How can I return an array from a function in VBA?

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In order to return an array from a function in VBA, you can use the "Function" statement followed by the name of the function and the parentheses. Inside the parentheses, you can specify the data type of the returned value, which in this case would be an array. Within the function, you can use the "Return" statement followed by the name of the array you want to return. This will allow you to pass the array back to the calling code and use it for further processing or manipulation. It is important to also declare the function as a "Public" function so that it can be accessed from other modules or procedures. By following these steps, you can effectively return an array from a function in VBA.

VBA: Return Array from Function

You can use the following basic syntax to return an array from a function in VBA:

Function GenerateRandom() As Integer()

Dim RandValues(2) As Integer

'generate three random integers and store them in array
RandValues(0) = Int(Rnd * 100)
RandValues(1) = Int(Rnd * 100)
RandValues(2) = Int(Rnd * 100)

'return array as a result of the function
GenerateRandom = RandValues

End Function

This particular example generates three random

integers, stores them in an array, then returns the array as a result of the function called GenerateRandom().

The following examples show how to return the values from this function in two different ways:

Return the values in a message boxReturn the values in cells

Let's jump in!

Example 1: Return Array from Function and Display Values in Message Box

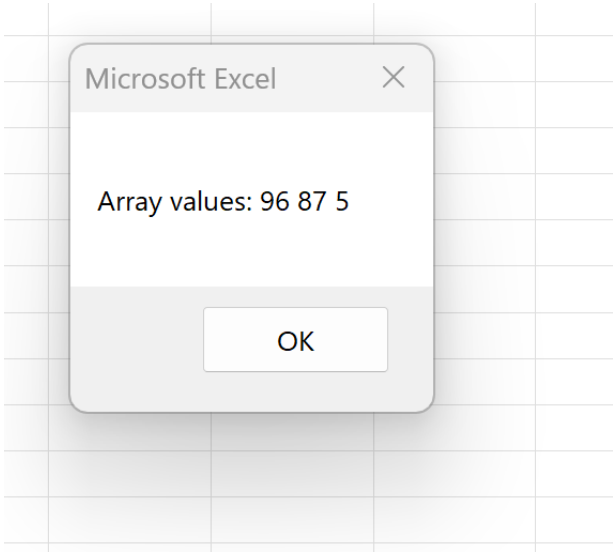
We can use the following syntax to create a function called GenerateRandom() that generates an array of three random integers and then display the integers in a message box by using the MsgBox function:

```
'define function to generate array of three random integers
Function GenerateRandom() As Integer()

Dim RandValues(2) As Integer

RandValues(0) = Int(Rnd * 100)
RandValues(1) = Int(Rnd * 100)
```

```
RandValues(2) = Int(Rnd * 100)

GenerateRandom = RandValues

End Function

'define sub to display values from function in a message box
Sub DisplayRandom()

Dim WS As Worksheet
Dim RandomValues() As Integer
Dim i As Integer

Set WS = Worksheets("Sheet1")
RandomValues = GenerateRandom()

j = "Array values: "
For i = 0 To 2
j = (j & RandomValues(i) & " ")
Next i
MsgBox j

End Sub
```

When we run this macro, we receive the following

output:



We can see that the function returns the random integers of 96, 87 and 5 in a message box.

Example 2: Return Array from Function and Display Values in Cells

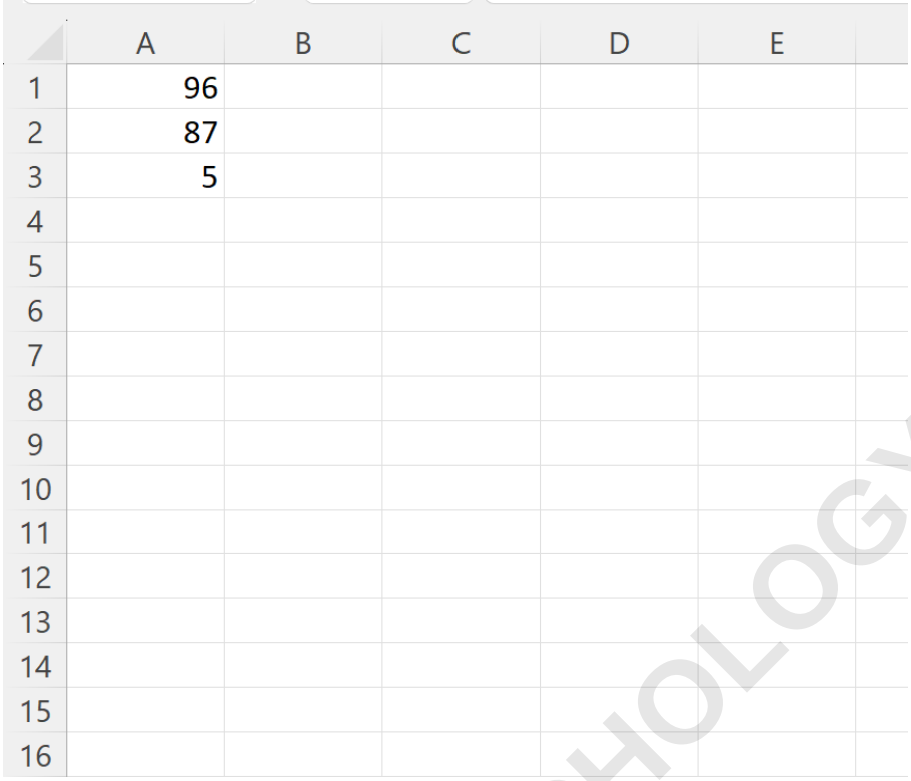
We can use the following syntax to create a function called GenerateRandom() that generates an array of three random integers and then display the integers starting in cell A1 in Excel:

```
'define function to generate array of three random integers
Function GenerateRandom() As Integer()

Dim RandValues(2) As Integer
```

```
RandValues(0) = Int(Rnd * 100)
RandValues(1) = Int(Rnd * 100)
RandValues(2) = Int(Rnd * 100)

GenerateRandom = RandValues

End Function

'define sub to display values from function starting in cell A1
Sub DisplayRandom()

Dim WS As Worksheet
Dim RandomValues() As Integer
Dim i As Integer

Set WS = Worksheets("Sheet1")
RandomValues = GenerateRandom()

For i = 0 To 2
WS.Range("A1").Offset(i, 0).Value = RandomValues(i)
Next i

End Sub
```

When we run this macro, we receive the following

output:



	A	B	C	D	E
1	96				
2	87				
3	5				
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Note: To return the array values starting in a different cell, simply change A1 in the code to a different cell reference.