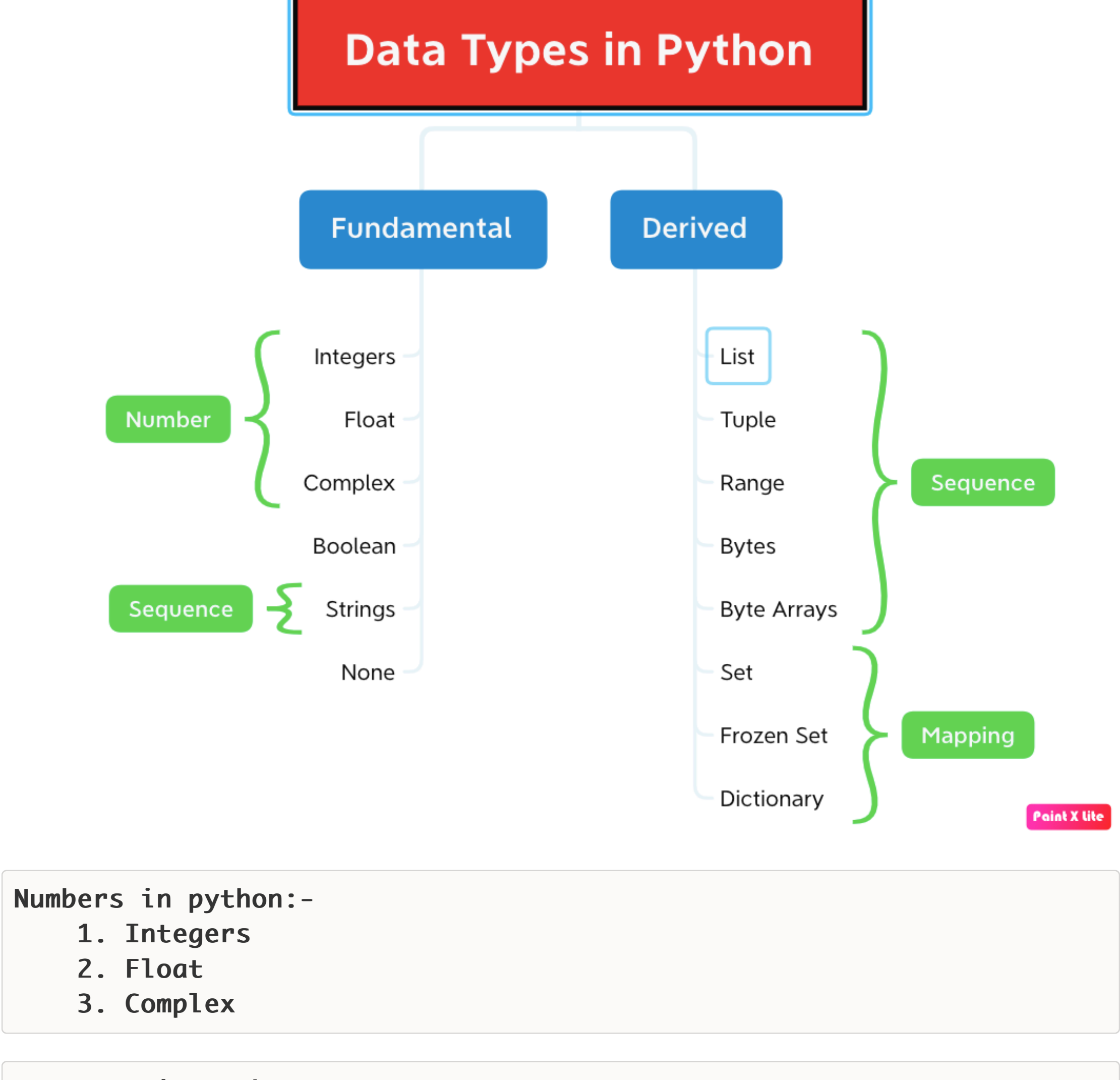
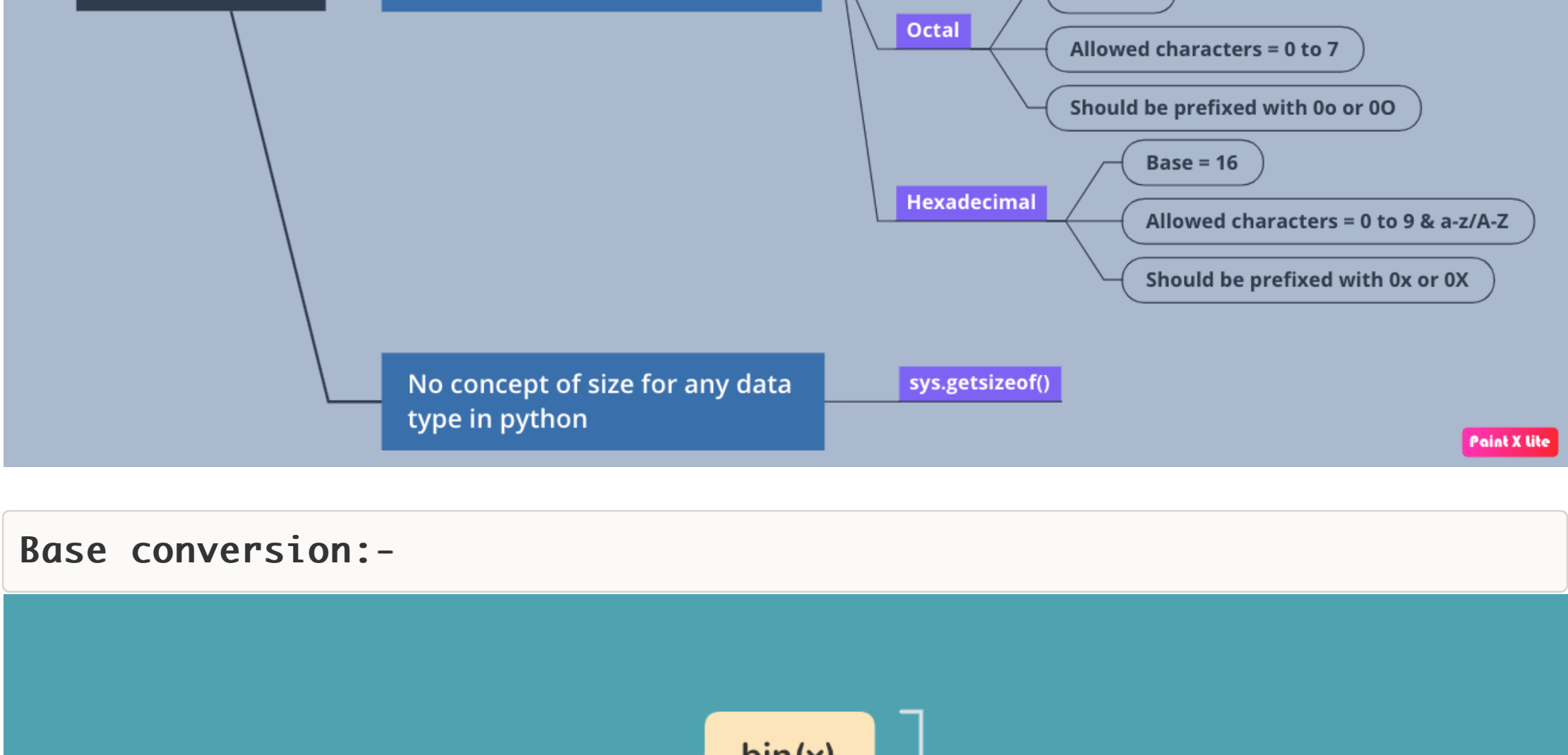


There are total 14 data types in python. Let's have look at them

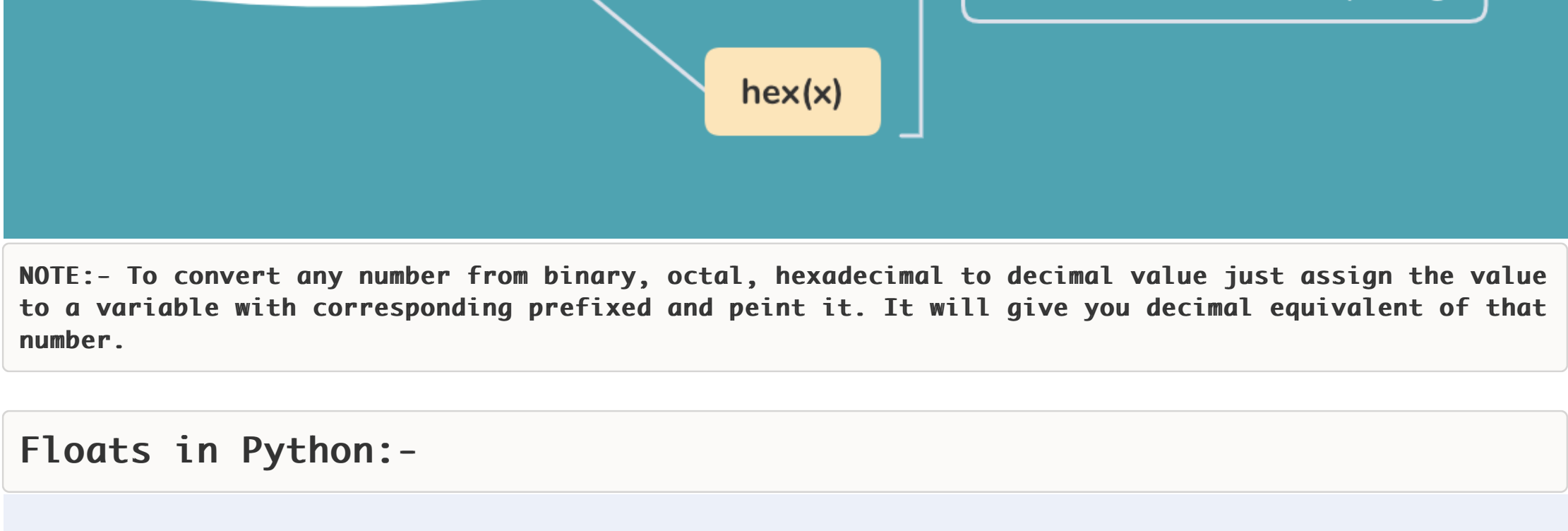


Numbers in python:-
1. Integers
2. Float
3. Complex

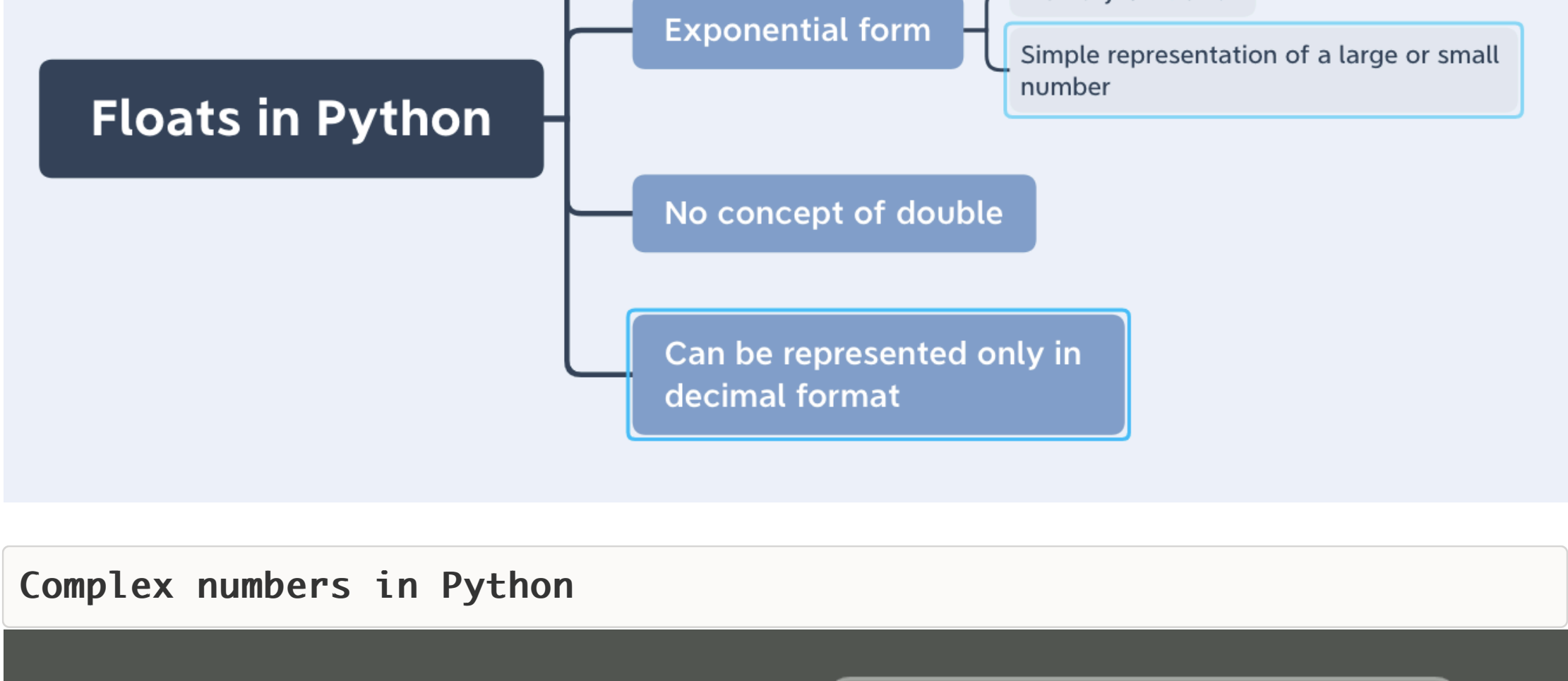
Integers in Python



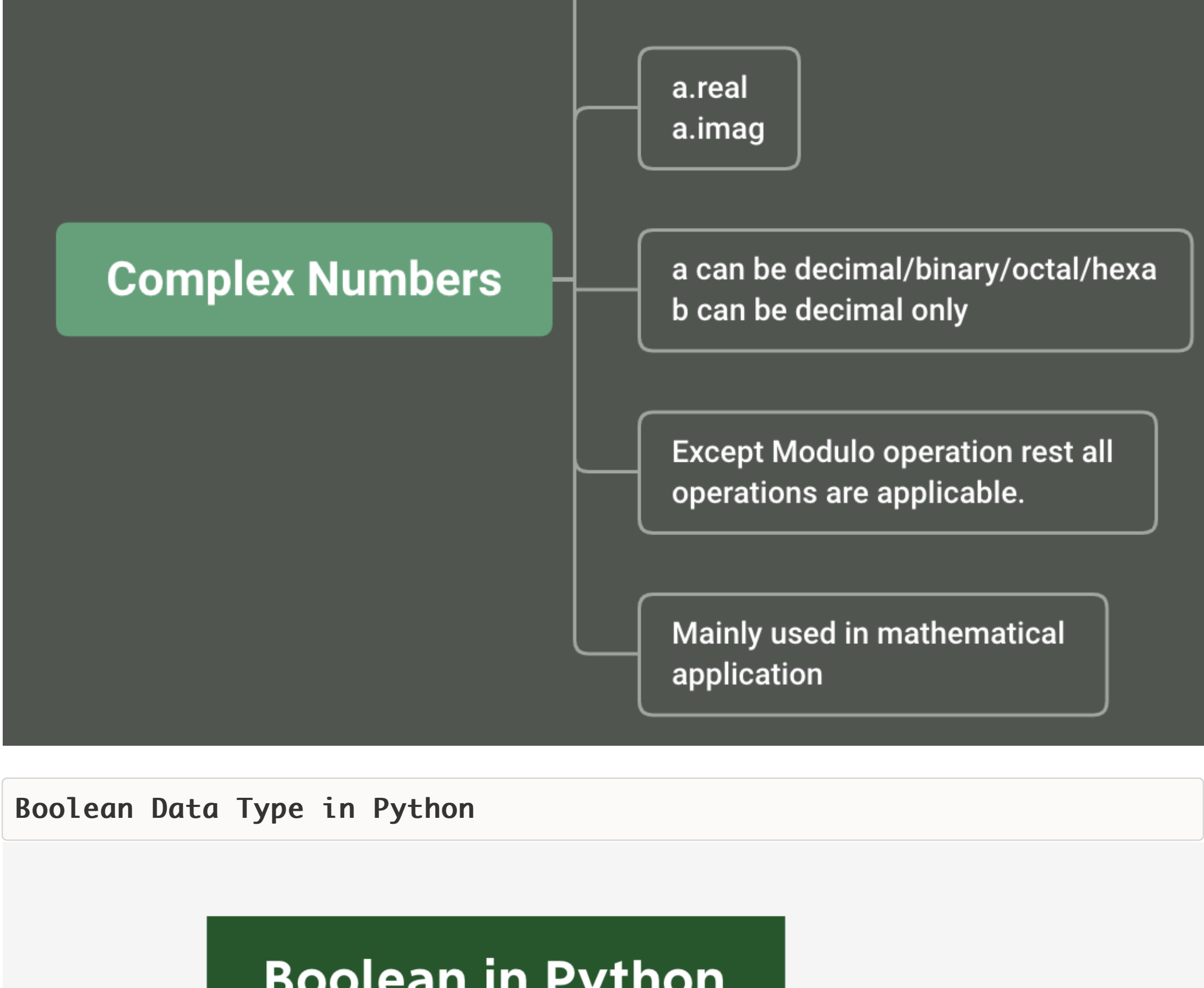
Base conversion:-



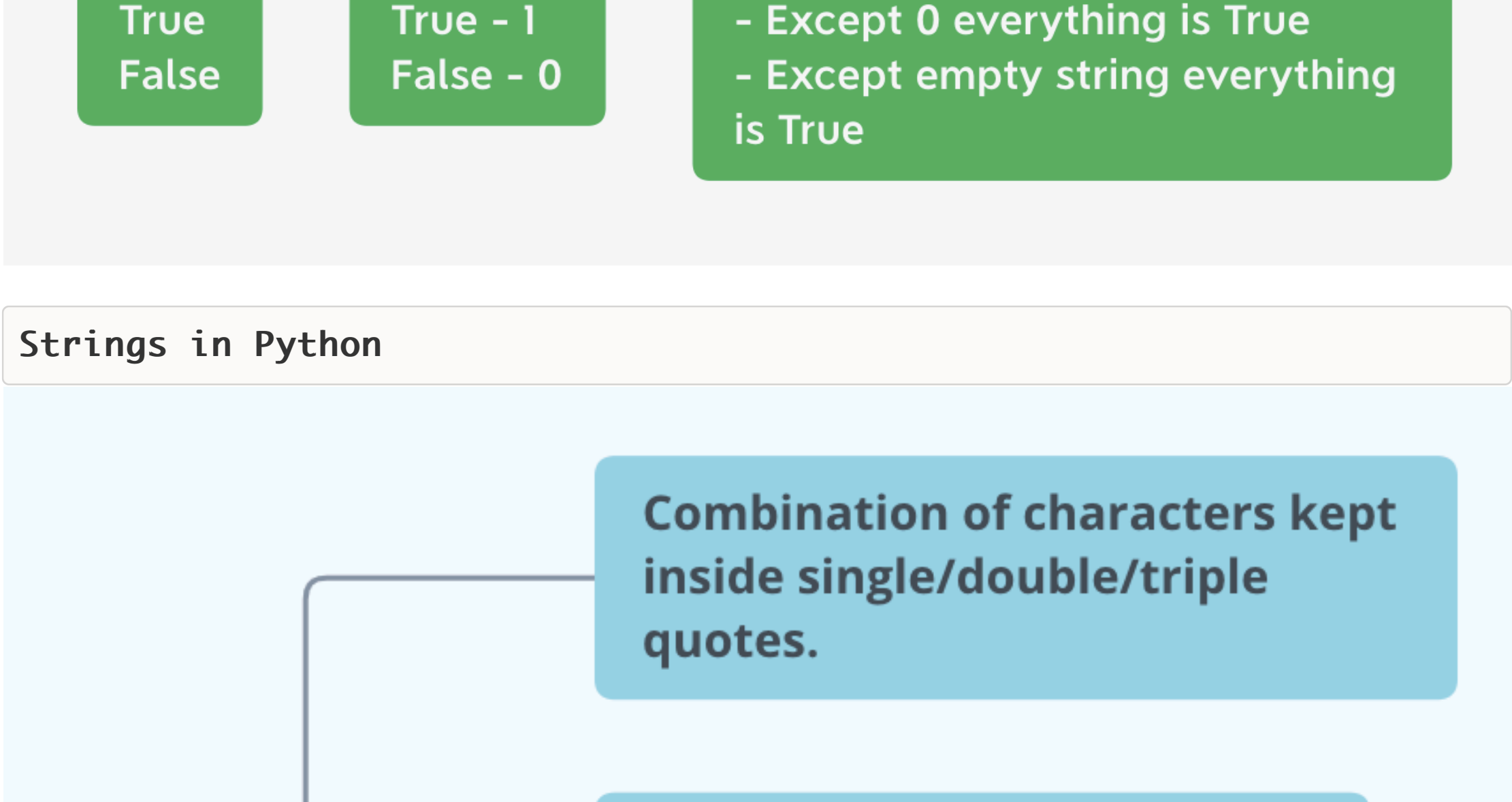
Floats in Python:-



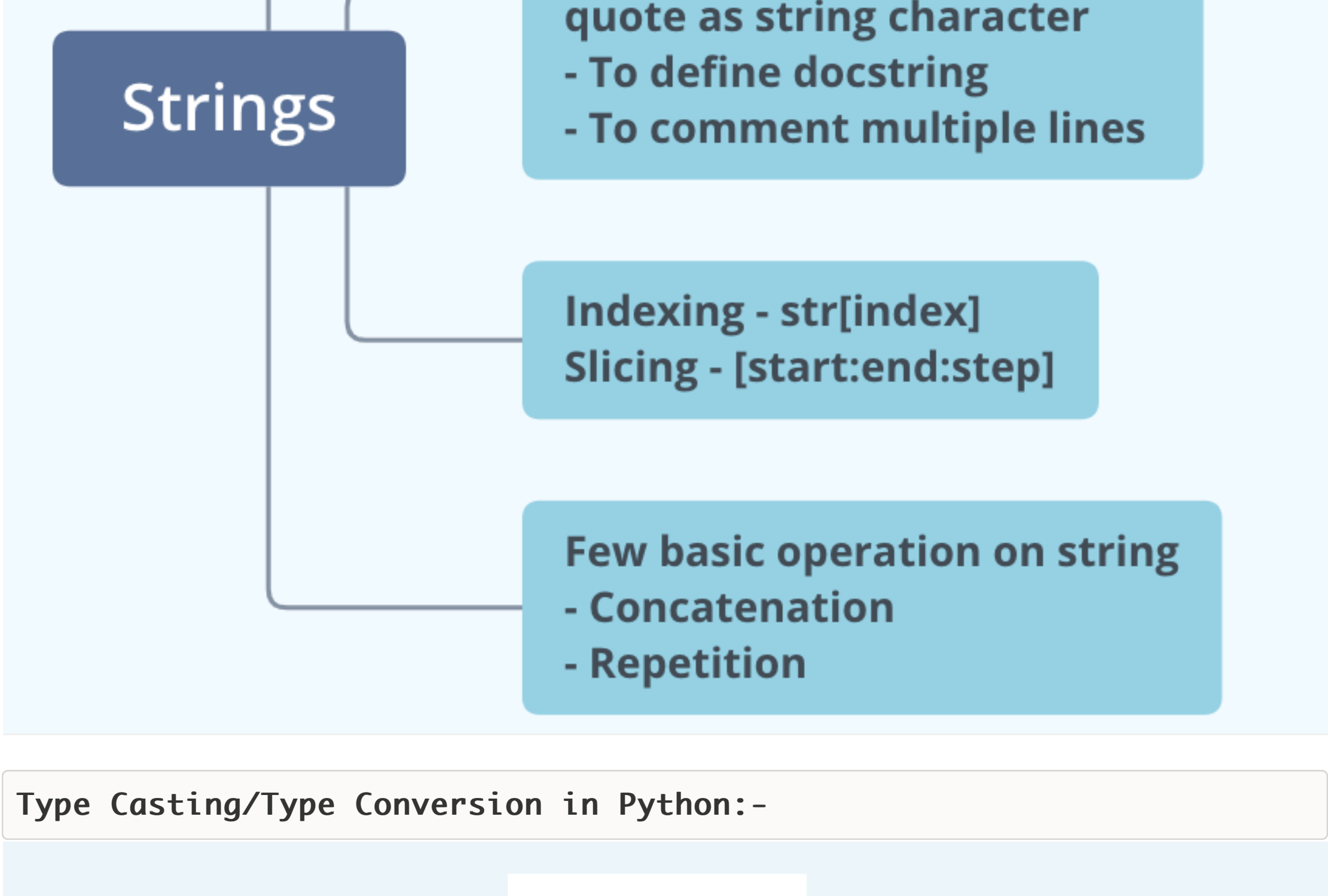
Complex numbers in Python



Boolean Data Type in Python



Strings in Python



Type Casting/Type Conversion in Python:-



Mutable vs Immutable Data type in Python:-

Mutable -> Modifiable
Immutable -> Not modifiable -> The concept of immutability says that if you would try to modify the existing object then instead of making the changes to existing object PVM creates a new object for those which are immutable.

```
>>> a = 10
>>> id(a)
46783421
>>> a = a+1
>>> a
11
>>> id(a)
67534215
```

In some case, it may not be allowed to make the changes also.

```
>>> a = 'Python'
>>> a[0] = 'j'
TypeError: 'str' object does not support item assignment
```

Mutable vs Immutable Data Type in Python

Mutable

Immutable

Mutable - Data Types which we can modify

Immutable - Data Types which we can not modify

Object Reusability in Python:-

- Everything is object in Python.
- Creating objects in other programming languages is bit costly.
- Objects get created at time when we launch python for the most frequently used values/objects.
- Available only for Fundamental data types including None, not for derived data types. But derived data types follow object reusability internally.
- Object reusability concept is used to efficiently utilise the memory.

OBJECT REUSABILITY

Integers

- Only in the range from 0 to 256.

FLOAT

Not Available

COMPLEX

Not Available

STRINGS

- Available only for alphabetical characters.
- Not available for special charcters.

Boolean

- Available for True and False

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