EXCEL-VBA-TIPS

Custom VBA macro to find the Max or Min of a dataset
EXCEL has functions to find the maximum or minimum value in a range of data. To understand how these functions work, this tip presents a code to find the maximum or minimum value in a column of data. The companion spreadsheet shows an example dataset and the macros used to make the calculations. The VBA coding shown below contains a macro to find the maximum value, a macro to find the minimum value, a macro to find both the maximum and minimum values, and a macro that finds the maximum of only the values in the dataset that satisfy a specified condition:

```
Sub MaxValue()
' This sub finds the maximum value in the range A1:A4
'
' Make sure this sub runs on the Data page
Sheets("Data").Select
' Initialize variables
' Set the initial candidate for the max to the first
' cell in the dataset
max_val = Cells(1, 1).Value
' Loop over all the values and test them
For ctr = 1 To 4
x = Cells(ctr, 1).Value
' Update the maximum value
If x > max_val Then
max_val = x
End If
Next
' Output the maximum value found
Range("C5").Value = max_val
End Sub

Sub MinValue()
' This sub finds the minimum value in the range A1:A4
'
' Make sure this sub runs on the Data page
Sheets("Data").Select
' Initialize variables
' Set the initial candidate for the min to the first
' cell in the dataset
min_val = Cells(1, 1).Value
' Loop over all the values and test them
For ctr = 1 To 4
x = Cells(ctr, 1).Value
' Update the minimum value
If x < min_val Then
min_val = x
```

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End If
Next
' Output the minimum value found
Range("C6").Value = min_val
End Sub

Sub MaxMinValue()
' This sub finds both the maximum and minimum
' values in the range A1:A4
'
' Make sure this sub runs on the Data page
Sheets("Data").Select
' Initialize variables
' Set the initial candidate for the max & min to the first
' cell in the dataset
max_val = Cells(1, 1).Value
min_val = Cells(1, 1).Value
' Loop over all the values and test them
For ctr = 1 To 4
x = Cells(ctr, 1).Value
' Test the current maximum value
If x > max_val Then ' Update the maximum value
max_val = x
End If
' Test the current minimum value
If x < min_val Then ' Update the minimum value
min_val = x
End If
Next
' Output the maximum and minimum values found
Range("C5").Value = max_val
Range("C6").Value = min_val
End Sub

Sub Cond_MaxValue()
' This sub finds the conditional maximum value in the range A1:A4
' for all values that are less than the threshold value
'
' Make sure this sub runs on the Data page
Sheets("Data").Select
' Initialize variables
' Set the initial candidate for the max to the first
' cell in the dataset
max_val = Cells(1, 1).Value
threshold = 3
' Loop over all the values and test them
For ctr = 1 To 4
```

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x = Cells(ctr, 1).Value
' Test to see if the value of x is < threshold
If x < threshold Then
' Update the maximum value
If x > max_val Then
max_val = x
End If
End If
Next
' Output the maximum value found
Range("C7").Value = max_val
End Sub
```