

Formulas - Tips, Tricks, and Answers

Formulas

Formulas are essential to processing data in Excel. Once you have information in your worksheet, you can use formulas to manipulate what you have entered into your cells. Learn how Excel treats formulas and calculations with the following articles to get accurate results in your worksheets.

The following articles are available for the 'Formulas' topic. Click the article's title (shown in **bold**) to see the associated article.

Activating the Formula Bar with the Keyboard

Hate to take your hands off the keyboard while working on a worksheet? Here's one way to activate the Formula Bar without the need of using the mouse.

Adding a Missing Closing Bracket

When working with large amounts of data, it is a good idea to make sure that the data all consistently follows a pattern. This makes it easier to process the data in a predictable way. This tip examines a way that you can make sure text values follow a particular desired pattern.

Adding a Statement Showing an Automatic Row Count

If you want to add a dynamic statement to a worksheet that indicates how many rows are in a data table, you might be at a loss as to which worksheet functions you should use. This tip looks at several ways you can determine the number of rows.

Adding Area Codes to Phone Numbers

If you keep phone numbers in an Excel worksheet, you may need a way to add an area code to the beginning of all of the numbers. This tip takes a look at the different ways you can do the addition.

Adding Dashes between Letters

When processing some text data, you may need to perform some esoteric function, such as adding dashes between letters. While this can be done with formulas, it is better to use a macro-based approach.

Adding Up Tops and Bottoms

When you are working with sequenced values in a list, you'll often want to take some action based on the top X or bottom Y values in the list. This tip takes a look at how you can sum just these selective values.

Adjusting Formulas for Top-Added Rows

Formulas are the heart of using Excel, and formulas often refer to ranges of cells. How you insert cells into the referenced range can affect how Excel updates your formula that uses that range. This tip provides a number of ways you can make sure that Excel updates the formulas to reflect your full range.

Adjusting Test Scores Proportionately

Teachers often grade on what is affectionately referred to as "the curve." The problem is that it can be a bit difficult to figure out how to curve the scores when it comes time to adjust them. This tip examines one grading scenario and the formulas you can use.

Alphabetic Column Designation

Want to know the letters assigned by Excel to a particular column? Excel normally deals with column numbers, but you can translate those numbers into the corresponding alphabetic column designations.

Applying Range Names to Formulas

If you define your named ranges after you create your formulas, you can have Excel update those formulas to reflect the newly defined names. This can be a powerful way to use those names in your worksheet.

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Automatically Numbering Rows

Adding row numbers to a column of your worksheet is easy; you just need to use a formula to do it. Here's a quick look at a few different formulas that will do the trick.

Breaking Up Variable-Length Part Numbers

Part numbers can often be long, made up of other component elements. Breaking up part numbers into individual components is easy if each component is a particular length. The task becomes somewhat more difficult if the components can be variable lengths. This tip presents a variety of methods of extracting variable-length component elements of a part number when those components follow a discernible pattern.

Calculating a Geometric Standard Deviation

One of the areas in which Excel provides worksheet functions is in the arena of statistical analysis. You may want to calculate some statistics for which Excel doesn't provide built-in functions. This tip discusses one such statistic: a geometric standard deviation.

Calculating an Expanding Square

When doing a systematic search for rescue purposes, it isn't unusual to implement what is termed an "expanding square." This tip discusses what this technique is, along with how to calculate the search pattern in Excel.

Calculating an IRR with Varying Interest Rates

You might wonder how you can calculate an IRR (internal rate of return) when the person repaying the loan pays different interest rates during the term of the loan. As discussed in this tip, this might not be a big concern as the IRR doesn't really take the repayment interest rate into account.

Calculating Monthly Interest Charges

Trying to calculate how much people owe you? If you charge interest or service charges on past-due accounts, there are a myriad of ways you can calculate balances. Here's a discussion on a few ways you can try.

Calculating Statistical Values on Different-Sized Subsets of Data

Discovering different ways to analyse your data can be a challenge. Here's how to work with arbitrary subsets of a large universe of data so you can get the analysis you need.

Calculating the Distance between Points

Want to figure out how far it is between two points on the globe? If you know the points by latitude and longitude, you can calculate the distance using the techniques in this tip.

Calculating the Interval between Occurrences

With a long list of items in a worksheet, you may want to determine the last time a particular item appeared in the list. There are a couple of ways you can tackle this problem, as described in this tip.

Calculating the Median Age of a Group of People

Suppose you have a worksheet that contains a list of ages and then a count of people who correspond with those ages. You may wonder how you can figure out the median age for the people in your worksheet. Here's how to do it.

Cell Address of a Maximum Value

Finding the maximum value in a range of cells is easy; finding the address of the cell containing that value is a different story. Here are several ways you can get the address you need.

Cell and Name References in COUNTIF

The second parameter of the COUNTIF function is used to specify the criteria to be used when determining what should be counted. If you want that criteria to include a cell reference, it can be confusing to make the reference work properly.

Changing the Cycling Sequence for the F4 Cell Reference Shortcut

When editing a formula, the F4 shortcut key can be helpful. It may not, however, be helpful in all instances. This tip looks at why this could be the case.

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Changing the Reference in a Named Range

Define a named range today and you may want to change the definition at some future point. It's rather easy to do, as described in this tip.

Checking for Duplicate Rows Based on a Range of Columns

When working with data in Excel, you might want to figure out which rows of data represent duplicates of other rows. If it takes analysing the values in multiple columns to determine if rows are duplicates, the task can seem daunting. There are several ways you can approach the problem and find your duplicates.

Checking for Either of Two Text Values

Using a formula to find information in a text value is easy. Using a formula to find either of two text values within a larger text value is a bit harder. This tip examines different formulas you can use to figure out how many cells in a range contain either of two text values.

Checking for Proper Entry of Array Formulas

Excel allows you to enter two different types of formulas in a cell: A regular formula or an array formula. If you need to make sure that a formula is entered into a cell as an array formula, you'll appreciate the ideas presented in this tip.

Combinations for Members in Meetings

Got a large group of people listed in a worksheet and you want to make sure that each person has met with every other person in the list? This tip explains a scenario in which you can figure out who needs to meet with whom.

Combining Cell Contents

Excel allows you to easily combine text together. Interestingly, it provides two ways you can perform such combinations. Both methods are discussed in this tip.

Combining Numbers and Text in a Cell

There are times when it can be beneficial to combine both numbers and text in the same cell. This can be easily done using a formula, as described in this tip.

Compiling a List of Students in a Course

Need to pull just a limited amount of information from a large list? Here are a few approaches you might be able to use with your data.

Concatenating Values from a Variable Number of Cells

Excel makes it easy to concatenate (or combine) different values into a single cell. If you need to combine a different number of cells into a single cell, then the proposition becomes more complex. Here are several ways to approach the problem.

Condensing Sequential Values to a Single Row

If you have a bunch of ZIP Codes or part numbers in a list, you may want to "condense" the list so that sequential series of numbers are shown as a range. There are a number of ways this can be accomplished.

Converting from Relative to Absolute

Addresses used in a formula can be either relative or absolute. If you need to switch between the two types of addressing, here's a convenient way to do it.

Counting Alphabetic Characters in a String

Need to find out how many times a certain letter appears in a text string? It's easy to do if you rely on the SUBSTITUTE function to do the heavy lifting.

Counting Asterisks

For some operations and functions, Excel allows you to use wild card characters. One such character is an asterisk. What if you need to count the number of asterisks in a range of cells, however?

Counting Asterisks in a Column

Excel can be used as a simple database program. If you use asterisks in a column of your database

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to designate ranking of each row, then you may need a way to count how many "asterisk rankings" of each type you've used. Here are several different formulas to get the results you want.

Counting Cells According to Case

Text placed in cells can either be lowercase, uppercase, or a mixture of the two. If you want to count the cells based upon the case of the text within those cells, you'll need to resort to one of the techniques in this tip.

Counting Cells Containing a Formula

Cells in a worksheet can contain different types of information, such as numbers, text, and formulas. If you want to determine the number of cells in a range that contain the latter type of information (formulas), then this tip provides several techniques you can use.

Counting Cells with Specific Characters

Excel is used by many people to hold all sorts of data, not just numbers. If you have cells that include meaningful leading characters, you may want to count the cells that contain a specific character. Here's how to do it.

Counting Consecutive Negative Numbers

If you have a range of values that can be either positive or negative, you might wonder how to determine the largest consecutive sequence of negative numbers in the range. This can be done in a couple of ways, as described in this tip.

Counting Employees in Classes

Excel is very good at counting things, even when those things need to meet specific criteria. This tip shows how you can do a comparison to individual values to make a decision as to whether they should be included in your count or not.

Counting Groupings Below a Threshold

When analysing data, you may need to distil groupings from that data. This tip examines how you can use formulas and macros to determine the number of groupings in a larger set of raw numbers.

Counting Jobs Completed On a Date

When you store the date and time in a single cell, it can be a bit confusing to count how many cells contain a particular date. This tip examines a scenario where such counting is required and provides several ways you can get the desired count.

Counting Names Based on Two Criteria

Need to figure out how many rows in a worksheet meet two criteria that you specify? Here's how to get the info you desire.

Counting Non-Blank Cells

Need to count the number of cells in a range that are not blank? You can use the COUNTA function of a more complex formula to get the result.

Counting Odds and Evens

If you have a series of values in a range of cells, you may wonder how many of those values are even and how many are odd. There are a couple of ways you can find the desired counts in Excel.

Counting Only Money Winners

If a series of cells contain the amount of money won by individuals; you may want to count the number of individuals who actually won money. Here are a couple of easy formulas to derive the desired result.

Counting Precedents and Dependents

Do you need to know how many precedents or dependents there are on a worksheet. You could count them manually, or you could let a short macro derive the information for you.

Counting Records Matching Multiple Criteria

Excel provides worksheet functions that make it easy to count things. What if you want to count

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records that match more than one criterion, though? Here are six easy ways you can count those records.

Counting String Occurrences in Odd Rows

Counting the number of times text occurs within a range of cells can be relatively easy. If you need to only count occurrences in the odd rows in a range, though, things can get a bit trickier.

Counting Unique Values

Need to know a count of unique values in a range of cells? There are a couple of ways you can tackle the problem.

Counting Unique Values with Functions

Using Excel to maintain lists of information is not unusual. When working with the list you may need to determine how many unique values it contains. This tip shows you how.

Counting Wins and Losses

Need to count the number of W (win) or L (loss) characters in a range of cells? You can develop a number of formulaic approaches to getting the value you need.

Creating an Amortization Schedule

An amortization schedule is a report that shows how the outstanding balance on a loan changes with payments made over time. Usually they are created for property mortgages, but could be done for any type of loan. Here are some ideas on how you can make your own amortization schedules.

Criteria-Based Counting in a Filtered Column

The filtering capabilities of Excel are excellent, providing you with great control over which records in a worksheet are displayed. If you want to perform criteria-based calculations on the records that are displayed, however, you can easily find yourself stymied. This tip focuses on how to do the counting you need based on only filtered data.

Dealing with Circular References

Circular references occur when a formula includes a reference to the cell in which the formula appears. Here's how you can recognize circular references and track them down.

Dealing with Long Formulas

If your worksheet formulas seem to go on forever, here's a handy way to make them more understandable. (All you need to do is judiciously use Alt+Enter when you enter the formula.)

Deleting Duplicate Text Values

Got a list of data from which you want to delete duplicates? There are a couple of techniques you can use to get rid of the unwanted data, as described in this tip.

Deriving a Secant and Cosecant

Two rather common trigonometric functions are secants and cosecants. Excel doesn't provide functions to calculate these, but you can use a formula to derive them, as described here.

Deriving Antilogs

Creating math formulas is a particular strong point of Excel. Not all the functions that you may need are built directly into the program, however. Here's how you can use the existing functions of Excel to derive antilogs, which do not have functions built into the program.

Deriving High and Low Non-Zero Values

When analysing your numeric data, you may need to figure out the largest and smallest numbers in a set of values. If you don't want the smallest value to be a zero, then your analysis task becomes just a bit harder.

Deriving Monthly Median Values

When processing huge amounts of data, it can be a challenge to figure out how to derive the aggregate values you need. This tip examines how you can derive median values, month by month, from a huge amount of data.

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Determining "Highest Since" or "Lowest Since"

When compiling statistics on a collection of data points, you may want to know whether a particular value is the "highest since" or "lowest since" when compared to the preceding data in the collection. You can figure out this information with either a formula or a macro.

Determining a Name for a Week Number

You could use Excel to collect data that is useful in your business. For instance, you might use it to collect information showing which people have reserved various weeks of your facilities. This tip explains a few ways you can find the names associated with a range of reservation weeks.

Determining a State from an Area Code

Want to be able to take information that is in one cell and match it to data that is contained in a table within a worksheet? Excel's VLOOKUP function makes this a snap.

Determining Combinations to Make a Total

If you have a range of cells that contain values, you may wonder which combinations of those cells should be used to meet a specific target total. This can be an interesting challenge, as described in this tip.

Determining If a Value is Out of Limits

Need to figure out if a value is outside of some arbitrary limit related to a different value? There are a number of ways you can make the determination.

Determining Winners, by Category

Do you need to determine the top three values in a range of columns? The techniques discussed in this tip will come in useful.

Developing Reciprocal Conversion Formulas

When converting between measurement systems, you might want to use two cells for each type of measurement. Make a change in one cell and the result appears in the other, and vice-versa. This is, unfortunately, easier said than done.

Entering Formulas in Excel

The primary way you signify that you are entering a formula is to start a cell entry with an equal sign. The equal sign is not the only way you can start a formula, as you discover in this tip.

Evaluating Formulas

Need a bit of help in figuring out how Excel is evaluating a particular formula? It's easy to figure out if you use the Evaluate Formula tool.

Exact Formula Copies

When you copy a formula from one cell to another, Excel normally adjusts the cell references within the formula so they are relative to where the formula is copied. This tip shows a variation on copying that allows you to avoid the formula adjustments.

Extracting a Pattern from within Text

If you have a large amount of data in a worksheet and you want to extract information from the text that meets certain criteria, you have several options you can follow. This tip examines different ways you can extract the desired information.

Extracting a State and a ZIP Code

Excel is often used to process or edit data in some way. For example, you may have a bunch of addresses from which you need to extract information, such as a state and ZIP Code. This tip examines one such scenario and how you can get the information you need.

Extracting File Names from a Path

If you have a full path designation for the location of a file on your hard drive, you may want a way for Excel to pull just the file's name from that path. There are a number of ways you can accomplish this task, using both formulas and macros.

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Extracting First and Last Words

When working with text phrases stored in cells, it might be helpful to be able to extract words from the phrase. In this tip you discover easy ways to access both the first and last words of such a phrase.

Extracting Street Numbers from an Address

Want to know how to move pieces of information contained in one cell into individual cells? This option exists if using formulas.

Figuring Out the Low-Score Winner

Need to figure out the lowest score in a range of scores? Here are the formulas to get the information you need.

Filling Cells with Decreasing Cell References

AutoFill is a great feature. It can detect patterns and adjust cell contents as you drag a selection on-screen. It doesn't work in all instances, however, such as when you want the values in formulas to actually decrease. Here's why, along with what you can do about it.

Filling References to Another Workbook

When you create references to cells in other workbooks, Excel, by default, makes the references absolute. This makes it difficult to automatically fill a range of cells with relative references based on the created reference. This tip explains how you can get around this default Excel behaviour.

Finding Circular References

If you have circular references in a workbook, you may see an error message appear when you first open that workbook. If you want to track down those offending circular references, Excel provides two different techniques you can use.

Finding Odd Values Greater Than 50

If you have a special need to find cell values that meet two different criteria, where to start can be daunting. This tip can help provide a starting point.

Finding the Address of the Lowest Value in a Range

Uncovering the lowest value in a range is relatively easy; you can just use the MIN worksheet function. Discovering the address of the cell containing that value is a different story. This tip examines a couple of macro-based solutions as well as a worksheet formula that can return the desired information.

Finding the Directory Name

Need to know the directory (folder) in which a workbook was saved? You can create a formula that will return this information within any cell of a worksheet.

Finding the First Non-Digit in a Text Value

If you have a string of text that is composed of digits and non-digits, you may want to know where the digits stop and the non-digits begin. There are a couple of ways you can determine this demarcation line, as described in this tip.

Finding the Nth Occurrence of a Character

The FIND and SEARCH functions are great for finding the initial occurrence of a character in a text string, but what if you want to find an occurrence other than the first? This tip presents a couple of ways that you can find exactly the occurrence you need.

Finding the Smallest Even Value

When processing data in a worksheet, you may have a need to know what the smallest (lowest) even value in a range is. You may be able to figure it out simply by looking at the values or by sorting them, but this gets harder as the list of values gets larger or if you can't sort them for some reason. You can create either a formula or a macro to determine the value you seek.

Finding the Sum of a Sequential Integer Range

In mathematics, the sum of a range of sequential integers, starting with 1, is known as a triangular number or Gaussian Summation. Here's a simple formula you can use to determine this sum.

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Formatting Canadian Postal Codes

Postal codes in Canada consist of six characters, separated into two groups. This tip explains the format and then shows how you can use a formula to implement the format.

Formula Shows Instead of Formula Result

When you enter a formula in a cell, you expect Excel to display the result of that formula once you are completed. If this doesn't happen, there are a few things you can check to get the result you want.

Formulas Don't Calculate as Formulas

Enter a formula (starting with an equal sign) and you may be surprised if Excel doesn't calculate the formula. Here's a good candidate for why that may happen and what you can do about it.

Functions that Can Access Closed Workbooks

When creating a workbook, you can include formulas that reference data stored in other workbooks. Some functions will even allow you to reference data in another workbook that may be closed. This tip looks at which functions can access that other data, and which cannot.

Generating Double-Digit Random Numbers

Normally you use the RAND and RANDBETWEEN functions to generate random numbers. What if you want to generate random numbers within a certain range but exclude some numbers in that range? Here are some ideas on how to get what you want.

Generating Random Strings of Characters

If you need to generate a random sequence of characters, of a fixed length, then you'll appreciate the discussion in this tip. You'll discover both macro and non-macro ways to accomplish your goal.

Getting a Conditional Count of Cells Containing Values

Excel provides several worksheet functions that can be used to count cells containing values—particularly numeric values. Things get a bit trickier when you want to use those functions to count cells based on what is in a different set of cells.

Grabbing the Second-to-Last Value in a Column

Need to get at the next-to-last value in a column, regardless of how many cells are used within that column? This tip provides many different ways to accomplish the task, based on the characteristics of the data in the column.

Hiding Rows Based on Two Values

It's easy to use filtering to hide rows based on the value in a cell, but how do you hide rows based on the values in two cells? Here are a couple of ideas on how you can pare down your data.

How Operators are Evaluated

Operators are used in formulas to instruct Excel what to do to arrive at a result. Not all operators are evaluated in the same way, however.

Identifying Digit-Only Part Numbers Excluding Special Characters

When working with data in Excel, you often need to determine if that data meets criteria that you specify. This tip examines one scenario where you may need to determine if a cell contains only digits and a few permissible characters.

Identifying Missing Numbers in a Consecutive Series

If you have a series of consecutive numbers in a column, you may want to know if it really is consecutive. (In other words, if it is missing numbers or contains duplicates.) This tip provides a variety of ways you can quickly identify any deficiency in the series.

Identifying Values that Don't Follow a Specific Pattern

When you store textual information in a worksheet, it can be helpful to figure out if that information follows a pattern that is necessary for your needs. This tip looks at how you can validate whether a part number follows a specific pattern or not.

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Ignoring Case in a Comparison

Do you want Excel to take the case of your text into account when it does comparisons in a formula? The IF statement ignores case, but here's a technique to get it to pay attention.

Ignoring N/A Values in a Sum

You can use some of Excel's worksheet functions across a range or worksheets, but not all of them. One that has problems with multi-sheet use is SUMIF, as discussed in this tip. There are ways to overcome the problems this can cause, but they involve rethinking some of your formulas.

Incrementing Numeric Portions of Serial Numbers

If you use serial numbers that include both letters and numbers, you might wonder how you can increment the numeric portion to generate a list of those serial numbers. There are a couple of ways you can accomplish this task, as described in this tip.

Incrementing References by Multiples when Copying Formulas

You can easily set up a formula to perform some calculation on a range of cells. When you copy that formula, the copied version may not reflect the update to the cell range in the way you need. Here's how to put together a formula that will increment properly when copied.

Indirectly Referencing a Cell on a Different Worksheet

Excel includes the powerful INDIRECT function which can be used to assemble references to other cells in your workbook. Getting the function to work as you expect can be a bit tricky, though. Here are some usages and some things to look out for.

Inserting Dashes between Letters and Numbers

If you need to add dashes between letters and numbers in a string, the work can quickly get tedious. This tip examines some ways you can make the work faster and easier.

Last Non-Zero Value in a Row

If you have a lot of values in a single row, you might want to pull the last non-zero value from that row. There are a variety of ways you can accomplish this task, as illustrated in this tip.

Limiting a Calculated Value to a Range

If you want to limit what is returned by a formula to something between lower and upper boundaries, the solution is to make your formula just a bit more complex. This tip looks at two ways you can modify your formula to impose the resulting range you want.

Listing Combinations

You can easily use the COMBIN worksheet function to determine the number of combinations that can be made from a given number of digits. However, you might want a way to enumerate all those combinations. This can be easily done using the macros presented in this tip.

Locating a Single-Occurrence Value in a Column

Given a range of cells containing values, you may have a need to find the first value in the range that is unique. This tip looks at a variety of ways you can find the desired information.

Looking Backward through a Data Table

Sometimes you need to look backward, through the information above your formula, to find the data you need. This can be done with a variety of formulaic techniques, as described in this tip.

Making Your Formulas Check for Errors

Want to use a formula to check if there is an error in your formula? (Sounds confusing, but it's not that bad.) You'll love the IFERROR function, described in this tip.

Moving the House Number to Its Own Cell

Excel is great at manipulating data, but sometimes it is difficult to figure out the best way to do the manipulation. This tip examines how to separate the first portion of an address (the house number) from the original address.

Non-adjusting References in Formulas

Sometimes making sure that a reference in a formula doesn't get changed is not as simple as putting

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dollar signs in front of the reference's row or column. Here are several ideas on how you can make sure that the references really do stay unchanged.

Number of Terms in a Formula

Formulas are made up of operands that separate a series of terms acted upon by the operands. You may want to know, for some strange reason, the number of terms in a particular formula. This tip presents a user-defined function that will help you figure out the result you need.

Numbers in Base 12

Different professions use numbers in entirely unique ways. You may need to come up with a number that represents the number of 12-unit groupings. This tip examines a way this can be done.

Only Showing the Maximum of Multiple Iterations

When you recalculate a worksheet, you can determine the maximum of a range of values. Over time, as those values change, you may want to keep track of the largest value that has ever been in that range. Maintaining this maximum value can be a bit tricky, but it is possible.

Outlining Cells Referenced in a Formula

When you are editing a formula, Excel helpfully outlines the cells referenced in the formula. If you want this capability outside of Edit mode, you are going to be out of luck. There are, however, some other ways you can easily highlight the cells referenced in a formula.

Patterns of Numbers with a Formula

Want to create a sequential pattern using formulas? It's easy to do if you take a look at how your data repeats. This tip examines how to repeat your pattern for as many cells as you need.

Picking Different Random Numbers from a Range

It is not unusual to need to select two random items from a list. There are a couple of ways you can approach the task; the techniques discussed in this tip make the job quite easy.

Pulling a Phone Number with a Known First and Last Name

When using an Excel worksheet to store data (such as names and phone numbers), you may need a way to easily look up a phone number associated with a name. If the name is stored in two columns, it can be confusing to get to the phone number associated with those names. Here are a variety of ways you can get what you need.

Pulling Formulas from a Worksheet

The formulas in your worksheet can be displayed (instead of formula results) by a simple configuration change. You can then easily make a copy of those formulas for documentation or analysis by applying the ideas in this tip.

Pulling Initial Letters from a String

When working with names or a different series of words, you may need to pull the initial letters from each word in the string. There are a variety of ways you can approach this task, as discussed in this tip.

Quickly Adding Formulas Referencing Multiple Worksheets

When you need to pull information from a lot of different worksheets into a single worksheet, it can be baffling to figure out how to do it easily. This tip covers two ways you can approach the problem and get the information you need.

Randomly Assigning Names to Items

If you need to randomly match up items in two lists, there are a variety of techniques you can use. Here are a couple of good approaches.

Referencing the Last Six Items in a Formula

If you have a list of data in a column, you may want to determine an average of whatever the last few items are in the column. This tip examines a couple of formulas you can use to calculate the average of the last six items in a data column, even if the number of items changes over time.

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Referring to the Last Cell

It is not unusual to use worksheets to collect information over time. As you keep adding information to the worksheet, you may need a reliable way to refer, in your formulas, to information in the last row of the worksheet. Here are some ways you can approach the need.

Relative References to Cells in Other Workbooks

When you construct a formula and click on a cell in a different workbook, an absolute reference to that cell is placed in the formula. There is no way to tell Excel you want the references to be relative, but there are some things you can try to change the references.

Relative References within Named Ranges

Excel is usually more flexible in what you can reference in formulas than is immediately apparent. This tip examines some different ways that you can reference cells relative to a named reference.

Removing Dashes from ISBN Numbers

ISBN numbers are used to denote a unique identifier for a published book. If you remove the dashes included in an ISBN, you might end up with something Excel assumes is a numeric value. To stop Excel parsing the dashless ISBNs as numbers, apply the techniques in this tip.

Reordering Last Name and First Name

If you've got a list of names in a column, you may want to change the order of each name. For instance, the name has the last name first, and you want to reorder the names so that they are in proper order. Here's how to do it.

Replacing Dashes with Periods

Replacing one character in a text value with another character is easy. All you need to do is use the SUBSTITUTE function, as illustrated in this tip.

Retrieving the Last Value in a Column

Need to get at the last value in a column, regardless of how many cells are used within that column? You can apply the techniques in this tip to get just the information you need.

Returning a Weight and a Date

If you have two columns containing dates and weights from those dates, you may want to pick a date associated with a given weight. It's easy to do using just a few Excel worksheet functions.

Returning Least-Significant Digits

Do you ever have a need to return just a few digits out of a number? This tip shows different formulas you can use to return the three right-most digits in a four-digit number.

Returning the Minimum of Integers of a Range

If you have a range of numbers that contain both integers and decimal numbers, you may have a need to determine the minimum of just the integer values. This tip focuses on three different approaches, none of which require the use of macros.

Returning the Smallest Non-Zero Value

In a series of values you may need to know the smallest value that isn't a zero. There is no built-in function to do this, but you can determine it with a couple of different array formulas.

Returning Zero When a Referenced Cell is Blank

Reference a cell in a macro, and if that cell is blank Excel normally equates that to a zero value. What if you don't want Excel to make that assumption? Here's ways you can make sure that Excel doesn't miss the distinction.

Reversing Integer Values

Do you need to reverse a series of integer values, such as 5 becomes 1, 4 becomes 2, etc.? There are several ways you can approach this task, each showing the flexibility of working with Excel.

Saving Common Formulas

Got some formulas you slaved over and want to use in lots of workbooks? This tip presents some helpful ideas on how you can save those formulas for easy recall later.

Formulas - Tips, Tricks, and Answers

Searching for a Value Using a Function

Searching for a value using Excel's Find tool is easy; searching for that same value using a formula or a macro is more elusive. This tip discusses ways you can find the address of a cell containing a desired value.

Segregating Numbers According to Their Sign

Remember your number line from your early years in school? Some numbers can be below zero (negative numbers) and others above (positive numbers). If you want to separate numbers based on their sign, there are a few ways you can approach the task.

Selective Summing

If you want to add up the contents of a range of cells based on what is contained in a different range of cells, you need the SUMIF function. Here's how you can do your own selective summing by using this handy worksheet function.

Separating Names into Individual Columns

If you have a list of names in a column, and you want to separate those names into individual cells, there are several approaches you can take. This tip discusses how you can pull out various parts of the names in your list.

Shortcut for Viewing Formulas

If you need to switch between viewing formulas and viewing the results of those formulas, you'll love the keyboard shortcut introduced in this tip. It's much easier to use than the normal menu method of toggling the display.

Shortening ZIP Codes

US ZIP Codes can be of two varieties: five-digits or nine-digits. Here's how to convert longer ZIP Codes to the shorter variety.

Simulating Alt+Enter in a Formula

You can use the Alt+Enter keyboard shortcut while entering information in order to force your data onto multiple lines in a single cell. Here's how you can simulate that shortcut when concatenating cell values.

Solving a Quadratic Equation

One of the staples of high school algebra classes is the quadratic equation. If you need to solve such equations in Excel, you'll appreciate the information in this tip.

Splitting Cells by Case

Excel provides several different ways that you can split apart the contents of a cell. One way it doesn't provide is to split cells based upon the case of the text within the cell. This tip presents several formulaic and programmatic approaches to pulling apart text strings based on character case.

Starting Out Formulas

When you enter a formula from the keyboard, Excel only knows it is a formula if you start it with an equal sign. You can also use the plus sign if you find using the equal sign bothersome.

Stopping a Formula from Updating References

Insert or delete a column and Excel automatically updates references within formulas that are affected by the change. If you don't want to have a reference updated by the change, then you can apply the techniques described in this tip.

Strange Formula Conversions

When you are getting the hang of how to put together formulas in Excel, you might run into a situation where you open a workbook and the formulas all look very strange. This tip looks at the cause of that situation and what you can do about it.

Strange Value Results in a Cell

When Excel performs a calculation, the results you see in an unformatted cell may cause a bit of concern. This tip explains why you may see the concerning results and what you can do about them.

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Summing Absolute Values

You can easily sum a series of values in Excel, but it is not so easy to sum the absolute values of each value in a range. Here is a full discussion of the various ways you can get the desired sum.

Summing Based on Formatting in Adjacent Cells

It is easy to use Excel functions to sum values based on criteria you establish, unless those criteria involve the formatting applied to cells in adjacent columns. In that case, you need to resort to macros, such as the ones provided in this tip.

Summing Based on Part of a Control Cell

When analysing data, you may have a need to calculate a sum based on just part of a particular cell. This tip examines three ways you can approach such a task.

Summing Based on Part of the Information in a Cell

Excel provides a variety of tools that allow you to perform operations on your data based upon the characteristics of that data. Here are some ways you can use those tools to calculate a sum based upon just a portion of a cell associated with the values you are summing.

Summing Digits in a Value

Want to add up all the digits in a given value? It's a bit trickier than it may at first seem.

Summing Every Fourth Cell in a Row

Need to sum a series of cells that fits some regular pattern? Here are several ways that you can get the summation that you need.

Summing Only Cells Containing Formulas

If you want to figure out the sum of all cells that contain formulas, there are a couple of ways you can go about it. This tip looks at several approaches to getting the sum you need.

Summing Only Positive Values

If you have a series of values and you want to get a total of just the values that meet a specific criteria, and then you need to become acquainted with the SUMIF function. This tip shows how it can be used to sum just the positive values in a list.

Summing Only the Largest Portion of a Range

Given a range of cells, you may at some time want to calculate the sum of only the largest values in that range. Here is an examination of various ways you can get the sum you need.

Summing When the First Character Matches a Value

Summing data is a common need in Excel. Summing lots of data based on a condition that needs to be met can be a bit more challenging, but it can be done. Here's one specific example.

Throwing Out the Lowest Score

Want to add up a bunch of scores, without including the lowest one in the bunch? You can make a small change to your formula to get the desired result.

Totalling Across Worksheets

Want to sum the values in the same cell on a range of worksheets? It's not as easy as summing a range on the same worksheet, but it can be done. Here's how.

Tracing Errors

Sometimes it can be confusing to figure out the source of an error that is displayed in your worksheet. Excel provides a quick tool that can help you get closer to the error's source.

Tracking Down Invalid References

When you discover that there is an invalid reference in a workbook, you can have a bear of a time tracking down the problem. Here are some ideas on places you can look and some techniques you can use to track down the errant reference.

Transposing and Linking

Sometimes it is helpful to look at data that is rotated 90 degrees. Excel allows you to use Paste

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Special to transpose data, but this tip looks at how your transposed data can be dynamically linked to the original data.

Understanding Operators

At the heart of working with Excel is the process of creating formulas that calculate results based on information within a worksheet. These formulas rely upon operators to do their work. Excel provides a number of different operators you can use, as outlined in this tip.

Understanding Scope for Named Ranges

When you add a named range to a worksheet, you can specify if you want that named range to apply to the workbook or only to the current worksheet. This tip looks at the meaning of this setting.

Using a Formula to Replace Spaces with Dashes

If you need a formula to change spaces to some other character, the SUBSTITUTE function fits the bill. Here's how to use it.

Using a Numeric Portion of a Cell in a Formula

If you have a mixture of numbers and letters in a cell, you may be looking for a way to access and use the numeric portion of the value. You can do it in a couple of different ways, as described in this tip.

Using Named Formulas Across Workbooks

You can use the naming capabilities of Excel to name both ranges and formulas. Accessing that named information in a workbook external to your current workbook can be a challenge. Here's how to approach the problem.

Where Is that Text?

Looking for a formula that can return the address of a cell containing a text string? Look no further; the solution is in this tip.

Working with Imperial Linear Distances

Excel works with decimal values very easily. It is more difficult for the program to work with non-decimal values, such as those used for linear distances (miles, feet, etc.). Here's a way you can approach the task of working with such values.