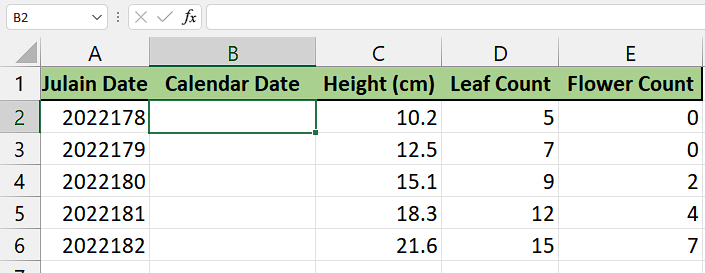
How to convert Julian date into Calendar date in Excel

The Julian date, also known as the Julian day number, is a system of counting days that is widely used in astronomy, geology, and other scientific disciplines. It was introduced by Julius Caesar in 45 BCE as part of the Julian calendar reform. Each day is assigned a unique number, with consecutive integers representing successive days. The Julian date does not take into account leap years or months, and it is a simple and uniform method for calculating the number of days between two dates. In Julian consists of 7-digit number in which first 4 digits are years and last 3 digits are the number of days passed in that year.

Let's consider a scenario where you are tracking the growth of a plant in a greenhouse and recording the various measurements of the plant's height, leaf count, and flower count over a period of time using Julian dates. In this tutorial we will learn how to convert Julian dates into Calendar dates.



Following are some simple methods by which we can convert Julian Dates to Calendar dates:

## Method 1 – By using DATE, LEFT and RIGHT Functions

## Understanding the Functions:

* **DATE Function:**

The DATE function in Excel is used to create a date by specifying the year, month, and day values. It returns a serial number that represents the date in Excel's date format.

* The syntax for the DATE function is as follows:

**=DATE(year, month, day)**

* **The "year" argument** is **a four-digit** value or a cell reference that **contains the year.**
* **The "month" argument** is a **numeric value** or a cell reference that **contains the month** (1 for January, 2 for February, and so on).
* **The "day" argument** is **a numeric value** or a cell reference that **contains the day of the month.**
* **LEFT Function:**
* The LEFT function in Excel enables you to extract characters from the leftmost side of a text string.
* The syntax for the LEFT function is:

**=LEFT(text, num\_chars)**

* The **"text" parameter** refers to the **text string** you want to **extract characters from.**
* The "**num\_chars" parameter** indicates the **number of characters** you want to **obtain from the left side** of the text string.
* **RIGHT Function:**

## In Excel, the RIGHT function enables you to extract a designated number of characters from the right side of a text string.

## The syntax for the RIGHT function is as follows:

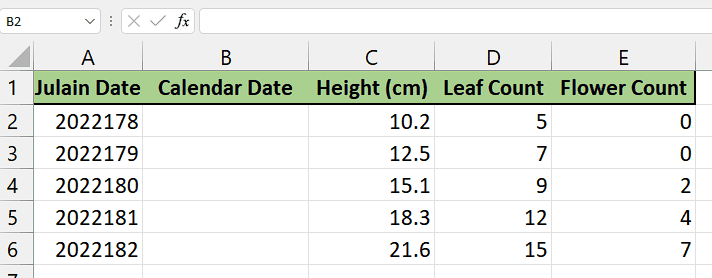
## **=RIGHT(text, num\_chars)**

## **The "text" parameter** represents the **text string** you wish **to extract characters from.**

## **The "num\_chars" parameter** indicates the **number of characters** you want to retrieve **from the right side** of the text.

## Step 1 – Selection of the Cell

* **Select any vacant cell** in which you want to convert the **Julian date to Calendar date.** For example, we have selected **cell B2.**
* In this cell, we will apply **DATE, LEFT and RIGHT Functions.**

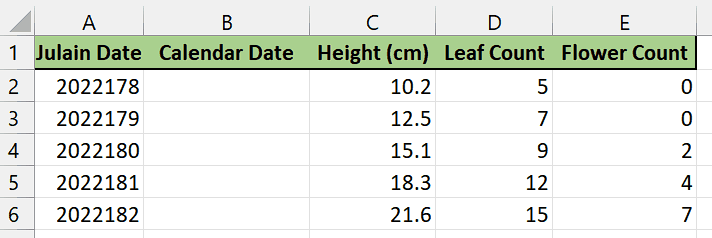


## Step 2 – Writing and implementing the formula

* After selecting the cell, **press = button** on your keyboard.
* Then, type DATE and select the **DATE** **Function** from the list by **pressing tab button.**
* Now, write LEFT and select the **LEFT Function** by same button as mentioned above.
* Once you’ve done that, **select the cell** in which **Julian date is present** which is **cell** **A2** in our case.
* After that, **press comma (,)** and **write** **“4”** (without quotes) which will **extract 4 digits from the left** which is **actually year.**
* Add a closing parenthesis and again write **comma (,)** and you’ll move to the **next parameter which is month.**
* Simply **write** **“1”** (without quotes) in this parameter.
* Now press **comma button (,)** again and type RIGHT and select **RIGHT Function** from the list by **tab button.**
* Once again, **select the cell** in which **Julian Date** is present. For example, it is **cell** **A2** in our case.
* After typing a comma (,) **input the number "3"** (without quotes) to **obtain** **the** **three characters located at the end** from **Julian Date.**
* Then, **add closing parenthesis 2 times**.
* Your formula would look like this after following the above steps:

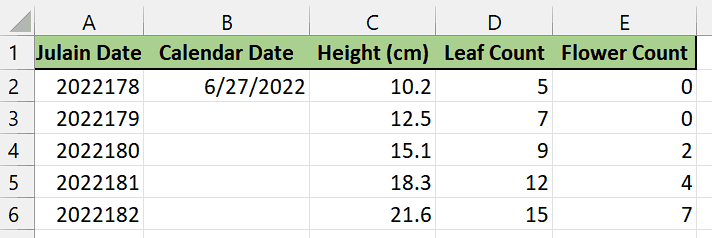
**=DATE(LEFT(A2,4),1,RIGHT(A2,3))**

* Then **press Enter** and the **Julian date** would be **converted into** the **Calendar date.**



## Step 3 – Implementing the formula to whole range

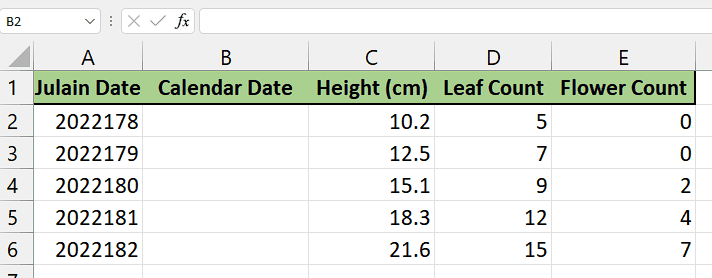
* To apply the formula across a range of cells, begin by **selecting the cell** containing the **desired result,** such as **cell B2**.
* Next, navigate to the **bottom right corner of the cell** until your **cursor transforms** into a **plus (+) shape**, known as the **fill handle.**
* **Double-Click** on this **fill handle** and the formula would be applied to the whole range.



## Method 2 – By using VBA code

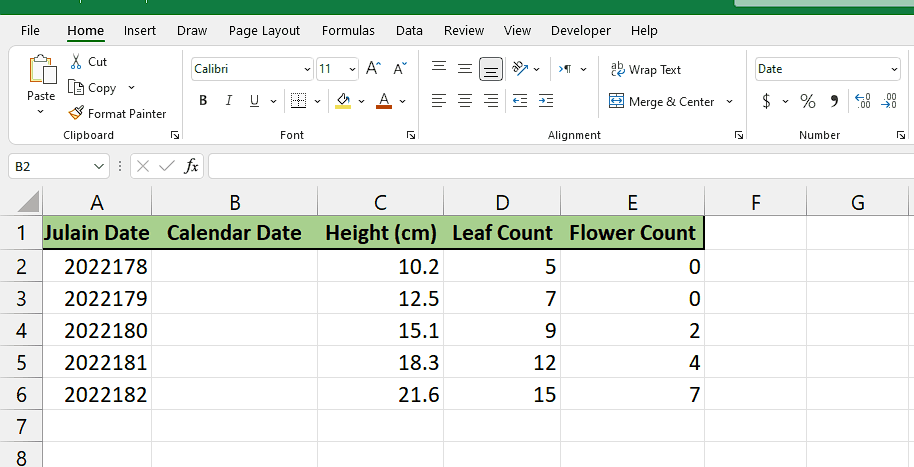
## Step 1 – Selecting the cell

* **Choose an empty cell** where you wish to **convert** **the Julian date to the Calendar date.** For example, we have selected the **cell B2.**
* In this cell, we will **apply the function** created by us using **VBA code.**



## Step 2 – Adding a module

* For adding a module, navigate to **Developer tab.**
* After that, click on the **first option** named as **Visual basic.**
* You’ll see a **new window on your screen** and you can **also** **open this window** by using **shortcut key** (**Alt+F11**) as well.
* Then, click on the **Insert tab** in this window and click on the **Module option.**
* Now, a **new module would open.**



## Step 3 – Writing the code

* After you’ve opened the module, copy and paste the following code:

Function Conv\_JLD\_CD(JLD As String) As Date

Dim YearP As String ' Variable to store the year portion of JLD

Dim DayP As String ' Variable to store the day portion of JLD

Dim Cal\_Dt As Date ' Variable to store the converted date

YearP = Left(JLD, 4) ' Extract the leftmost 4 characters as the year part

DayP = Right(JLD, 3) ' Extract the rightmost 3 characters as the day part

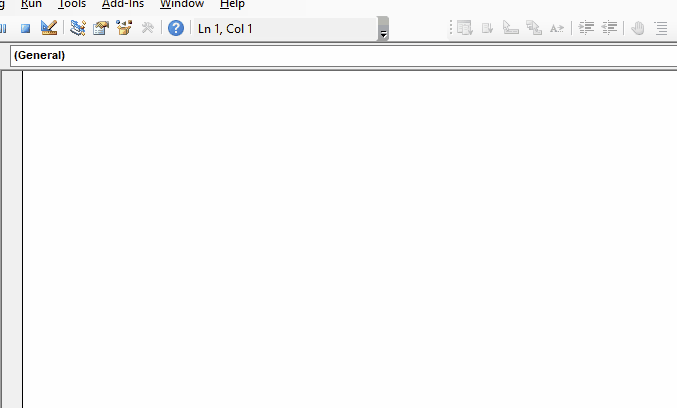
' Generate the converted date using the YearP and DayP variables

Cal\_Dt = DateSerial(CInt(YearP), 1, CInt(DayP))

' Return the converted date

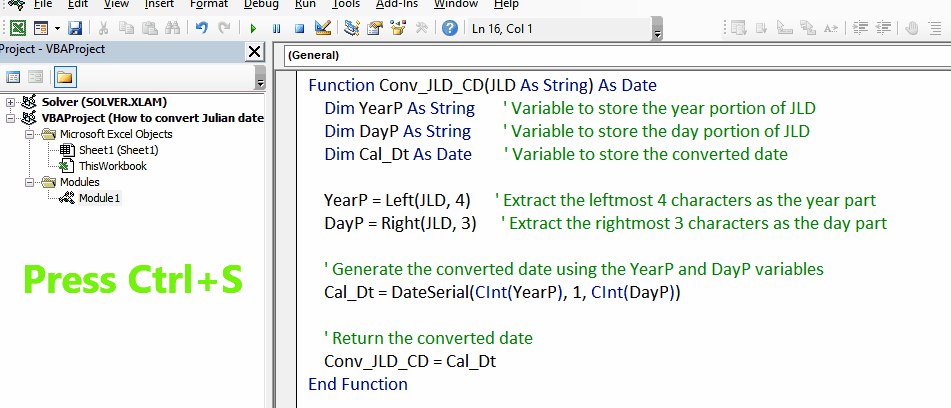
Conv\_JLD\_CD = Cal\_Dt

End Function



## Step 4 – Using the created Function

* After writing the code, press **(Ctrl+S)** to save it.
* Then, close the window and **select the cell** in which you want to convert the **Julian Date into Calendar Date** whichis **cell B2** in our case.
* Then **press = button** on your keyboard.
* After doing that, **type Conv\_JLD\_CD** and select the **Conv\_JLD\_CD Function** by pressing **tab button.**
* Now, **select the cell** in which **Julian Date is present.** For example, **cell** **A2** in the given case.
* Once you’ve followed all the aforementioned steps, **press Enter** and you’ll get the **result in Calendar Date.**



## Step 5 – Implementing the formula to whole range

* To apply the formula across a range of cells, begin by **selecting the cell** containing the **desired result,** such as **cell B2**.
* Next, navigate to the **bottom right corner of the cell** until your **cursor transforms** into a **plus (+) shape**, known as the **fill handle.**
* **Double-Click** on this **fill handle** and the formula would be applied to the whole range.

