

How can I use VBA to calculate the standard deviation of a range of data?

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VBA (Visual Basic for Applications) is a programming language commonly used in Microsoft Excel to automate tasks and perform calculations on data. Using VBA, you can easily calculate the standard deviation of a range of data in Excel.

To do this, you will need to create a VBA function that takes in the range of data as an input. Within the function, you can use the built-in Excel function "STDEV.P" to calculate the standard deviation of the data.

First, you will need to declare a variable to store the range of data. Then, using a loop, you can iterate through the data and calculate the sum of squares and the average of the data. Finally, you can use the formula for standard deviation, which is the square root of the sum of squares divided by the total number of data points, to calculate the standard deviation.

Once the VBA function is created, you can simply call it and pass in the range of data as an argument to get the standard deviation value. This method allows for a quick and efficient way to calculate the standard deviation of a range of data in Excel using VBA.

VBA: Calculate Standard Deviation of Range

You can use the following basic syntax to calculate the of values in a range using VBA:

```
Sub StDevRange()  
Range("D2") =  
WorksheetFunction.StDev(Range("B2:B11"))  
End Sub
```

This particular example calculates the standard deviation of values in the range B2:B11 and assigns the result to cell D2.

If you would instead like to display the standard deviation of values in a message box, you can use the following syntax:

```
Sub StDevRange()
```

```
'Create variable to store standard deviation of values  
Dim stdev As Single
```

```
'Calculate standard deviation of values in range  
stdev = WorksheetFunction.StDev(Range("B2:B11"))
```

```
'Display the result
```

```
MsgBox "Standard Deviation of Values in Range: " &  
stdev
```

```
End Sub
```

The following examples shows how to use each of these methods in practice with the following dataset in Excel that contains information about various basketball players:

	A	B	C	D	E	F
1	Team	Points				
2	Mavs	22				
3	Heat	20				
4	Spurs	40				
5	Rockets	43				
6	Nets	39				
7	Warriors	24				
8	Thunder	10				
9	Hawks	13				
10	Magic	19				
11	Kings	15				
12						
13						
14						
15						
16						
17						
18						
19						

Example 1: Calculate Standard Deviation of Range Using VBA and Display Results in Cell

Suppose we would like to calculate the standard deviation of values in the points column and output the results in a specific cell.

We can create the following macro to do so:

```
Sub StDevRange()
```

```
Range("D2")
```

=

```
WorksheetFunction.StDev(Range("B2:B11"))
```

End Sub

When we run this macro, we receive the following output:

	A	B	C	D	E	F
1	Team	Points				
2	Mavs	22		11.93734		
3	Heat	20				
4	Spurs	40				
5	Rockets	43				
6	Nets	39				
7	Warriors	24				
8	Thunder	10				
9	Hawks	13				
10	Magic	19				
11	Kings	15				
12						
13						
14						
15						
16						
17						
18						

Notice that cell D2 contains a value of 11.93734.

This tells us that the standard deviation of values in the points column is 245.

Example 2: Calculate Standard Deviation of Range Using VBA and

Display Results in Message Box

Suppose we would instead like to calculate the standard deviation of values in the points column and output the results in a message box.

Sub StDevRange()

'Create variable to store standard deviation of values
Dim stdev As Single

'Calculate standard deviation of values in range
stdev = WorksheetFunction.StDev(Range("B2:B11"))


'Display the result

MsgBox "Standard Deviation of Values in Range: " &
stdev

End Sub

When we run this macro, we receive the following output:

	A	B	C	D	E	F	G	H
1	Team	Points						
2	Mavs	22						
3	Heat	20						
4	Spurs	40						
5	Rockets	43						
6	Nets	39						
7	Warriors	24						
8	Thunder	10						
9	Hawks	13						
10	Magic	19						
11	Kings	15						
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								



Microsoft Excel

Standard Deviation of Values in Range: 11.9373363863133

OK

The message box tells us that the standard deviation of values in the range B2:B11 is 11.937.

Note that in this example we calculated the standard deviation of values in the range B2:B11.

However, if you'd like to instead calculate the standard deviation of values in an entire column you could type B:B instead.

This will calculate the sum of values for every cell in

column B.

Note: You can find the complete documentation for the VBA StDev method .

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