1. 1. Arrays - Lists

Arrays store data in continuous memory address. Python uses lists as array.

* List is dynamic array
* hetrogeneous
* allows nesting to create multidimensional array
* Supports Indexing
* Supports Slicing
* Supports Iteration [in cases like ‘for’ loop]
* Mutable

But python lists are dynamic array. :0

#### Complexity

* Lookup time by index: O(1)
* Lookup time by value: O(n)
* Traversal: O(n)
* Insertion by index: O(n) # can use arr.insert().
* Deletion by index: O(n)

#### Important Methods

* Insert(), append()
* sort(), reverse(), sorted() -> all have time complexity O(nlogn)
* remove(), pop()
* len()
* index(element), count(element)
* copy()
* "*separator* ".join(list) # Converts a list to string

#### List Comprehension

**L = [2\*i+1 for i in range(10) if 1 == 1]**  creates list [1,3,5,7,9,11,13,15,17,18]