

# How to Sort by Multiple Columns in Excel?

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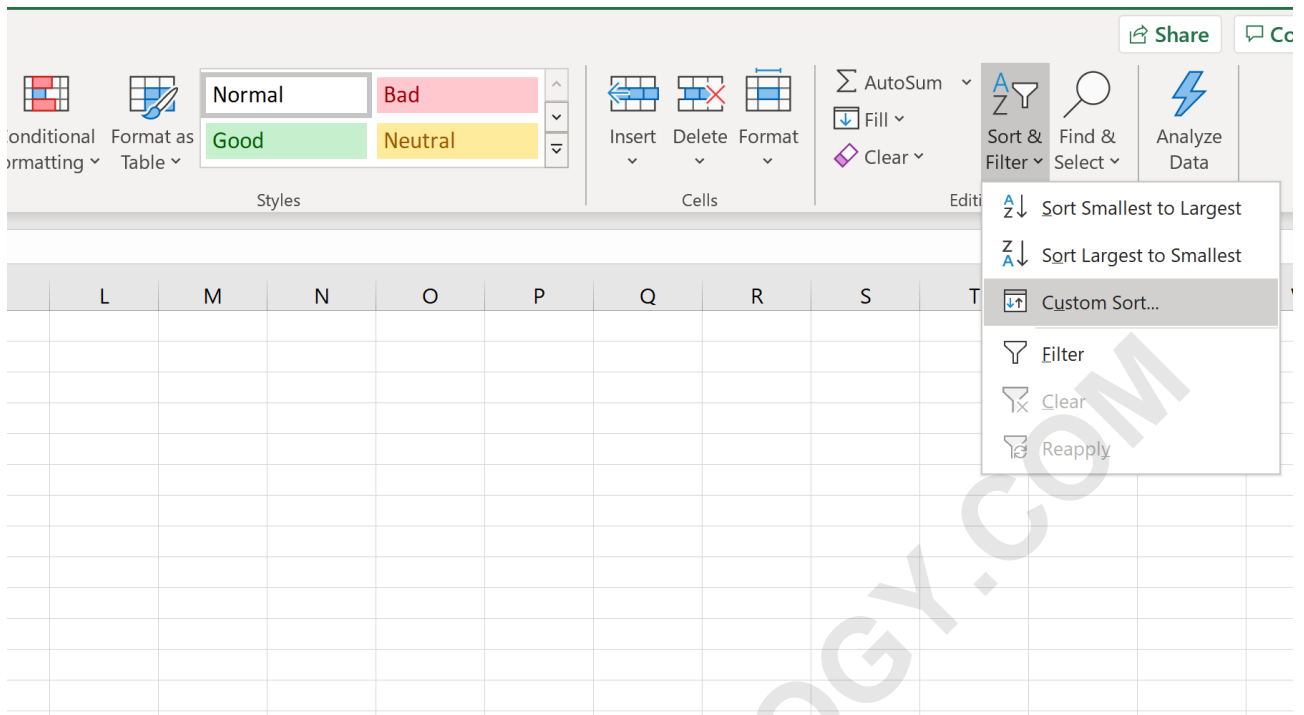
Data analysis often requires more sophistication than simple alphabetical or numerical organization. When dealing with complex datasets, you frequently encounter the need to organize information based on multiple criteria simultaneously. This process, known as multi-column sorting, is essential for extracting meaningful insights and ensuring data integrity in spreadsheets.

While basic sorting functions in Excel allow for quick organization based on a single field, the real power lies in the advanced capability to define a hierarchical sort order. This hierarchy ensures that when primary criteria are identical across multiple rows, the secondary criteria are applied to break the tie, and so on. Understanding this hierarchical approach is fundamental to mastering data management within the platform.

The standard method for achieving this complex organization is through the dedicated "Sort" feature, accessible typically via the Data tab or the Home tab's Editing section. This functionality opens a specialized dialog box where you can meticulously choose the columns to sort by, define the sequence (the level of importance), and specify the direction (ascending, descending, or custom list) for each level. The ability to Custom Sort is a cornerstone technique for any serious Excel user.

Frequently, analysts encounter scenarios where a single criterion is insufficient to properly organize large volumes of information. For instance, you might need to sort sales data first by Region (Primary key) and then, within each region, by Sales Volume (Secondary key). Fortunately, Microsoft Excel makes this intricate process intuitive and straightforward by utilizing the powerful **Custom Sort** option, which allows for virtually unlimited levels of organization.

The visual interface provided by the Custom Sort dialog streamlines the process of building complex sorting rules, transforming potentially hours of manual manipulation into a simple point-and-click operation. Below is an example of the interface we will be using to achieve our multi-level sort.



This comprehensive tutorial will guide you through a practical, step-by-step example, ensuring you can confidently implement multi-column sorting techniques in your own professional Excel workflows, dramatically improving your efficiency in data manipulation.

## Understanding the Need for Multi-Column Sorting

Multi-column sorting becomes imperative when your dataset contains redundancy or overlap in the primary sorting field. If 50 different transactions all occurred on the same date, a simple sort by date would leave those 50 transactions in an arbitrary or creation-order sequence. By adding a secondary sort criterion--say, transaction amount or customer ID--you introduce order and logic into those tied values, making the resulting report much more consumable and logical for review.

This hierarchical approach ensures that the sorting logic is applied sequentially: Excel first organizes all data based on the highest priority column. Only when two or more rows possess the identical value in the primary column does the software look to the secondary column to determine their relative order. If a tie still exists, the process continues down the list of defined levels until a distinguishing value is found, or until all defined levels have been exhausted.

Consider the structure of a customer database. You might want to sort first by State (A-Z) to group geographic areas. Within each State, you would want to sort by City (A-Z). Finally, within each city, you might sort by the Customer's Last Name (A-Z). This three-level sort provides a highly structured and navigable list that drastically improves data lookup and organizational reporting, illustrating the core value proposition of multi-level sorting in complex business scenarios.

## Step 1: Preparing Your Data for Multi-Level Sorting

Before initiating any sort operation, especially one involving multiple criteria, it is essential to ensure your data is clean and properly formatted. An Excel table or range should have clear, unique headers in the first row, and there should be no completely blank rows or columns interrupting the data block. Interrupted data can lead Excel to incorrectly define the boundaries of the data range you intend to sort, often resulting in only a portion of your information being reorganized.

For demonstration purposes, we will construct a simple, illustrative dataset containing family information. This data includes fields that naturally lend themselves to hierarchical sorting, such as identifiers, names, and numerical values that can be prioritized differently. This preparation phase is crucial, as the quality and consistency of your data directly impact the success and accuracy of the sorting process.

Let's create a fictional dataset featuring family members, their last names, and the size of their households. We will use this set to practice sorting based on a numerical value (Household Size) followed by an alphabetical value (Last Name) to demonstrate the power of defined sorting levels:

|    | A                | B                       | C                     | D                | E | F |
|----|------------------|-------------------------|-----------------------|------------------|---|---|
| 1  | <b>Household</b> | <b>Household Income</b> | <b>Household Size</b> | <b>Last Name</b> |   |   |
| 2  | 1                | \$34,000                | 4                     | A                |   |   |
| 3  | 2                | \$37,000                | 3                     | C                |   |   |
| 4  | 3                | \$41,000                | 3                     | D                |   |   |
| 5  | 4                | \$44,000                | 4                     | B                |   |   |
| 6  | 5                | \$45,000                | 4                     | K                |   |   |
| 7  | 6                | \$47,000                | 5                     | J                |   |   |
| 8  | 7                | \$51,000                | 6                     | I                |   |   |
| 9  | 8                | \$55,000                | 5                     | F                |   |   |
| 10 | 9                | \$58,000                | 4                     | E                |   |   |
| 11 | 10               | \$65,000                | 5                     | G                |   |   |
| 12 | 11               | \$66,000                | 4                     | H                |   |   |
| 13 | 12               | \$68,000                | 3                     | M                |   |   |
| 14 | 13               | \$73,000                | 5                     | N                |   |   |
| 15 | 14               | \$76,000                | 2                     | L                |   |   |
| 16 | 15               | \$81,000                | 5                     | Q                |   |   |
| 17 | 16               | \$83,000                | 4                     | S                |   |   |
| 18 | 17               | \$85,000                | 3                     | P                |   |   |
| 19 | 18               | \$87,000                | 3                     | O                |   |   |
| 20 | 19               | \$90,000                | 3                     | V                |   |   |
| 21 | 20               | \$93,000                | 2                     | T                |   |   |
| 22 | 21               | \$96,000                | 3                     | R                |   |   |
| 23 | 22               | \$97,000                | 2                     | Y                |   |   |
| 24 | 23               | \$103,000               | 7                     | X                |   |   |
| 25 | 24               | \$109,000               | 4                     | Z                |   |   |
| 26 | 25               | \$115,000               | 2                     | W                |   |   |
| 27 | 26               | \$117,000               | 4                     | U                |   |   |
| 28 |                  |                         |                       |                  |   |   |
| 29 |                  |                         |                       |                  |   |   |
| 30 |                  |                         |                       |                  |   |   |

Ensure that when you define your sorting range, you include the header row if you wish to use the header names within the Custom Sort dialog box. If you exclude the headers, Excel will simply refer to the columns as A, B, C, etc., which can make the sorting logic harder to manage and verify.

## Step 2: Defining the Sorting Criteria and Range Selection

Our goal is to achieve a specific, dual-level sort outcome. We intend to prioritize larger families, then organize them alphabetically within those groups. The defined criteria are:

First, sort by **Household Size**, prioritizing the largest number to the smallest number (Descending order).

Second, for rows with identical Household Sizes, sort by **Last Name**, prioritizing alphabetical order (A to Z, Ascending order).

To begin the process of executing this hierarchical sorting, you must first precisely define the data

range. It is best practice to highlight the entire block of data you wish to sort, including the column headers. Highlighting prevents Excel from accidentally sorting one column independently of the others, which would corrupt your data integrity by misaligning records.

Carefully highlight all columns and rows that constitute the data block. In our example, this means selecting the entire range that contains "ID," "Household Size," "Last Name," and "First Name," along with all corresponding records, as demonstrated below:

|    | A                | B                       | C                     | D                | E | F | G |
|----|------------------|-------------------------|-----------------------|------------------|---|---|---|
| 1  | <b>Household</b> | <b>Household Income</b> | <b>Household Size</b> | <b>Last Name</b> |   |   |   |
| 2  | 1                | \$34,000                | 4                     | A                |   |   |   |
| 3  | 2                | \$37,000                | 3                     | C                |   |   |   |
| 4  | 3                | \$41,000                | 3                     | D                |   |   |   |
| 5  | 4                | \$44,000                | 4                     | B                |   |   |   |
| 6  | 5                | \$45,000                | 4                     | K                |   |   |   |
| 7  | 6                | \$47,000                | 5                     | J                |   |   |   |
| 8  | 7                | \$51,000                | 6                     | I                |   |   |   |
| 9  | 8                | \$55,000                | 5                     | F                |   |   |   |
| 10 | 9                | \$58,000                | 4                     | E                |   |   |   |
| 11 | 10               | \$65,000                | 5                     | G                |   |   |   |
| 12 | 11               | \$66,000                | 4                     | H                |   |   |   |
| 13 | 12               | \$68,000                | 3                     | M                |   |   |   |
| 14 | 13               | \$73,000                | 5                     | N                |   |   |   |
| 15 | 14               | \$76,000                | 2                     | L                |   |   |   |
| 16 | 15               | \$81,000                | 5                     | Q                |   |   |   |
| 17 | 16               | \$83,000                | 4                     | S                |   |   |   |
| 18 | 17               | \$85,000                | 3                     | P                |   |   |   |
| 19 | 18               | \$87,000                | 3                     | O                |   |   |   |
| 20 | 19               | \$90,000                | 3                     | V                |   |   |   |
| 21 | 20               | \$93,000                | 2                     | T                |   |   |   |
| 22 | 21               | \$96,000                | 3                     | R                |   |   |   |
| 23 | 22               | \$97,000                | 2                     | Y                |   |   |   |
| 24 | 23               | \$103,000               | 7                     | X                |   |   |   |
| 25 | 24               | \$109,000               | 4                     | Z                |   |   |   |
| 26 | 25               | \$115,000               | 2                     | W                |   |   |   |
| 27 | 26               | \$117,000               | 4                     | U                |   |   |   |
| 28 |                  |                         |                       |                  |   |   |   |
| 29 |                  |                         |                       |                  |   |   |   |
| 30 |                  |                         |                       |                  |   |   |   |

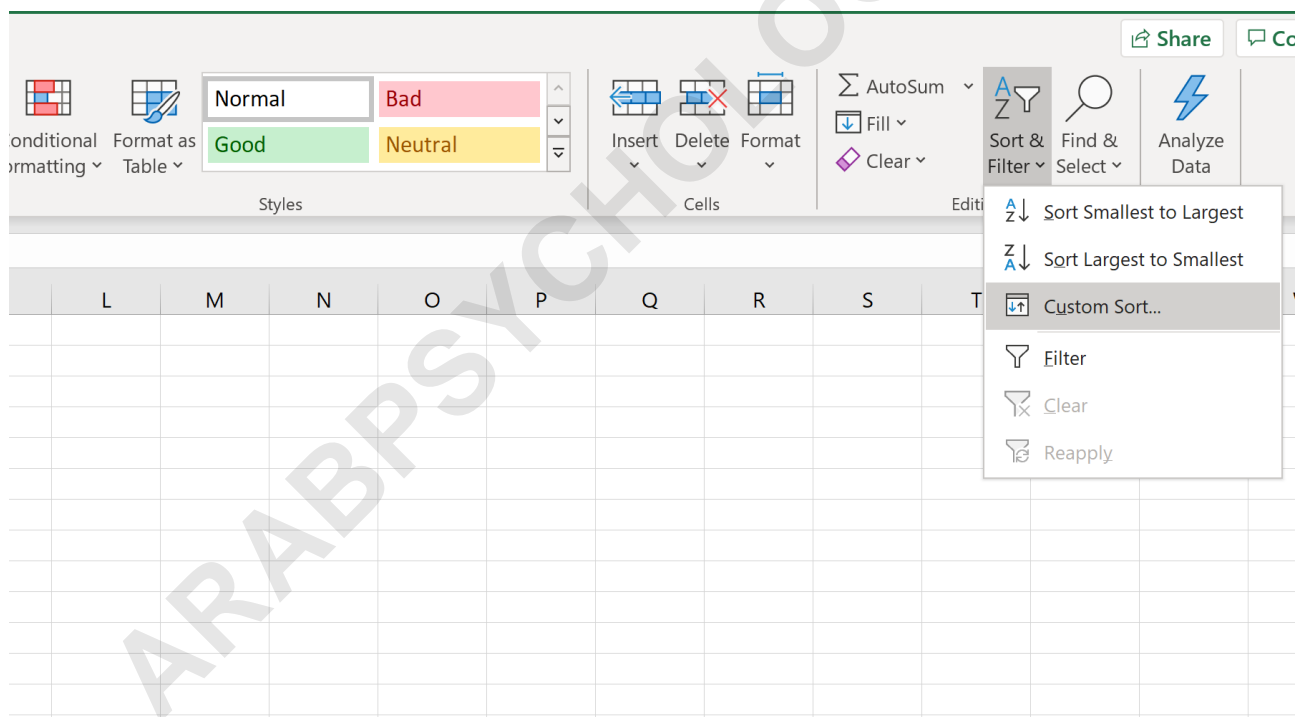
Once the range is selected, the next step is to navigate to the sorting tool. This tool is generally located in the **Sort & Filter** group. While this group can sometimes be found directly on the Data tab, it is also frequently available within the **Editing** section of the **Home** tab, depending on your Excel version and configuration.

### Step 3: Accessing and Configuring the Custom Sort Dialog Box

After selecting your data range, click the **Sort & Filter** option, and in the resulting dropdown menu, select Custom Sort. This action opens the dedicated dialog box, which serves as the control panel for defining your multi-level hierarchy.

A crucial element of this dialog box is the checkbox labeled "My data has headers." Since we included the headers in our selected range in Step 2, this box should be checked. Checking this box ensures that the header row is treated as descriptive labels and not as data to be sorted, and it allows you to select columns by their descriptive names rather than by generic column letters.

We begin by defining the primary sorting level. In the "Column" dropdown menu for the first level, select **Household Size**. In the "Sort On" field, ensure "Values" is selected (this is usually the default). Finally, in the "Order" dropdown, select **Largest to Smallest**, fulfilling our first sorting requirement.



This initial setup establishes the foundation of the sort: all records will first be grouped and organized according to the numerical size of the household, regardless of any other field.

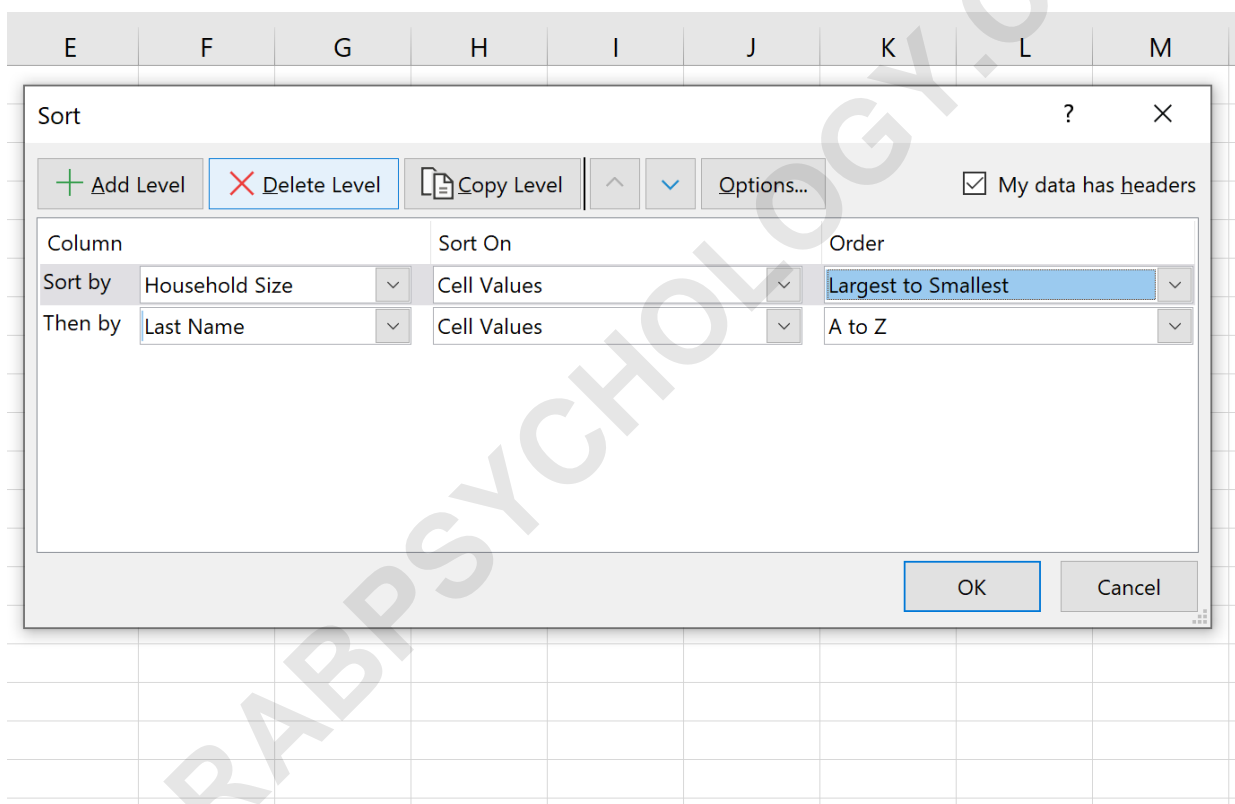
### Step 4: Defining the Secondary and Subsequent Sort Levels

With the primary sort criterion established, we must now address the secondary level to handle ties. To introduce the second level of hierarchy, click the **Add Level** button located in the upper-left

corner of the Custom Sort dialog box. A new row will appear, representing the next priority level.

For this secondary level, select **Last Name** from the "Column" dropdown menu. Since we want an alphabetical arrangement for tie-breaking, select **A to Z** from the "Order" dropdown. It is critical to confirm that the sorting order aligns perfectly with your analytical goals; numerical fields often use Largest/Smallest, while text fields generally use A to Z or Z to A.

The flexibility of this dialog is significant. If you needed a third level--for example, sorting by First Name if two families had the same Household Size and the same Last Name--you would simply click **Add Level** again and define the third criterion. Excel supports numerous sorting levels, allowing you to define highly complex organizational structures for massive datasets.



Review the configured levels one final time: ensure the order (top to bottom is highest priority to lowest priority) and the sort direction (e.g., Largest to Smallest vs. A to Z) are correct. Once you are confident in your configuration, click **OK** to apply the multi-column sort to your data range. Excel will instantly reorganize the selected rows based on the defined hierarchy.

## Interpreting and Validating the Sorted Results

Upon clicking **OK**, the data is automatically reorganized. It is essential to visually inspect the resulting table to confirm that the complex sorting logic was executed correctly and according to

the hierarchy you defined. Verification is a mandatory step, especially when dealing with critical data operations.

Observe the new arrangement of our data:

|    | A                | B                       | C                     | D                | E | F |
|----|------------------|-------------------------|-----------------------|------------------|---|---|
| 1  | <b>Household</b> | <b>Household Income</b> | <b>Household Size</b> | <b>Last Name</b> |   |   |
| 2  | 23               | \$103,000               | 7                     | X                |   |   |
| 3  | 7                | \$51,000                | 6                     | I                |   |   |
| 4  | 8                | \$55,000                | 5                     | F                |   |   |
| 5  | 10               | \$65,000                | 5                     | G                |   |   |
| 6  | 6                | \$47,000                | 5                     | J                |   |   |
| 7  | 13               | \$73,000                | 5                     | N                |   |   |
| 8  | 15               | \$81,000                | 5                     | Q                |   |   |
| 9  | 1                | \$34,000                | 4                     | A                |   |   |
| 10 | 4                | \$44,000                | 4                     | B                |   |   |
| 11 | 9                | \$58,000                | 4                     | E                |   |   |
| 12 | 11               | \$66,000                | 4                     | H                |   |   |
| 13 | 5                | \$45,000                | 4                     | K                |   |   |
| 14 | 16               | \$83,000                | 4                     | S                |   |   |
| 15 | 26               | \$117,000               | 4                     | U                |   |   |
| 16 | 24               | \$109,000               | 4                     | Z                |   |   |
| 17 | 2                | \$37,000                | 3                     | C                |   |   |
| 18 | 3                | \$41,000                | 3                     | D                |   |   |
| 19 | 12               | \$68,000                | 3                     | M                |   |   |
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| 26 | 25               | \$115,000               | 2                     | W                |   |   |
| 27 | 22               | \$97,000                | 2                     | Y                |   |   |
| 28 |                  |                         |                       |                  |   |   |
| 29 |                  |                         |                       |                  |   |   |
| 30 |                  |                         |                       |                  |   |   |
| 31 |                  |                         |                       |                  |   |   |

The initial validation confirms that the primary sort key--**Household Size**--is correctly ordered from Largest (7) down to Smallest (3). The household with a size of 7 appears first, establishing the highest order priority. This confirms the successful application of the primary level of our multi-level sorting rule. All subsequent data groups must now adhere to the secondary rule within these primary groupings.

### Advanced Validation: Analyzing Tie Breakers

The true test of a successful multi-column sort lies in how Excel handles tie values in the primary

column. We must specifically examine groups where the Household Size is identical to see if the secondary criterion, **Last Name** (A to Z), was correctly applied.

For instance, examine the three households that share a size of 4. Their original order might have been random, but the secondary sort level dictates that they must be ordered alphabetically by Last Name. If the secondary sort worked, the sequence of these three families should be determined by comparing the first letters of their surnames.

As demonstrated in the highlighted segment below, the records with a Household Size of 4 are now ordered correctly: Davies, Jackson, and Smith. This confirms that for any records tied on the primary key, the secondary key (Last Name A-Z) successfully broke the tie, resulting in a perfectly ordered dataset.

|    | A         | B                | C              | D         | E | F |
|----|-----------|------------------|----------------|-----------|---|---|
| 1  | Household | Household Income | Household Size | Last Name |   |   |
| 2  | 23        | \$103,000        | 7              | X         |   |   |
| 3  | 7         | \$51,000         | 6              | I         |   |   |
| 4  | 8         | \$55,000         | 5              | F         |   |   |
| 5  | 10        | \$65,000         | 5              | G         |   |   |
| 6  | 6         | \$47,000         | 5              | J         |   |   |
| 7  | 13        | \$73,000         | 5              | N         |   |   |
| 8  | 15        | \$81,000         | 5              | Q         |   |   |
| 9  | 1         | \$34,000         | 4              | A         |   |   |
| 10 | 4         | \$44,000         | 4              | B         |   |   |
| 11 | 9         | \$58,000         | 4              | E         |   |   |
| 12 | 11        | \$66,000         | 4              | H         |   |   |
| 13 | 5         | \$45,000         | 4              | K         |   |   |
| 14 | 16        | \$83,000         | 4              | S         |   |   |
| 15 | 26        | \$117,000        | 4              | U         |   |   |
| 16 | 24        | \$109,000        | 4              | Z         |   |   |
| 17 | 2         | \$37,000         | 3              | C         |   |   |
| 18 | 3         | \$41,000         | 3              | D         |   |   |
| 19 | 12        | \$68,000         | 3              | M         |   |   |
| 20 | 18        | \$87,000         | 3              | O         |   |   |
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| 22 | 21        | \$96,000         | 3              | R         |   |   |
| 23 | 19        | \$90,000         | 3              | V         |   |   |
| 24 | 14        | \$76,000         | 2              | L         |   |   |
| 25 | 20        | \$93,000         | 2              | T         |   |   |
| 26 | 25        | \$115,000        | 2              | W         |   |   |
| 27 | 22        | \$97,000         | 2              | Y         |   |   |
| 28 |           |                  |                |           |   |   |
| 29 |           |                  |                |           |   |   |

This example used only two levels, but the principle scales infinitely. You could add a third level to sort by First Name (A-Z) if, hypothetically, two households of size 4 had the same Last Name.

Mastering the **Custom Sort** feature allows analysts to impose nearly any logical structure onto disorganized information, which is a vital skill in modern data processing. Remember, the hierarchy is paramount: Level 1 must be satisfied before Level 2 is consulted, and so on.

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