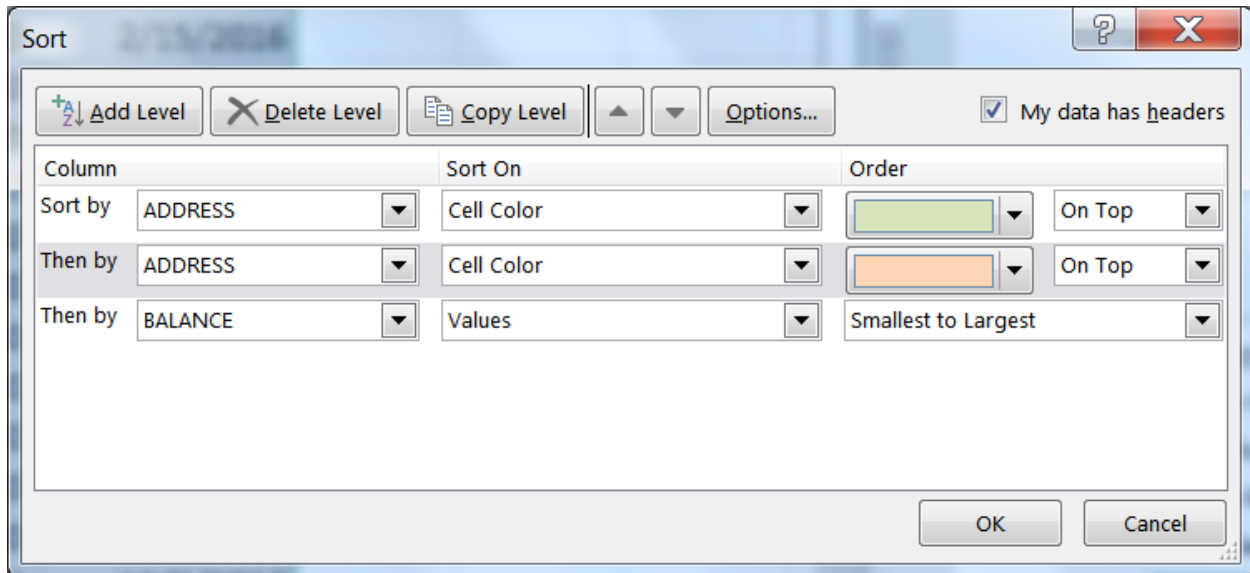
Reset to our default sort order
- Click in the column A (LAST)

- Click the Ascending button

Custom Sort - Left to Right
- Open Custom Sort Window

- Click on the **Options**... button

- Change orientation to **Sort left to right**

- Click OK

- Sort by Row 1, A to Z

- Columns should rearrange to **A**ddress through **Z**ip

- Select Row 2, and Insert a row

- Number the cells: 3, 8, 4, 7, 1, 2, 5, 6

|	A	B	C	D	E	F	G	H
1	ADDRESS	BALANCE	CITY	DUE DATE	FIRST	LAST	ST	ZIP
2	**3**	**8**	**4**	**7**	**1**	**2**	**5**	**6**

- Open Custom Sort Window

- Sort by Row 2

- View the result

Custom Sort - Left to Right - Selection
- Select Columns A and B (FIRST and LAST)

- Open Custom Sort window

- Sort by Row 2, Largest to Smallest

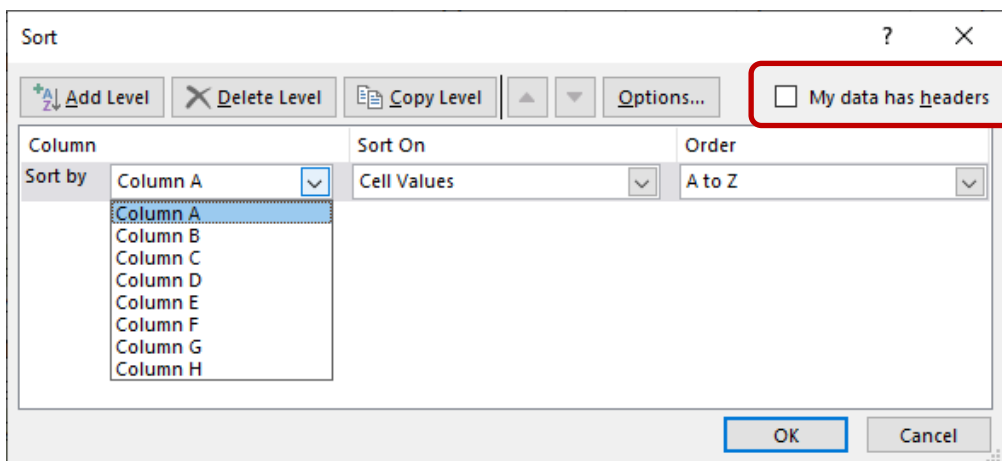- Repeat for Columns G and H (DUE DATE and BALANCE)

- Delete Row 2

Reset to our default sort order
- Open Custom Sort window

- Open **Options…**

- Change to **Sort top to bottom**
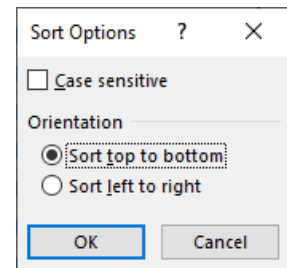
My data has headers
- **Sort by** only lists the column letters for the 8 columns in our dataset

- In the upper right of the window Click the **My data has headers** checkbox
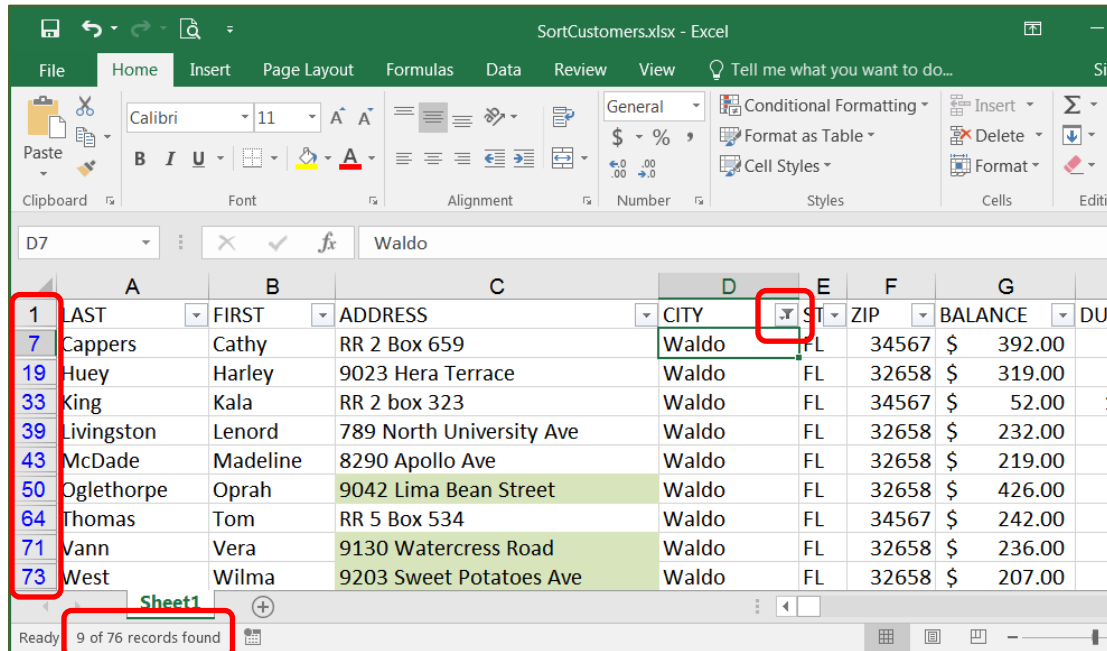
- Sort by LAST, A to Z

Start over
- Exit Microsoft Excel

- *DO NOT SAVE*

Class Exercise Filters

Quick Filter
- Open SortCustomers.xlsx

- Right-Click on a city of **Waldo**

- Choose Filter -> Filter by Selected Cell's Value

*** Filter arrows appear on all columns of the dataset
*** All rows not matching the criteria have disappeared
*** Row numbers turn blue, but maintain original row numbers
*** Status bar shows how many records (rows) match the criteria

Turn the Filter Off
- From the **Sort & Filter** button on the **Home** tab, choose **Filter**

*** All filter signs will disappear

Filter with Check Boxes
- Click the large **Filter** button on the **Data** tab

- From the City drop down, uncheck *Jacksonville*, Click OK (67 records)

- From the City drop down, uncheck *Gainesville*, Click OK (12 records)

- From the City drop down, check *Select All*, Click OK

Filter by (Un)Select all
- from the Zip drop down

   - uncheck *Select All*

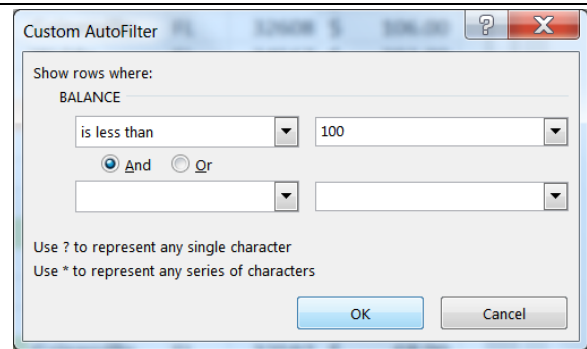   - check *32608*

   - Click OK (12 records)
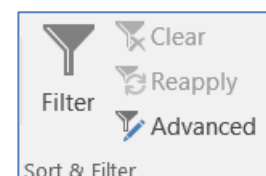
More than one filter
- Keep the *32608* filter

- from the <u>City</u> drop down, uncheck *Jacksonville*

- Click OK (9 records)

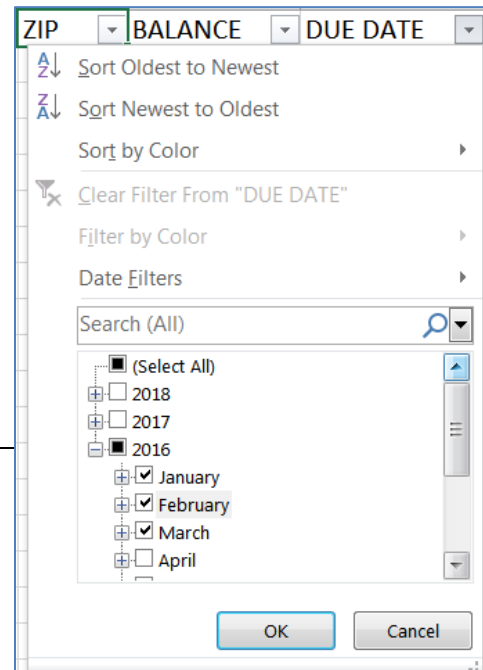- from the **Data** tab, choose the filter **Clear** button

Custom number filter
- <u>Balance</u> drop down

- choose Number Filter

- choose Less than, type in 100

- Click OK (12 records)
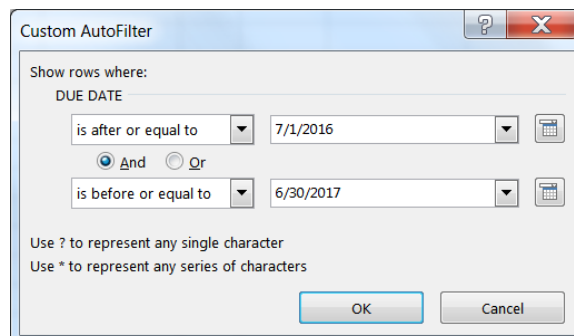
- **Clear the filter**

Date filter
- <u>Due Date</u> drop down

- uncheck *Select All*

- use the expand (+) buttons to open the dates

- check the first three months of 2016
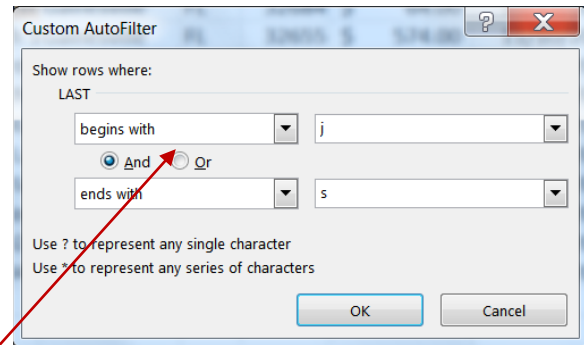
- Click OK (11 records)

Custom date filter
- From the <u>Due Date</u> drop down, choose *Date Filters*

- Choose Between

- type in 7/1/2016, type in 6/30/2017

- Click ok (23 records)

- **Clear the filter**

Custom text filter AND/OR

- From the <u>Last</u> drop down, choose *Text Filter*

- Choose Begins with, type J

    - Click ok (10 records)

- From the <u>Last</u> drop down, choose *Text Filter*

- Choose *Ends with*, type S

- Click ok (21 records)

- From the <u>Last</u> drop down, choose *Text Filter*

- Choose *Begins with*, type J

- On the second line choose *Ends with*, type S

- Click ok (6 records)

- From the <u>Last</u> drop down, choose *Text Filter*

- Choose *Custom Filter*

- Change the bubble (radio button) to **OR**

- Click ok (25 records)

- Clear the filter

<u>Custom text filter Contains</u>

- From the <u>Address</u> drop down, choose *Text Filter*

- Choose **Contains**, type Box

    - Excel is not case sensitive. BOX = Box = box

- Click ok (12 records)

- Clear the filter

Search filter

- From the <u>Address</u> drop down, Click inside the **Search** box

- Type box

**** Type it slowly, one letter at a time to see the list
    get smaller as you go

- Click ok (12 records)
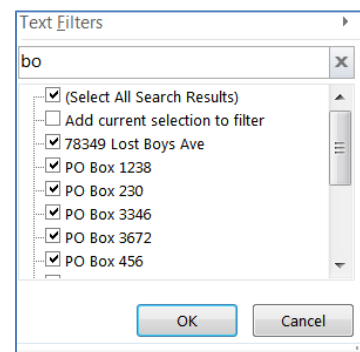
- Clear the filter

Filter by Color

    - From the <u>Address</u> drop down, choose Filter by color

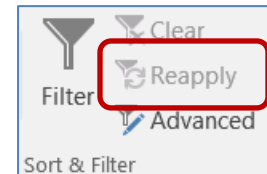   - Choose the green addresses (13 records)

    - Clear the filter

Refreshing Filtered Data

    - From the <u>Balance</u> drop down, choose Number Filter

    - Choose **Greater Than**, type 600

    - Click ok (4 records)

    - Change Edgar's balance to 300

    - From the **Data** tab, choose the filter **Reapply** button (3 records)

    - Clear the filter

Copying Filtered Data

- Use the filter tools to find these <u>9 records</u>:	- Use the filter tools to find these 10 <u>records</u>:
- Balance under 400	- Balance under 300
- Address color has no fill	- Address color has no fill
- Due Date in 2019	- Due Date in 2020
- Select All, Copy	- Select All, Copy
- Create a new worksheet	- Turn to Sheet 2
- Paste in Cell A1	- Paste in Cell A12

- Return to Sheet 1 and **Clear the filter**

	A	B	C	D	E	F	G	
1	LAST	FIRST	ADDRESS	CITY	ST	ZIP	BALANCE	DU
4	Arlington	Arnold	234 SE 45th Road	Gainesville	FL	32597	$ 128.00	
10	Dawson	Debbie	832 Hook Place	Gainesville	FL	32658	$ 265.00	
14	Finch	Frank	409 SW 92nd Avenue	Jacksonville	FL	32608	$ 157.00	
38	Li	Lana	23 Iceberg Drive	Gainesville	FL	32597	$ 157.00	
48	Norton	Nancy	98 South North street	Gainesville	FL	32684	$ 51.00	
54	Pope	Perry	243 SW 4th Place	Gainesville	FL	32597	$ 80.00	
57	Rogers	Robert	534 Lovers Lane	Gainesville	FL	32653	$ 196.00	

- In Sheet 2, Select ALL of the sheet

    - AutoFit the column widths

      - Double-Click between column headings

Filter one dataset
- Move to Cell A1 (Ctrl Home)

- Turn on the filter

- From the <u>City</u> drop down, uncheck *Gainesville*

- Click ok (4 records)

    ****Gainesville only disappears from the first list because of the gap

- Turn off the filter

Filter multiple datasets
- Select all the data columns (not just the data, all the columns A:H)

- Turn on the filter

    - AutoFit again

- From the <u>City</u> drop down, uncheck *Gainesville*

- Click ok (6 people)

    ****Gainesville disappears from both lists, but the record count is wrong

- Clear the filter

Filter including gap
- From the <u>City</u> drop down, uncheck *Select All*

- From the <u>City</u> drop down, check *Gainesville*

- From the <u>City</u> drop down, check *(Blanks)*

- From the <u>City</u> drop down, check *City*

- From the <u>City</u> drop down, uncheck *Gainesville*

- From the <u>City</u> drop down, check *Jacksonville*

-Turn off the filter (not just clear)
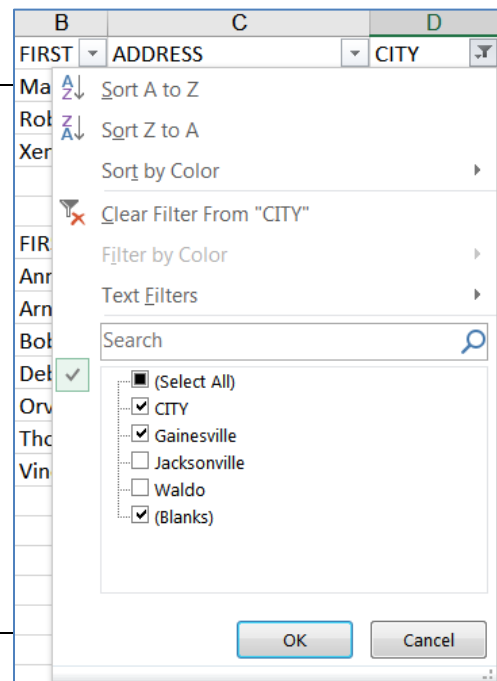
Multiple filters using Tables
- Move to the first dataset

    - From the Home tab, choose **Format as Table**, pick one and click OK

- Click in the second dataset

    - From the Home tab, choose **Format as Table**, pick one and click OK

- Both Tables have filters

                    (More on Tables in the Conditional Formatting session!)