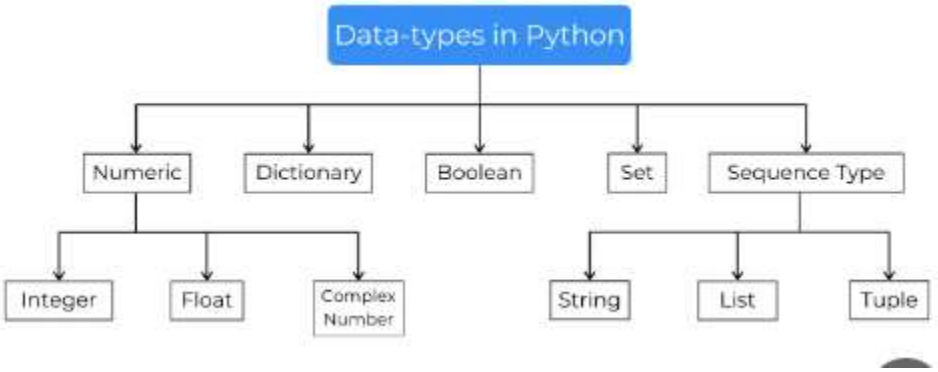
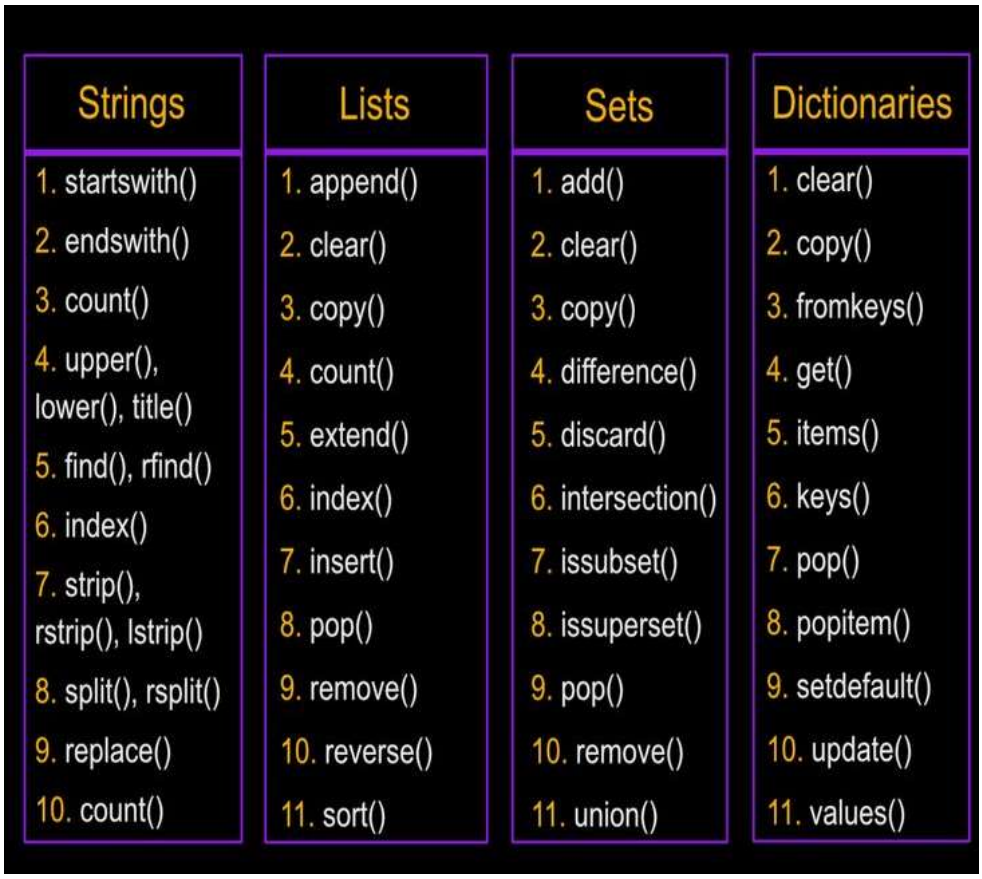
Arithmetic operators

- + Addition
- Subtraction
- Multiplication
- / Division
- % Mod (the remainder after dividing)
- ** Exponentiation (note that ^ does not do this operation, as you might have seen in other languages)
- // Divides and rounds down to the nearest integer

Data Types



Important python methods



Data Structures

lists

- Lists are used to store multiple items in a single variable.
- List items are ordered, changeable, and allow duplicate values.
- List comprehension offers a shorter syntax when you want to create a new list based on the values of an existing list. Ex: newlist = [expression for item in iterable if condition == True]

Tuple

- Tuples are used to store multiple items in a single variable.
- Tuple items are ordered, unchangeable, and allow duplicate values.
- Tuples are unchangeable, meaning that we cannot change, add or remove items after the tuple has been created.

Set

- Sets are used to store multiple items in a single variable.
- Set items are unordered, unchangeable, and ***do not allow duplicate values.***
- Unordered means that the items in a set do not have a defined order.
- Set items are unchangeable, meaning that we cannot change the items after the set has been created.

Dictionary

- Dictionaries are used to store data values in key:value pairs.
- Dictionaries are written with curly brackets, and have keys and values:
- Dictionary items are ordered, changeable, and ***does not allow duplicates.***

Loops

- while loops
- for loops

With the ***while*** loop we can execute a set of statements as long as a condition is true.

Break: we can stop the loop even if the while condition is true

Continue: we can stop the current iteration, and continue with the next.

Conditions

- Equals: `a == b`
- Not Equals: `a != b`
- Less than: `a < b`
- Less than or equal to: `a <= b`
- Greater than: `a > b`
- Greater than or equal to: `a >= b`

Python supports the usual logical conditions from mathematics:

Logical operators: ***and*** **or not**

If ... Else

Short Hand If: If you have only one statement to execute, you can put

it on the same line as the if statement. Ex:print("A") if a > b else print("B")