Arrays

An array is a collection of items stored at contiguous memory locations. The idea is to store multiple items of the same type together. This makes it easier to calculate the position of each element by simply adding an offset to a base value, i.e., the memory location of the first element of the array.

Array in Python can be created by importing array module. **array(*data\_type*, *value\_list*)** is used to create an array with data type and value list specified in its arguments.

Ex :

# importing "array" for array creations

**import** array as arr

# creating an array with integer type

a **=** arr.array('i', [1, 2, 3])

# printing original array

**print** ("The new created array is : ", end **=**" ")

**for** i **in** range (0, 3):

    print (a[i], end **=**" ")

**print**()

Lists

Lists are used to store multiple items in a single variable.

Lists are one of 4 built-in data types in Python used to store collections of data, the other 3 are [Tuple](https://www.w3schools.com/python/python_tuples.asp), [Set](https://www.w3schools.com/python/python_sets.asp), and [Dictionary](https://www.w3schools.com/python/python_dictionaries.asp), all with different qualities and usage.

Lists are created using square brackets:

Ex: List1=[“butterflies”,”flowers”,”birds”]

List items are ordered, changeable, and allow duplicate values. List items are indexed, the first item has index [0], the second item has index [1] etc.

When we say that lists are **ordered**, it means that the items have a defined order, and that order will not change.

If you add new items to a list, the new items will be placed at the end of the list.

The list is **changeable**, meaning that we can change, add, and remove items in a list after it has been created.

Since lists are indexed, lists can have items with the same value thus **allowing duplication.**

Ex :

# Creation of List

# Creating a List

List **=** []

**print**("Blank List: ")

print(List)

# Creating a List of numbers

List **=** [10, 20, 30, 30, 14]

print("\nList of numbers: ")

**print**(List)