



Array: It is a variable that is used to store more than one similar type of values in a single named variable. Array is a variable that stores more than one similar type of values in contiguous memory location in a single named memory. The declaration syntax of array is:

```
<storage_class> <range_modifier> <data_type> <array_var_name>[<size1>][.....][<sizeN>];
```

“[]” is called subscript operator, hence array is also referred as subscripted variable. The number of subscript decides the dimension of array variable. Array variable is classified into following types as:

- (1) Single dimensional Array: one subscript is associated with the variable name. ex: num[10].
- (2) Double Dimensional Array: two subscripts are associated with the variable name. ex: num[3][3].
- (3) Multi-dimensional Array: more than two subscripts are associated with the variable name. ex: num[3][4][5], num[5][3][4][2] etc.

The values are stored into contiguous memory location in array and an index is created for each dimension in the array variable at which the values are stored. The dimension in each dimension starts with 0 and ends at the size-1 of the dimension.

If the array is declared in the program as: int num[10];

The initial index will be 0 and the last index in the dimension will be 9.

If the array is declared in the program as: int num[5][5];

The initial index in the first dimension will be 0 and the last index in the array will be 4. Similarly the initial index in the first dimension will be 0 and the last index will be 4.

The array elements are accessed (input/ output/ initialized or used in calculation statement) by their index.

The character single dimensional array variable is also known as string variable and hence the double dimensional character array variable is also known as string array variable.