Python's built-in data types

01 immutable — **int**

02 immutable — **float**

03 immutable — **complex**

04 immutable — **bool**

05 immutable — **str**

06 immutable — **tuple**

07 mutable — **list**

08 mutable — **set**

09 immutable — **frozenset**

10 mutable — **dict**

range — immutable

bytes — immutable

bytearray — mutable

NoneType

mutable vs immutable data types

🔵 Python data types are either mutable (changeable) or immutable (unchangeable)

🟢 An object of mutable data type can be changed whenever a change is needed. Mutable data types include lists, dictionaries, and sets.

🔴 An object of immutable data type CANNOT be changed after creation. If a change is needed, Python will destroy the object and creates a new object from scratch. Immutable data types include int, float, bool, complex, str, frozenset, range and tuple. In general, immutable objects are faster and take less memory.

🐦 gk nxt

Numbers

01 immutable — int
02 immutable — float
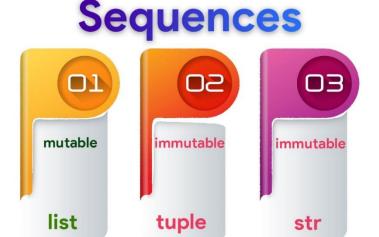**03** immutable — complex
04 immutable — bool

Number data types store numerical values – int stores integer values, float stores real numbers, and complex stores complex numbers. The Boolean data type (bool) is a subtype of integer and stores one of only two values – True / False

True is numerically equal to 1 and False is numerically equal to zero.

gk nxt

Sequences

- A Python sequence is an ordered collection of items, where each item is indexed by an integer.

- Commonly used sequence data types in Python are strings, lists and tuples.

01 mutable — list

02 immutable — tuple

03 immutable — str

04 mutable — bytearray

05 immutable — bytes

06 immutable — range

gk nxt

A set is an unordered collection of items.

A set is similar to a list, except that it cannot have duplicate entries.

All items in a set must be immutable, but set itself is mutable, so a set can't be a member of another set.

A frozenset is like a set, but is immutable. So a frozenset can be a member of another fronzenset.

Sets

01 mutable

set

02 immutable

frozenset

gk nxt

Mapping

- Mapping is an unordered data type in Python. Currently, there is only one standard mapping data type in Python called dictionary.

- Starting with Python 3.6, dictionaries preserve the order in which the keys were created and return them in that order, but dictionaries are still treated as unordered.

- Python's OrderedDict is a dict subclass that preserves the order in which items (key-value pairs are inserted into the dictionary.

01

mutable

dict

gk nxt

● None is a special data type with a single value. It is used to signify the absence of data or an empty value (null value)

● None can be used as a placeholder to indicate where meaningful data will eventually be found, even though that data hasn't yet been available.

● There's only one instance of None in the entire Python system (all references to None point to the same object)

● None is equivalent only to itself

None

01

NoneType

gk nxt

Python's general purpose built-in containers

- Python provides a number of container datatypes, both built-in types and those in the collections module in the Python Standard Library.

01	02	03	04
mutable	mutable	mutable	immutable
list	dict	set	tuple

- Container data types can contain other data types as their members.

- Commonly used collection objects or container data types are - list, dict, set, and tuple.

gk nxt

For best python resources, please visit:

gknxt.com/python/

gknxt

Python
Bootcamp
& Masterclass

Thank You
for your Rating & Review

gk nxt