VBA ARRAY

An array is a memory location capable of storing more than one value. The values must all be of the same data type. For example, to store a list of your favourite beverage in a single variable, you can use an array to do that.

By using an array, you can refer to the related values by the same name. You can use an index or subscript to tell them apart. The individual values are referred to as the elements of the array. They are contiguous from index 0 through the highest index value.

Types of Arrays

VBA supports two types of arrays namely;

- Static – These types of arrays have a fixed pre-determined number of elements that can be stored. One cannot change the size of the datatype of a static array. These are useful when working on known entities such as the number of days in a week, gender, etc. For example, `Dim ArrayMonth (12) As String.`
- Dynamic – These types of arrays do not have a fixed pre-determined number of elements that can be stored. These are useful when working with entities that you cannot predetermine the number. For example: `Dim ArrayMonth () As Variant.`

Declaring Arrays

The syntax for declaring STATIC arrays is as follows:

```
Dim arrayName(n) as datatype
```

The code above declares an array variable called arrayName with a size of n and datatype. Size refers to the number of elements that the array can store.

The syntax for declaring DYNAMIC arrays is as follows:

```
Dim arrayName () as datatype ------------  i
ReDim arrayName (4) ---------------------- ii
```

i. Declares an array variable called arrayName without specifying the number of elements.
ii. Specifies the array size after the array has been defined.

Array Dimensions

An array can be one dimension, two dimensions or multidimensional.

- One dimension: in this dimension, the array uses only one index. For example, a number of people of each age.
- Two dimensions: in this dimension, the array uses two indexes. For example, a number of students in each

class. It requires number of classes and student number in each class.

- Multi-dimension: in this dimension, the array uses more than two indexes. For example, temperatures during the daytime, (30, 40, 20).