

How to Find the First 3 Positive Numbers in Excel

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Leveraging Microsoft Excel for Efficient Data Identification

In the modern digital landscape, **Microsoft Excel** has established itself as an indispensable **spreadsheet** application for professionals across diverse industries. Its primary strength lies in its ability to transform raw **data** into actionable insights through a variety of built-in functions and tools. One specific challenge that users frequently encounter is the need to isolate and identify specific subsets of information within a large **column**. For instance, when dealing with financial records or scientific observations, you may need to pinpoint the first few instances of **positive numbers** to establish a baseline or trigger further analysis.

The flexibility of **Excel** allows for multiple approaches to solve the problem of finding the first 3 **positive numbers**. While manual searching might be feasible for a very small **dataset**, it quickly becomes prone to human error and inefficiency as the volume of **data** grows. Therefore, understanding the automated mechanisms available--ranging from basic sorting to complex **formulas**--is vital for any user looking to enhance their productivity and accuracy. By mastering these techniques, you ensure that your data processing remains robust and scalable regardless of the project scope.

This guide aims to provide a comprehensive walkthrough of how to utilize **Excel** to extract the first 3 **positive numbers** from a mixed list. We will examine the logic behind the **algorithm** used in the extraction process and provide clear, visual examples to illustrate the steps involved. Whether you are a novice or an advanced user, the following methodologies will provide a reliable framework for handling conditional data extraction tasks within your **spreadsheet** environment.

Sorting and Filtering as Preliminary Solutions

Before diving into advanced **formulas**, it is worth noting that **Excel** offers several manual features that can assist in identifying **positive numbers**. The "Sort" function is a foundational tool that allows you to rearrange a **column** based on numerical value. By selecting your data and choosing the "Smallest to Largest" **sorting** option, all negative numbers and zeros will be moved to the top, followed by the positive values in ascending order. This makes the first three **positive numbers** immediately visible at the transition point between non-positive and positive values.

Another highly effective built-in tool is the "Filter" function. By applying a **filter** to your header row, you can select specific criteria to display only the rows that meet your requirements. In this context, you would set a numeric filter for "Greater Than 0." This action hides all negative values and zeros, leaving only the **positive numbers** visible in their original sequence. From this filtered list, the first three rows displayed will represent the first three positive entries in your **dataset**.

While sorting and filtering are excellent for quick visual checks, they do have limitations. **Sorting** changes the original order of your **data**, which may not be desirable if the sequence carries

specific meaning. Filtering, while non-destructive, requires manual intervention and does not provide a dynamic list that updates automatically when new data is entered. For a more sophisticated and automated solution, we turn to the power of **array formulas**, which can identify and extract these values without altering the layout of the source **column**.

Setting Up Your Workspace for Positive Value Extraction

To begin the process of identifying the first three positive entries, you must first organize your **spreadsheet** to accommodate the source data and the extracted results. Imagine a scenario where you have a list of various numerical values in Column A. These values could represent daily profit fluctuations, temperature changes, or inventory levels, containing a mix of positive, negative, and zero values. The goal is to create a dynamic list in a separate area--such as Column D--that pulls only the first three instances where the value is greater than zero.

Often you may want to find the first 3 positive numbers in a column in Excel.

For example, you might have a column of values in Excel and you'd like to return the first 3 positive numbers:

	A	B	C	D	E
1	Values			First 3 Positive	
2	0			9	
3	-3			12	
4	9			15	
5	-2				
6	12				
7	-4				
8	-9				
9	15				
10	18				
11	22				
12	-3				
13	4				
14	1				
15					
16					
17					

The following example shows how to do.

Suppose we have the following list of values in Excel:

	A	B	C	D	E	F
1	Values					
2	0					
3	-3					
4	9					
5	-2					
6	12					
7	-4					
8	-9					
9	15					
10	18					
11	22					
12	-3					
13	4					
14	1					
15						
16						
17						
18						

As observed in the provided image, the dataset is varied. Notice that some values are positive, some are negative, and some are zero. To maintain clarity and facilitate the extraction **formula**, we will use a helper column. In Column C, we will list out the numbers 1 through 3. These act as an index or "rank" for the formula to reference, telling **Excel** exactly which positive number in the sequence we wish to retrieve (i.e., the 1st, 2nd, or 3rd).

	A	B	C	D	E	F
1	Values		1			
2	0		2			
3	-3		3			
4	9					
5	-2					
6	12					
7	-4					
8	-9					
9	15					
10	18					
11	22					
12	-3					
13	4					
14	1					
15						
16						
17						

Utilizing the Advanced Array Formula Method

To extract the first positive value from our list, we will utilize a sophisticated **formula** that combines several powerful **Excel** functions. This **algorithm** essentially scans the range, checks for the condition (value > 0), identifies the row positions of matching values, and then picks the smallest row numbers to return the corresponding data. This method is highly effective because it remains static even if the source **data** is re-sorted or if new entries are added to the bottom of the list.

Next, we can type the following formula into cell **D1** to find the first positive value in column A:

=INDEX(\$A\$2:\$A\$14,SMALL(IF(\$A\$2:\$A\$14>0,ROW(\$A\$2:\$A\$14)-ROW(\$A\$2)+1),C1))

This **formula** serves as the engine for our extraction task. By placing it in cell **D1**, we are instructing **Excel** to look at the entire range from **A2** to **A14**. It filters this range mentally to find values greater than zero and then uses the index provided in cell **C1** to select the very first occurrence. The beauty of this approach is its precision; it doesn't just find any positive number, but specifically the one that appears first in the vertical sequence of the **column**.

Once the initial **formula** is successfully entered, the process of finding the subsequent values is remarkably simple. We can then click and drag this formula down to cells **D2** and **D3** to find the

second and third positive values in column A, respectively. The relative cell reference to Column C (C1, C2, C3) allows the formula to update its "rank" requirement automatically, pulling the next available positive number in the list for each subsequent row.

Deconstructing the Logic of the INDEX and SMALL Functions

To truly master **Excel**, it is helpful to understand how the nested components of the extraction **formula** work together. At the core is the **IF function**, which performs the logical test: is the value in Column A greater than zero? If the answer is true, the **ROW function** triggers, generating a list of row numbers for every cell that meets the criteria. This creates a virtual array of "locations" where positive numbers reside.

The **SMALL function** then takes this array of row numbers and selects the "n-th" smallest value. For the first positive number, it picks the smallest row number; for the second, the second smallest, and so on. This ensures that the results are returned in the exact order they appear in the source **column**. Without the **SMALL function**, the system would not know which specific instance of a positive number to retrieve from the identified group.

Finally, the **INDEX function** acts as the retrieval mechanism. It takes the row number provided by the **SMALL function** and goes back to the original range in Column A to fetch the actual value stored at that position. By combining these three elements--logical testing, positional identification, and data retrieval--you create a robust **algorithm** that handles **data** dynamically and accurately, far surpassing the capabilities of manual sorting.

Visualizing the Extraction Results

After applying the **formula** across the target cells, the results become immediately apparent. The **spreadsheet** will now present a clean, concise list of the values you were searching for. This visual confirmation is crucial for verifying that the logic of your **array formula** is working as intended and that the correct cell references have been used.

	A	B	C	D	E	F	G
1	Values			1	9		
2	0			2	12		
3	-3			3	15		
4	9						
5	-2						
6	12						
7	-4						
8	-9						
9	15						
10	18						
11	22						
12	-3						
13	4						
14	1						
15							
16							
17							

As shown in the image above, Column D now displays the first 3 positive values from column A: **9**, **12**, and **15**. If you cross-reference these with the original list in Column A, you will see that these are indeed the first three numbers greater than zero, appearing in the order 9 (row 2), 12 (row 5), and 15 (row 7). The formula successfully skipped the negative numbers and the zeros to find the relevant **data** points.

This automated display is not just a static snapshot; it is a live view of your **dataset**. If you were to change a negative number in the middle of Column A to a positive one, the values in Column D would update instantly to reflect the new "first three" positive numbers. This level of automation is what makes **Excel** such a powerful tool for ongoing **data analysis** and reporting.

Expanding Results for Larger Sets of Positive Values

One of the most significant advantages of using a **formula**-based approach is its inherent scalability. While this specific tutorial focuses on finding the first three **positive numbers**, the exact same logic can be applied to find the first 5, 10, or even 100 values. Note that you can use this formula to find the first n positive values in a column, where n represents any integer of your choosing.

For example, we could easily drag our formula down to more cells to list out the first 5 positive values from column A:

	A	B	C	D	E	F
1	Values		1	9		
2	0		2	12		
3	-3		3	15		
4	9		4	18		
5	-2		5	22		
6	12					
7	-4					
8	-9					
9	15					
10	18					
11	22					
12	-3					
13	4					
14	1					
15						
16						
17						
18						

By simply extending the index in Column C to 5 and dragging the formula in Column D down to the fifth row, the **spreadsheet** expands its search. Column D now displays the first 5 positive values from column A. This demonstrates the versatility of the **INDEX** and **SMALL** combination in handling varied requirements without needing to rewrite the core **algorithm**.

Feel free to use this formula to list out the first n positive values from your own **dataset**. Whether you are tracking the first few successful sales in a ledger or the first few temperature readings above freezing in a climate study, this method provides a consistent and reliable solution for **data** retrieval.

Enhancing Productivity Through Automated Data Retrieval

Implementing automated **formulas** for tasks like finding **positive numbers** significantly enhances overall productivity. Instead of spending valuable time manually scanning and copying **data**, you can rely on the computational power of **Excel** to perform the heavy lifting. This not only saves time but also minimizes the risk of missing critical values that might be buried deep within a massive **column**.

Furthermore, these techniques form the building blocks for more complex **data analysis** workflows. Once you are comfortable extracting values based on a "greater than zero" condition, you can easily adapt the **IF function** to look for other criteria, such as values within a specific range, text strings, or dates. This adaptability makes **Excel** a versatile environment for solving a wide array of logical problems.

The following tutorials explain how to perform other common operations in Excel, helping you further refine your skills in **spreadsheet** management and **data** manipulation. By continuing to explore these functions, you will build a robust toolkit of solutions for any data challenge you may face in your professional or academic endeavors.

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