
VBA Array (MS Excel)

In VBA, Array is a collection of values of the same type. A variable can store only one value but an array can store multiple values. An array can have multiple dimensions. Most programmers use one-dimensional array and two-dimensional arrays.

-One-dimensional array: One-dimensional array store items in one direction (linear). To use an array, you must declare it.

You can declare a one-dimensional array as shown below:

```
Dim array_name(size) As Data type
```

Example: To declare an array called x to store 5 values of integers (elements), you can write:

```
Dim x(5) As Integer
```

To access the array elements you, you can use a loop to do that.

Example:

```
Dim i,sum As Integer
```

```
sum=0
```

```
For i=0 to 5 'assign values to the array
```

```
    x(i)=i*i
```

```
Next
```

```
For each v in x 'Get values from the array and sum them
```

```
    sum=sum+x
```

```
Next
```

```
Msgbox sum
```

Note: the start index of the array is 0 and the last index is equal to its size subtracted by 1

-Two-dimensional array:

Two-dimensional array stores values in rows and columns.

Index	0	1	2
0	1	2	3
1	4	5	6

Example: To declare a two-dimension array (2 rows and 3 columns) called arr, you can write:

```
Dim arr(2,3) As Integer
```

```
Dim i,j As Integer
```

```
Dim val As String
```

```
‘Assign values to the array without using a loop
```

```
arr(0,0)=1
```

```
arr(0,1)=2
```

```
arr(0,2)=3
```

```
arr(1,0)=4
```

```
arr(1,1)=5
```

```
arr(1,2)=6
```

```
‘Accessing the value of the array using for next loops
```

```
for i=0 to 1
```

```
    for j=0 to 2
```

```
        val=val & arr(i,j) & vbCrLf
```

```
    Next
```

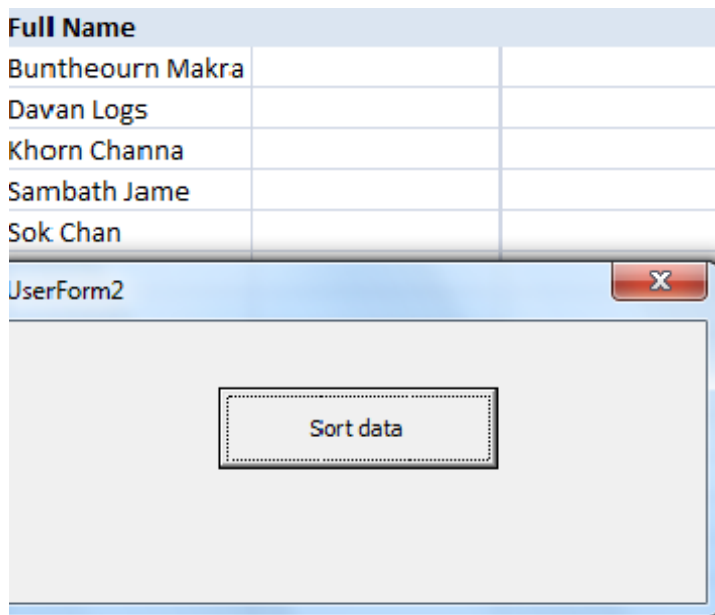
```
Next
```

VBA array Example—putting array in the real practice

In this example, We use VBA array to sort the full names in the current worksheet. Before sorting, the full names are not in order. After running the VBA example code, the full names are sorted in ascending order.

To compare the names, we need help from the StrComp(st1,st2) function. This function returns -1 if the string st1 is less that string st2. It returns 1 if string st1 is greater than st2 and it returns 0 if both string are equal.

To run this example VBA code, you will need a Form, and a CommandButton. You may type the full names text in to your current worksheet.



VBA code for this example:

```
Private Sub CommandButton1_Click()
```

```
    Dim myarr(5) As String
```

```
    Dim i, j As Integer
```

```
    i = 1
```

```
    'read names from Excel sheet and store them in the array
```

```
    While Cells(i, 1) <> ""
```

myarr(i - 1) = Cells(i + 1, 1)

i = i + 1

Wend