

VBA USER DEFINED ARRAYS

What is a Function?

A function is a group of reusable code which can be called anywhere in your program. This eliminates the need of writing same code over and over again. This will enable programmers to divide a big program into a number of small and manageable functions.

Apart from inbuilt Functions, VBA allows us to write user-defined functions as well. This section will explain you how to write your own functions in VBA.

Function Definition

A VBA function can have an optional return statement. This is required if you want to return a value from a function.

For example, you can pass two numbers in a function and then you can expect from the function to return their multiplication in your calling program.

NOTE : A function can return multiple values separated by comma as an array assigned to the function name itself.

Before we use a function, we need to define that particular function. The most common way to define a function in VBA is by using the **Function** keyword, followed by a unique function name and it may or may not carry a list of parameters and a statement with a **End Function** keyword, which indicates the end of the function. The basic syntax is shown below:

Syntax

Add a button and add the below function

```
Function Functionname(parameter-list)
    statement 1
    statement 2
    statement 3
    .....
    statement n
End Function
```

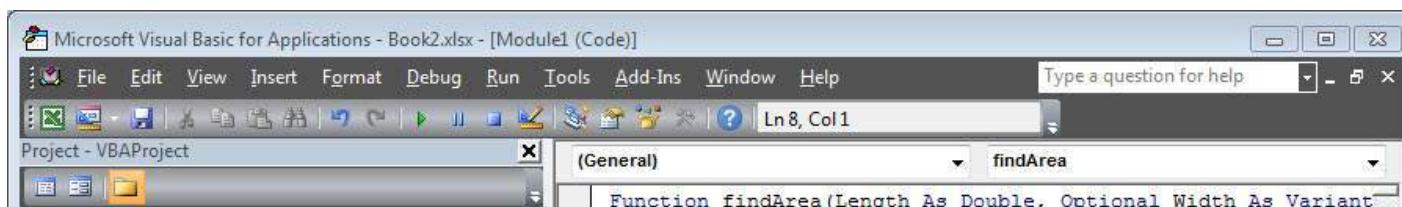
Example

Add the below function which returns the area. Note that a value/values can be returned with the function name itself.

```
Function findArea(Length As Double, Optional Width As Variant)
    If IsMissing(Width) Then
        findArea = Length * Length
    Else
        findArea = Length * Width
    End If
End Function
```

Calling a Function

To invoke a function, call the function using function name as shown below:



The screenshot shows the Microsoft Excel interface with a VBA project open in the background. The project tree on the left lists 'VBAPrivate (All_Info.xlsx)' and 'VBAPrivate (Book2.xlsx)'. Under 'Book2.xlsx', there are 'Microsoft Excel Objects' containing 'Sheet1 (Sheet1)', 'Sheet2 (Sheet2)', 'Sheet3 (Sheet3)', and 'ThisWorkbook'. There are also 'Modules' and 'Module1'. The main Excel window shows a formula bar with '=findArea(C6,D6)' and a spreadsheet area. Cell C6 contains 'Width' with value 23, cell D6 contains 'Length' with value 6, and cell E6 contains the formula '=findArea(C6,D6)'. A red arrow points from the VBA code down to the formula in cell E6.

The Output of the area would be displayed to the user.

Width	Length	Area
23	6	138