

# Guided LAB 331.3.2: Data Sorting in Excel: Single, Multi-Level, and Custom Sort Techniques

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## Lab Overview:

- As you add more content to a worksheet, organizing this information becomes crucial. One effective way to manage your data is by sorting it. For instance, you can arrange a list of contact information by last name. Data can be sorted alphabetically, numerically, and in various other ways.
- In this lab, you will learn and demonstrate how to efficiently organize data in Excel using the **Sort** feature. You will practice applying both **single-level** and **multi-level** sorts, as well as using **custom lists** to sort data according to specific criteria.

## Learning Objective:

By the end of this lesson, learners will be able to:

- Use the **Sort** command to organize data in ascending or descending order based on a single column.
- Apply **multi-level sorting** to organize data by multiple columns for more granular analysis.
- Create and use **custom sort lists** to sort data according to a specific, non-alphabetical order.
- Sort different sections of a worksheet independently without affecting other data.

## Sample Dataset:

→ [Click here to Download Sample file for this lab](#)

## Overview of Sorting feature in Excel:

You can quickly **reorganize** a worksheet by **sorting your data**. Content can be sorted alphabetically, numerically, and in several other ways

### Types of sorting in Excel

When sorting data, it's important to first decide if you want the sort to apply to the **entire worksheet** or just a **cell range**.

- The **sort sheet** organizes all of the data in your worksheet by one column. Related information across each row is kept together when the sort is applied. In the example below, the **Contact Name** column (column A) has been sorted to display the names in alphabetical order.

	A	B	C	D
1	Customer Contact List			
2	CONTACT NAME	BILLING ADDRESS	PHONE	EMAIL ADDRESS
3	Chaturvedi, Rick	2428 S Redding St #2 B	360-555-5422	info@newhaventraders.com
4	Dean, Hank	3034 Foggy Wharf Loop	308-555-1050	hdean@venturebrewing.com
5	Figgis, Mallory	3520 Sleepy Hearth Dr	425-555-5370	malloryf@archerproperties.com
6	Finn, Jake	1407 Dusty Fawn Ln So	605-555-6435	jake@adventureoutfitters.com
7	Kinkade, Chris	1028 Quiet Dale Rd Ho	443-555-4942	chris.kinkade@placervilleins.com
8	Lawson, Miranda	5316 Colonial Pkwy Est	575-555-9255	mlawson@massairlines.com
9	Reyes, Felicia	8544 Lazy Bluff Ave Wh	316-555-3256	felicia@everlypublishing.com
10	Sebastian, Lil	9060 Easy Evening Ln V	207-555-7225	lil@knopeequestrian.com
11	Silva, Vivica	8595 Thunder Brook Ci	360-555-4289	vivica@rileygardensupply.com
12	Stark, Katie	971 Cinder Butterfly St	603-555-2460	katie.stark@ariarealestate.com
13	Torrance, Jill	3160 Amber Gate Rd R	605-555-4495	jtorrance@overlookinn.com
14	Yuen, Phillip	5108 Crystal Gate Blvd	913-555-5928	yuenp@corepharmaceuticals.com

- Sort range** sorts the data in a range of cells, which can be helpful when working with a sheet that contains several tables. Sorting a range will not

affect other content in the worksheet.

	A	B	C	D	E
1					
2	EXERCISES	SET 1		SET 2	
3		REPS	WEIGHT (lbs)	REPS	WEIGHT (lbs)
4	Bench Press	14	65	12	75
5	Bench Press ( Decline )	10	60	8	70
6	Triceps Extension	15	35	20	35
7	Average	13.9	50.5	12.5	54
8					
9		Running Log			
10		Date	Distance (miles)	Time (hrs:mins)	
11		25-Jun	2.8	0:45	
12		26-Jun	3	0:44	
13		27-Jun	2.75	0:42	
14		29-Jun	3.25	0:44	
15		30-Jun	3.25	0:45	
16		2-Jul	2.5	0:44	
17		3-Jul	3	0:30	
18		Total	20.55		
19					

## Example 1: How to Sort Data in Excel

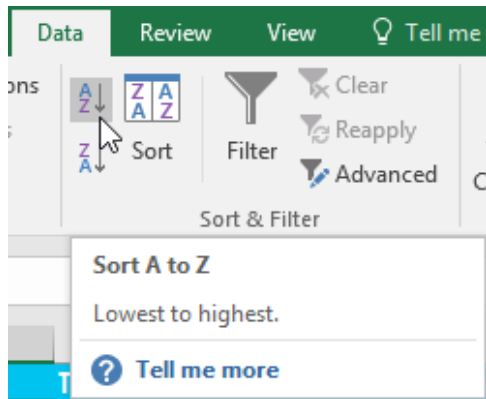
In this example, we will sort a **T-shirt** order form alphabetically by **Last Name** (Column C). Follow the steps below to sort your data efficiently:

1. **Select a cell** in the column you wish to sort by. For this example, click on cell **C2**.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method
2	105	Christiana	Chen	Medium	Check Bounced
3	105	Derek	MacDonald	Large	Cash
4	105	Esther	Yaron	Small	Pending
5	105	Melissa	White	Small	Debit Card
6	105	Nathan	Albee	Medium	Check
7	105	Sidney	Kelly	Medium	Check
8	110	Gabriel	Del Toro	Medium	Cash
9	110	Kris	Ackerman	Large	Money Order

2. Go to the **Data** tab on the Ribbon, then choose either:
  - **A-Z** to sort in ascending order (A to Z).
  - **Z-A** to sort in descending order (Z to A).

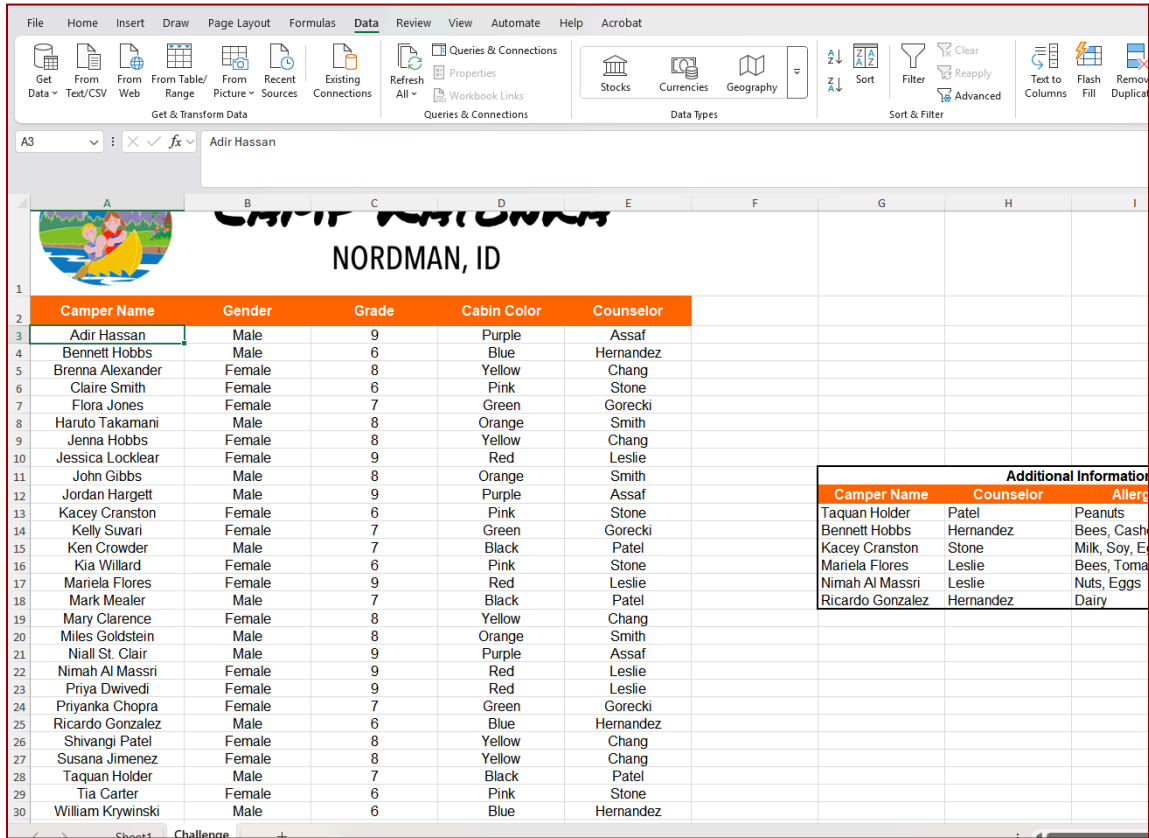
As shown in the below screenshot:



3. In our case, we will choose **A-Z** to sort the last names alphabetically.
4. The worksheet will now be sorted based on the selected column. As a result, the data will be organized by **Last Name** in alphabetical order, as shown in the screenshot below.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method
2	110	Kris	Ackerman	Large	Money Order
3	105	Nathan	Albee	Medium	Check
4	220-B	Samantha	Bell	Medium	Check
5	110	Matt	Benson	Medium	Money Order
6	105	Christiana	Chen	Medium	Check Bounced
7	110	Gabriel	Del Toro	Medium	Cash
8	220-A	Brigid	Ellison	Small	Cash
9	220-A	Juan	Flores	X-Large	Pending

**My practice (I sorted the names from A-Z):**



Camper Name	Gender	Grade	Cabin Color	Counselor
Adir Hassan	Male	9	Purple	Assaf
Bennett Hobbs	Male	6	Blue	Hernandez
Brenna Alexander	Female	8	Yellow	Chang
Claire Smith	Female	6	Pink	Stone
Flora Jones	Female	7	Green	Gorecki
Haruto Takamani	Male	8	Orange	Smith
Jenna Hobbs	Female	8	Yellow	Chang
Jessica Locklear	Female	9	Red	Leslie
John Gibbs	Male	8	Orange	Smith
Jordan Hargett	Male	9	Purple	Assaf
Kacey Cranston	Female	6	Pink	Stone
Kelly Suvari	Female	7	Green	Gorecki
Ken Crowder	Male	7	Black	Patel
Kia Willard	Female	6	Pink	Stone
Mariela Flores	Female	9	Red	Leslie
Mark Mealer	Male	7	Black	Patel
Mary Clarence	Female	8	Yellow	Chang
Miles Goldstein	Male	8	Orange	Smith
Niall St. Clair	Male	9	Purple	Assaf
Nimah Al Massri	Female	9	Red	Leslie
Priya Dwivedi	Female	9	Red	Leslie
Priyanka Chopra	Female	7	Green	Gorecki
Ricardo Gonzalez	Male	6	Blue	Hernandez
Shivangi Patel	Female	8	Yellow	Chang
Susana Jimenez	Female	8	Yellow	Chang
Taquan Holder	Male	7	Black	Patel
Tia Carter	Female	6	Pink	Stone
William Krywinski	Male	6	Blue	Hernandez

Additional Information		
Camper Name	Counselor	Allergies
Taquan Holder	Patel	Peanuts
Bennett Hobbs	Hernandez	Bees, Cash
Kacey Cranston	Stone	Milk, Soy, E
Mariela Flores	Leslie	Bees, Toma
Nimah Al Massri	Leslie	Nuts, Eggs
Ricardo Gonzalez	Hernandez	Dairy

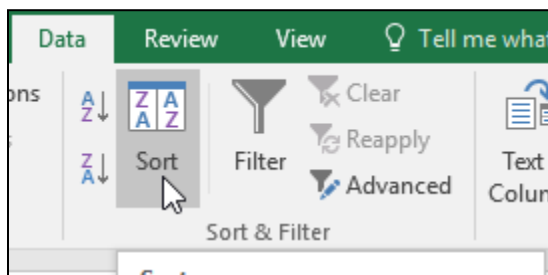
## Example 2: How to Sort a Range in Excel

In our example, we will select a **separate table** in our T-shirt order form to sort the number of shirts that were ordered in each grade. Follow these steps to sort the data correctly:

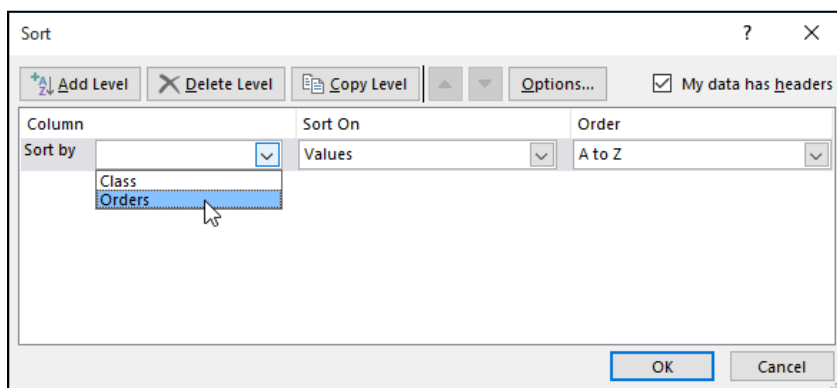
1. **Select the cell range** you wish to sort. In this example, we will select the range **G2:H6**.

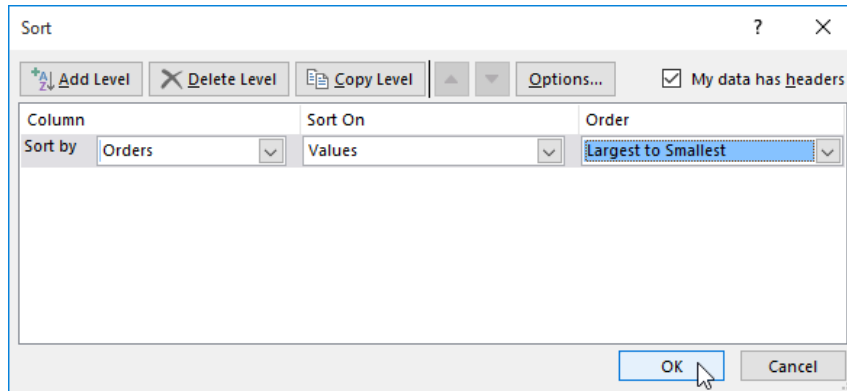
F	G	H	I
	<b>Total Orders (by Grade)</b>		
	<b>Class</b>	<b>Orders</b>	
	Freshmen	5	
	Sophomore	7	
	Junior	10	
	Senior	5	

2. Go to the **Data** tab on the Ribbon and click on the **Sort** option.



3. The **Sort** dialog box will appear:
  - Under the **Column** dropdown, select the column you want to sort by. Here, we will choose **Orders** to sort by the number of T-shirt orders.
  - Choose the **Sort On** option (e.g., Values).
  - Set the **Order** to either **Smallest to Largest** or **Largest to Smallest**. In our example, we will sort from **Largest to Smallest**.
  - Once you've made your selections, click **OK**.



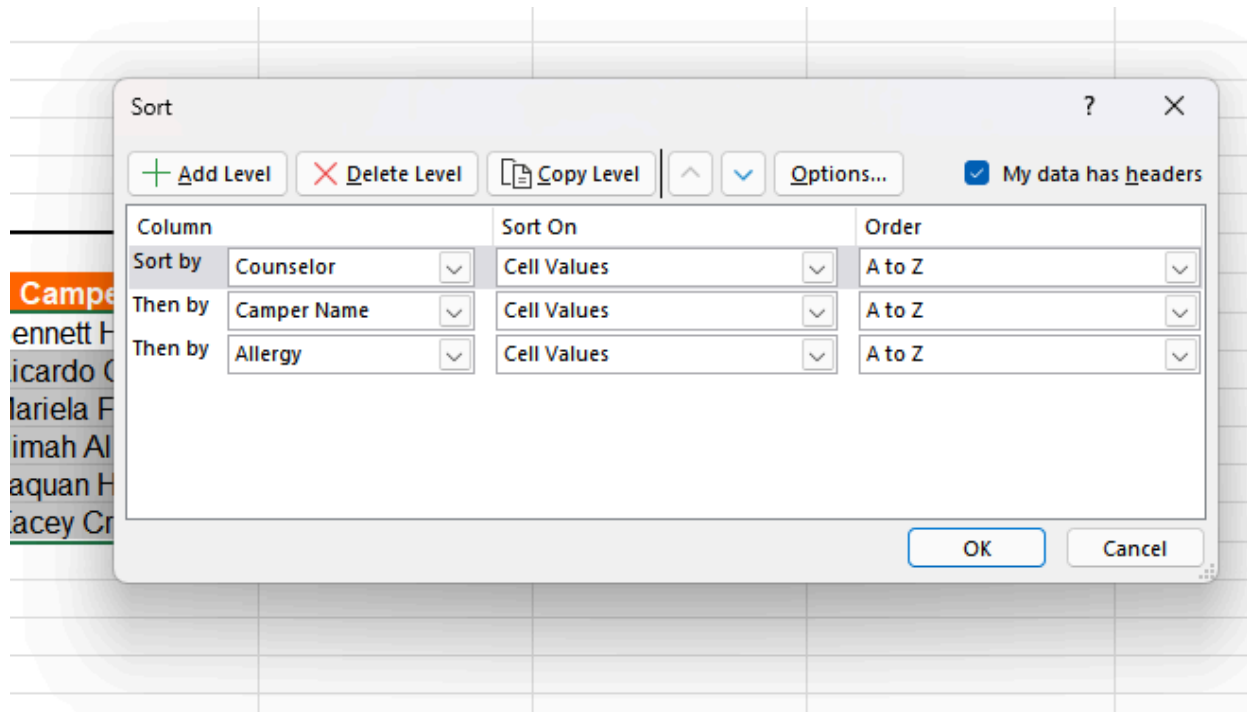


4. The cell range will be **sorted** by the selected column. In our example, the Orders column will be sorted from **highest to lowest**. Notice that the other content in the worksheet was not affected by the sorting.

F	G	H	I
	<b>Total Orders (by Grade)</b>		
	<b>Class</b>	<b>Orders</b>	
	Junior	10	
	Sophomore	7	
	Freshmen	5	
	Senior	5	

**My practice sorting (I sorted Camper Name, Counselor and Allergy by alphabetical order A-Z):**

<b>Additional Information</b>			
<b>Camper Name</b>	<b>Counselor</b>	<b>Allergy</b>	<b>Emergency Contact</b>
Bennett Hobbs	Hernandez	Bees, Cashews	555-982-6987
Ricardo Gonzalez	Hernandez	Dairy	555-298-2984
Mariela Flores	Leslie	Bees, Tomatoes	555-492-6721
Nimah Al Massri	Leslie	Nuts, Eggs	555-786-1932
Taquan Holder	Patel	Peanuts	555-281-4192
Kacey Cranston	Stone	Milk, Soy, Eggs	555-293-3245



Note: If your data is not sorting properly, double-check your cell values to make sure they are entered into the worksheet correctly. Even a small typo could cause problems when sorting a large worksheet. In the example below, we forgot to include a hyphen in cell A18, causing our sorting to be slightly inaccurate.

	A	B	C	D
1	Homeroom #	First Name	Last Name	T-Shirt Size
16	135	Jordan	Weller	Large
17	135	Alex	Yuen	Large
18	220A	Christopher	Peyton-Gomez	Small
19	220-A	Brigid	Ellison	Small
20	220-A	Juan	Flores	X-Large
21	220-A	Chevonne	Means	Medium



## Example 3: Custom Sorting in Excel

Sometimes, the default sorting options may not sort your data in the order you need. Luckily, Excel allows you to create a **custom list** to define your own sorting sequence.

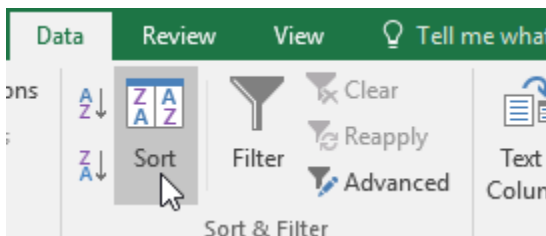
For instance, if you want to sort **T-shirt sizes (Column D)**, a standard alphabetical sort would result in an incorrect order (e.g., "Large" before "Small"). Instead, we will create a custom sort to arrange the sizes from smallest to largest.

Here is how to do it:

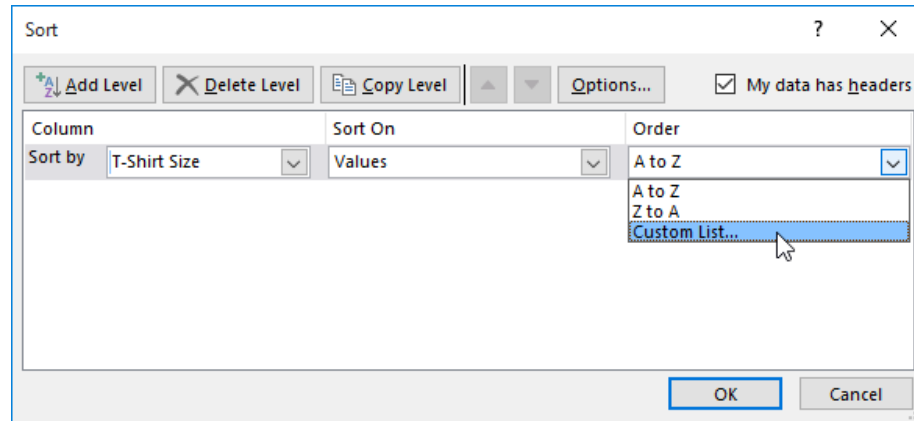
1. **Select a cell** in the column you wish to sort. For this example, click on cell **D2**.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method
2	110	Kris	Ackerman	Large	Money Order
3	105	Nathan	Albee	Medium	Check
4	220-B	Samantha	Bell	Medium	Check
5	110	Matt	Benson	Medium	Money Order
6	105	Christiana	Chen	Medium	Check Bounced
7	110	Gabriel	Del Toro	Medium	Cash
8	220-A	Brigid	Ellison	Small	Cash
9	220-A	Juan	Flores	X-Large	Pending
10	220-B	Tyrese	Hanlon	X-Large	Debit Card

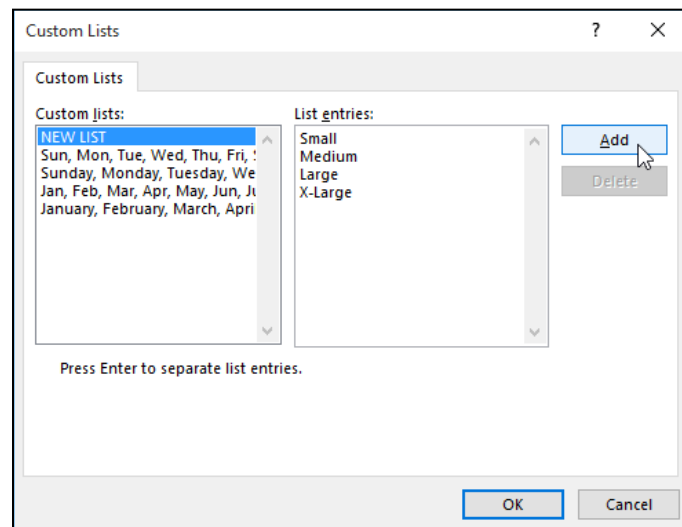
2. Go to the **Data** tab and click on the **Sort** option



3. The **Sort** dialog box will appear:
  - Choose the column to sort by. We will select **T-Shirt Size**.
  - In the **`Order`** dropdown, select **Custom List**, as shown in the screenshot below.

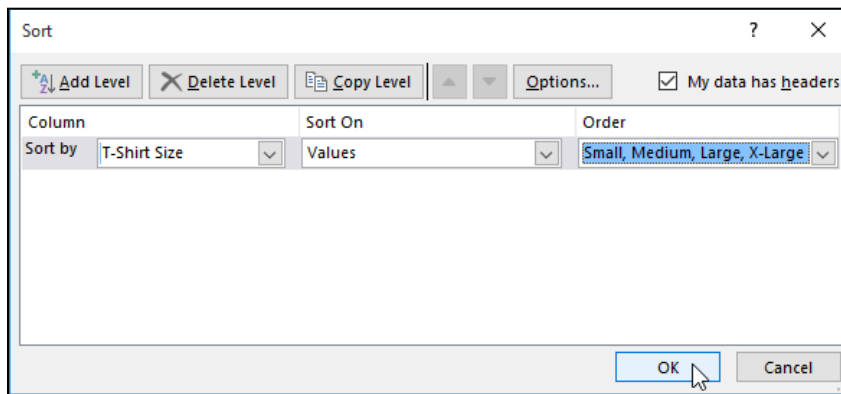


4. The **Custom Lists** dialog box will open:
  - Click on **NEW LIST** in the **Custom Lists** box.
  - In the **List entries** box, type the items in the desired order, pressing **Enter** after each entry. For our example, we will enter: **Small, Medium, Large and X-Large**
  - Click **Add** to save the custom list.



5. Once the new list is saved, ensure it is selected, then click **OK**.

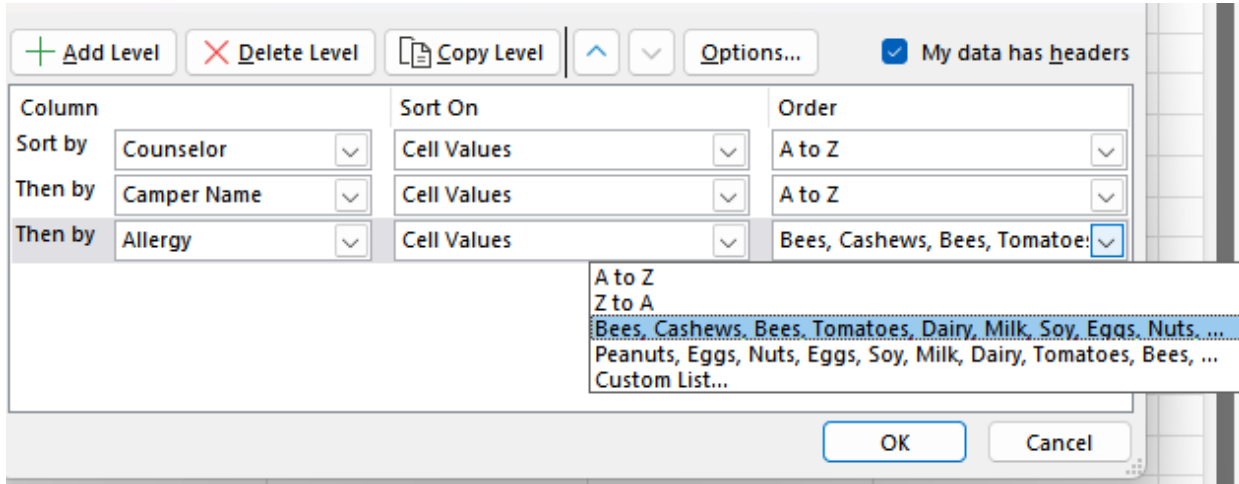
6. The **Custom Lists** dialog box will close. Click **OK** again in the **Sort** dialog box to apply the custom sort, as shown in the screenshot below.



7. Your worksheet will now be sorted based on your custom criteria. In this example, **T-shirt** sizes are organized from **Small** to **X-Large** as specified, as shown in the screenshot below.

	A	B	C	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method
2	220-A	Brigid	Ellison	Small	Cash
3	220-B	Michael	Lazar	Small	Cash
4	135	Anisa	Naser	Small	Check Bounced
5	220-A	Christopher	Peyton-Gomez	Small	Check
6	220-B	Malik	Reynolds	Small	Cash
7	220-B	Wendy	Shaw	Small	Cash
8	105	Melissa	White	Small	Debit Card
9	105	Esther	Yaron	Small	Pending
10	105	Nathan	Albee	Medium	Check
11	220-B	Samantha	Bell	Medium	Check
12	110	Matt	Benson	Medium	Money Order
13	105	Christiana	Chen	Medium	Check Bounced
14	110	Gabriel	Del Toro	Medium	Cash
15	105	Sidney	Kelly	Medium	Check
16	220-B	Avery	Kelly	Medium	Debit Card
17	220-A	Chevonne	Means	Medium	Money Order
18	135	James	Panarello	Medium	Check
19	135	Chantal	Weller	Medium	Debit Card
20	110	Kris	Ackerman	Large	Money Order
21	105	Derek	MacDonald	Large	Cash

**I sorted the allergies category by bees first, then dairy.. Etc.**



The image shows the Excel Sort dialog box with the following settings:

- Buttons:** + Add Level, X Delete Level, Copy Level, ^ Up, v Down, Options...
- My data has headers:** ☒
- Sort by:** Counselor (dropdown), Cell Values (dropdown), A to Z (dropdown)
- Then by:** Camper Name (dropdown), Cell Values (dropdown), A to Z (dropdown)
- Then by:** Allergy (dropdown), Cell Values (dropdown), Bees, Cashews, Bees, Tomatoe: (dropdown)

The dropdown menu for the third 'Then by' level is open, showing the following options:

- A to Z
- Z to A
- Bees, Cashews, Bees, Tomatoes, Dairy, Milk, Soy Eggs, Nuts, ...
- Peanuts, Eggs, Nuts, Eggs, Soy, Milk, Dairy, Tomatoes, Bees, ...
- Custom List...

At the bottom right are OK and Cancel buttons.

## Example 4: Sorting Data Using Multiple Levels in Excel

If you need more control over sorting your data, Excel allows you to **add multiple levels** to your sort. This allows you to organize your data by **more than one column**, providing a more refined sorting structure.

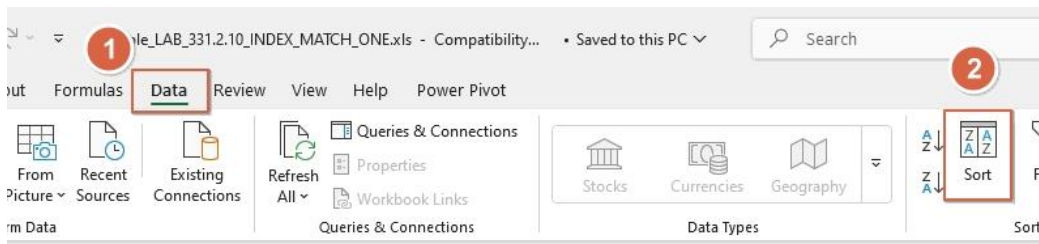
### How to Add Sorting Levels:

In this example, we will sort a worksheet first by **T-Shirt Size** (Column D) and then by **Homeroom #** (Column A). Follow these steps:

1. Select a **cell** in the column you want to sort. In our example, we will select cell **A2**, as shown in the screenshot below.

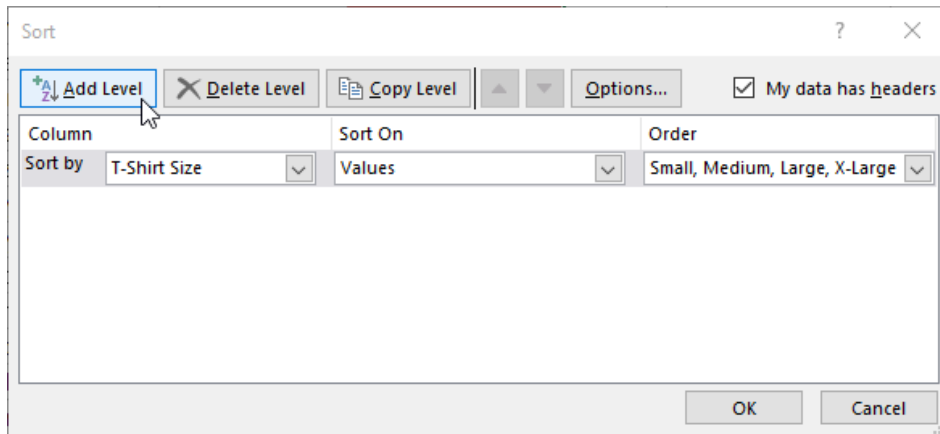
	A	B	C	D	E
1	Homeroom #	First Name	Last Name	T-Shirt Size	Payment Method
2	220-A	Brigid	Ellison	Small	Cash
3	220-B	Michael	Lazar	Small	Cash
4	135	Anisa	Naser	Small	Check Bounced
5	220-A	Christopher	Peyton-Gomez	Small	Check
6	220-B	Malik	Reynolds	Small	Cash
7	220-B	Wendy	Shaw	Small	Cash
8	105	Melissa	White	Small	Debit Card
9	105	Esther	Yaron	Small	Pending
10	105	Nathan	Albee	Medium	Check

2. Go to the **Data** tab and click on the **Sort** option, as shown in the screenshot below.

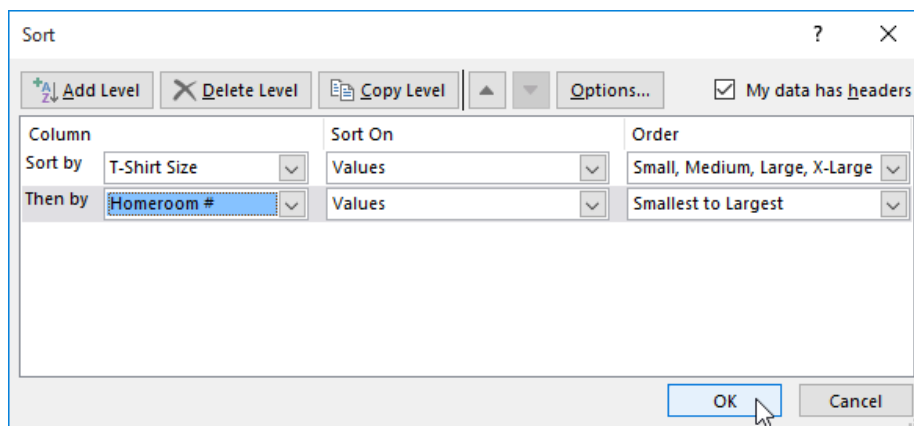


- 3.
4. The **Sort** dialog box will appear. Select the first column you want to sort. In this example, we will sort by **T-Shirt Size** (column **D**) with the custom list we previously created for the Order field.
5. The **Sort** dialog box will appear:
  - Choose the first column to sort by. In this example, We will select **T-Shirt Size** (Column D) and use the **custom list** we previously created for the Order field.

- Click on the **Add Level** option to include an additional sort criterion.



- Select the second column to sort by. In our example, choose **Homeroom #** (Column **A**). Once you have set the sorting levels, click **OK**.



**I sorted the Cabin color from A-Z, then I added a level and sorted Grade by Smallest to Largest:**



	Camper Name	Gender	Grade	Cabin Color	Counselor
2					
3	Ken Crowder	Male	7	Black	Patel
4	Mark Mealer				
5	Taquan Holder				
6	Bennett Hobbs				
7	Ricardo Gonzalez				
8	William Krywinski				
9	Flora Jones				
10	Kelly Suvari				
11	Priyanka Chopra				
12	Haruto Takamani				
13	John Gibbs				
14	Miles Goldstein				
15	Claire Smith				
16	Kacey Cranston				
17	Kia Willard	Female	6	Pink	Stone
18	Tia Carter	Female	6	Pink	Stone
19	Adir Hassan	Male	9	Purple	Assaf
20	Jordan Hargett	Male	9	Purple	Assaf
21	Niall St. Clair	Male	9	Purple	Assaf
22	Jessica Locklear	Female	9	Red	Leslie
23	Mariela Flores	Female	9	Red	Leslie
24	Nimah Al Massri	Female	9	Red	Leslie
25	Priya Dwivedi	Female	9	Red	Leslie
26	Brenna Alexander	Female	8	Yellow	Chang
27	Jenna Hobbs	Female	8	Yellow	Chang
28	Mary Clarence	Female	8	Yellow	Chang
29	Shivangi Patel	Female	8	Yellow	Chang
30	Susana Jimenez	Female	8	Yellow	Chang
31					

Sort ? X

+ Add Level X Delete Level Copy Level ^ v Options...

☒ My data has headers

Column	Sort On	Order
Sort by Cabin Color	Cell Values	A to Z
Then by Grade	Cell Values	Smallest to Largest

OK Cancel



1	NORTHMAN, ID				
2	Camper Name	Gender	Grade	Cabin Color	Counselor
3	Ken Crowder	Male	7	Black	Patel
4	Mark Mealer	Male	7	Black	Patel
5	Taquan Holder	Male	7	Black	Patel
6	Bennett Hobbs	Male	6	Blue	Hernandez
7	Ricardo Gonzalez	Male	6	Blue	Hernandez
8	William Krywinski	Male	6	Blue	Hernandez
9	Flora Jones	Female	7	Green	Gorecki
10	Kelly Suvari	Female	7	Green	Gorecki
11	Priyanka Chopra	Female	7	Green	Gorecki
12	Haruto Takamani	Male	8	Orange	Smith
13	John Gibbs	Male	8	Orange	Smith
14	Miles Goldstein	Male	8	Orange	Smith
15	Claire Smith	Female	6	Pink	Stone
16	Kacey Cranston	Female	6	Pink	Stone
17	Kia Willard	Female	6	Pink	Stone
18	Tia Carter	Female	6	Pink	Stone
19	Adir Hassan	Male	9	Purple	Assaf
20	Jordan Hargett	Male	9	Purple	Assaf
21	Niall St. Clair	Male	9	Purple	Assaf
22	Jessica Locklear	Female	9	Red	Leslie
23	Mariela Flores	Female	9	Red	Leslie
24	Nimah Al Massri	Female	9	Red	Leslie
25	Priya Dwivedi	Female	9	Red	Leslie
26	Brenna Alexander	Female	8	Yellow	Chang
27	Jenna Hobbs	Female	8	Yellow	Chang
28	Mary Clarence	Female	8	Yellow	Chang
29	Shivangi Patel	Female	8	Yellow	Chang
30	Susana Jimenez	Female	8	Yellow	Chang
31					
32					

The worksheet will now be sorted based on your selections. In our example,

- The data is first grouped by **T-shirt size**.
- Within each size category, the students are further sorted by **homeroom number**.


**Note:** If you need to change the order of a multilevel sort, it's easy to control which column is sorted first. Simply select the desired **column**, then click on the **Move Up** or **Move Down** arrow to adjust its priority.



## Challenge: Sorting Data in Excel

In this challenge, you will practice using **custom** and **multi-level sorting** to organize data in our **Sample workbook**. Follow the steps below to complete the tasks:

1. **Open the Sample workbook** and navigate to the **Challenge Sheet** tab at the bottom-left corner.
2. **Create a Custom Sort** for the main table:
  - Select a cell within the main table.
  - Go to the **Data tab** and click on the **Sort** command.
  - In the **Sort dialog box**, follow these steps:
    - For the **first level**, select **Grade** and set the order to **Smallest to Largest**.
    - Click on the **Add Level** to include a second sort criterion.
    - For the **second level**, select **Camper Name** and set the order to **A to Z**.
  - Click **OK** to apply the sort.
3. **Sort the Additional Information section**:
  - Select a cell in the **Additional Information** section.
  - Go to the **Data tab** and click on **the Sort** option.
  - In the **Sort dialog box**, choose **Counselor (Column H)** and set the order to **A to Z**.
  - Click **OK** to apply the sort.

<div>  <div> <b>CAMP KATONKA</b>            NORDMAN, ID         </div> </div>									
Camper Name	Gender	Grade	Cabin Color	Counselor					
Bennett Hobbs	Male	6	Blue	Hernandez					
Claire Smith	Female	6	Pink	Stone					
Kacey Cranston	Female	6	Pink	Stone					
Kia Willard	Female	6	Pink	Stone					
Ricardo Gonzalez	Male	6	Blue	Hernandez					
Tia Carter	Female	6	Pink	Stone					
William Krywinski	Male	6	Blue	Hernandez					
Flora Jones	Female	7	Green	Gorecki					
Kelly Suvari	Female	7	Green	Gorecki					
Ken Crowder	Male	7	Black	Patel					
Mark Mealer	Male	7	Black	Patel					
Priyanka Chopra	Female	7	Green	Gorecki					
Taquan Holder	Male	7	Black	Patel					
Brenna Alexander	Female	8	Yellow	Chang					
Haruto Takamani	Male	8	Orange	Smith					
Jenna Hobbs	Female	8	Yellow	Chang					
John Gibbs	Male	8	Orange	Smith					
Mary Clarence	Female	8	Yellow	Chang					
Miles Goldstein	Male	8	Orange	Smith					
Shivangi Patel	Female	8	Yellow	Chang					
Susana Jimenez	Female	8	Yellow	Chang					
Adir Hassan	Male	9	Purple	Assaf					
Jessica Locklear	Female	9	Red	Leslie					
Jordan Hargrett	Male	9	Purple	Assaf					
Mariela Flores	Female	9	Red	Leslie					
Niall St. Clair	Male	9	Purple	Assaf					
Nimah Al Massri	Female	9	Red	Leslie					
Priya Dwivedi	Female	9	Red	Leslie					

Additional Information			
Camper Name	Counselor	Allergy	Emergency Contact
Bennett Hobbs	Hernandez	Bees, Cashews	555-982-6987
Ricardo Gonzalez	Hernandez	Dairy	555-298-2984
Mariela Flores	Leslie	Bees, Tomatoes	555-492-6721
Nimah Al Massri	Leslie	Nuts, Eggs	555-786-1932
Taquan Holder	Patel	Peanuts	555-281-4192
Kacey Cranston	Stone	Milk, Soy, Eggs	555-293-3245

## References:

- [https://www.w3schools.com/excel/excel\\_sort.php](https://www.w3schools.com/excel/excel_sort.php)
- <https://learnesy.com/lookup-reference-functions/>
- <https://www.techonthenet.com/excel/formulas/vlookup.php>
- <https://spreadsheeto.com/index-match/>
- <https://edu.gcfglobal.org/en/excel/sorting-data/1/>

## Submission Guideline:

Include the following deliverables in your submission:

- Take a screenshot of your worksheets. Submit your source file, including a screenshot, using the Start Assignment button in the top-right corner of the Assignment page in Canvas.



**PER SCHOLAS**

