Basic Programming III:

Array and Other Data Types

DigitalSkola
Uncover The World Of Digital Skills With Us

Quote of the day

"Programming isn't about what you know;

it's about what you can figure out."

- Chris Pine

DigitalSkola
Uncover The World Of Digital Skills With Us

Table of Content

What will We Learn Today?

1. What is Array
2. Non-primitive data types
3. Array Manipulation
4. Array Iteration

Array in Python

An array is a collection of similar data elements stored at contiguous memory locations.

*Sequential collection of components (elements)

In Python, the built-in array data structure is a list.

Array's Characteristic

- Can contains any data type (even dictionary)
- The collection of data is indexed, or numbered, and at starts at 0
- Position number is formally called the subscript or index
  - First element is subscript 0 (zero), sometimes called the zeroth element.
  - The highest element index is one less than the total number of elements in the array. Total Element = (N(max) - 1)

Non-Primitive Data Type

- Can contains any data type (even dictionary)
- The collection of data is indexed, or numbered, and at starts at 0
- Position number is formally called the subscript or index
  - First element is subscript 0 (zero), sometimes called the zeroth element.
  - The highest element index is one less than the total number of elements in the array. Total Element = (N(max) - 1)

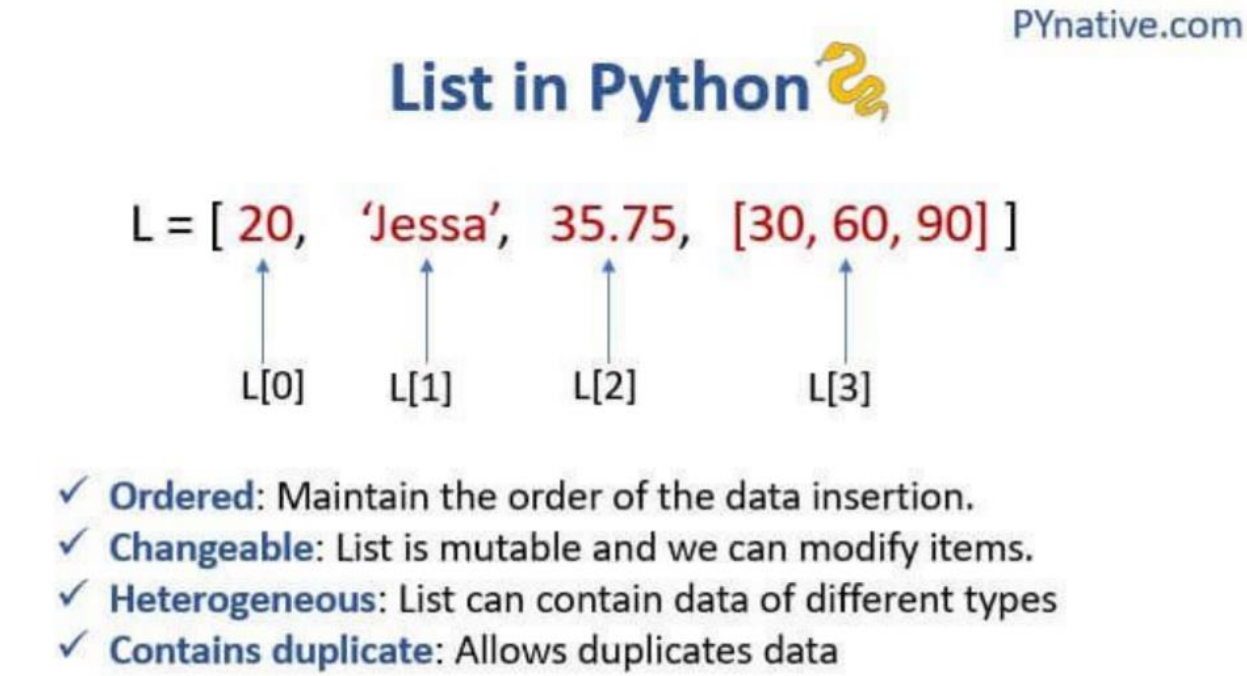
Data Types

Primitive	Non-primitive
Integer	Array
Float	List
String	Tuples
Boolean	Dictionary
	Set

Non-Primitive Data Type - List

List in Python is represented by [ ].

Which inside [ ] can contain multiple items.



Non-Primitive Data Type - Dictionary

Dictionary in Python

PYnative.com

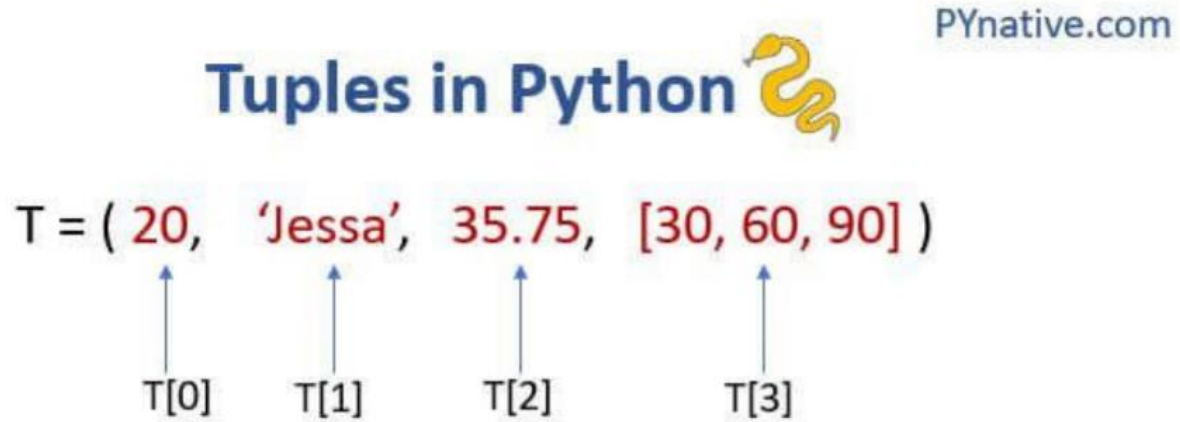
Unordered collections of unique values stored in (Key-Value) pairs.

```
d = {'a': 10, 'b': 20, 'c': 30}
```

d['a'] d['b'] d['c']

- ✓ **Unordered**: The items in dict are stored without any index value
- ✓ **Unique**: Keys in dictionaries should be Unique
- ✓ **Mutable**: We can add/Modify/Remove key-value after the creation

Non-Primitive Data Type - Tuple

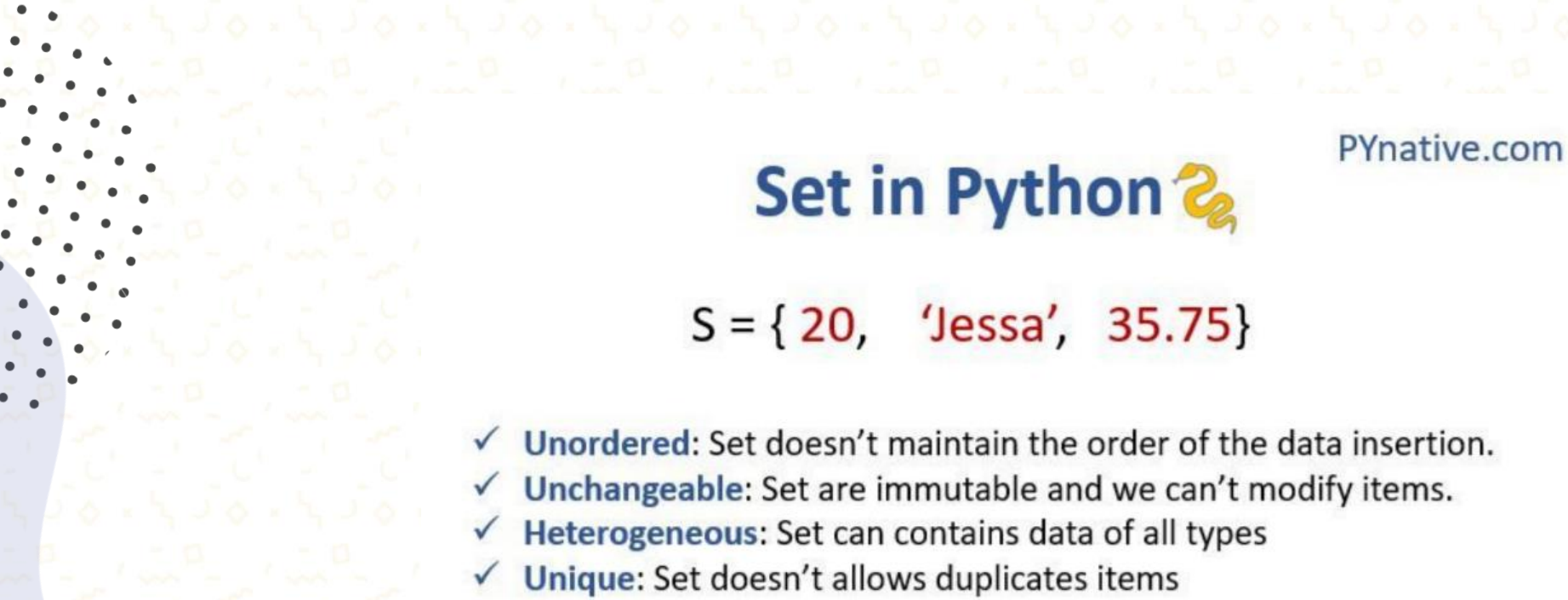


- ✓ **Ordered**: Maintain the order of the data insertion.
- ✓ **Unchangeable**: Tuples are immutable and we can't modify items.
- ✓ **Heterogeneous**: Tuples can contains data of types
- ✓ **Contains duplicate**: Allows duplicates data

List vs Tuple

Tuples	List
Represented by ()	Represented by []
Immutable	Mutable
Less method	More method
It can be used as Key on Dictionary	It can’t be used as Key on Dictionary

Non-Primitive Data Type - Set



DigitalSkola

Uncover The World Of Digital Skills With Us

Thank YOU