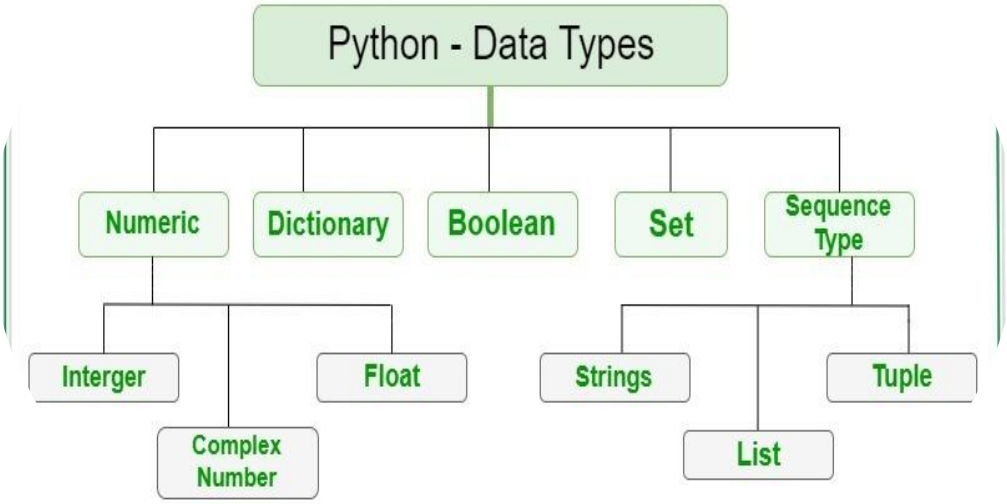
PYTHON DATA TYPES

Text Type:	`str`
Numeric Types:	`int`, `float`, `complex`
Sequence Types:	`list`, `tuple`, `range`
Mapping Type:	`dict`
Set Types:	`set`, `frozenset`
Boolean Type:	`bool`
Binary Types:	`bytes`, `bytearray`, `memoryview`
None Type:	`NoneType`

Example	Data Type
`x = "Hello World"`	str
`x = 20`	int
`x = 20.5`	float
`x = 1j`	complex
`x = ["apple", "banana", "cherry"]`	list
`x = ("apple", "banana", "cherry")`	tuple
`x = range(6)`	range
`x = {"name" : "John", "age" : 36}`	dict
`x = {"apple", "banana", "cherry"}`	set
`x = frozenset({"apple", "banana", "cherry"})`	frozenset
`x = True`	bool
`x = b"Hello"`	bytes
`x = bytearray(5)`	bytearray
`x = memoryview(bytes(5))`	memoryview
`x = None`	NoneType



Operators in Python

Operators	Type
+, -, *, /, %	Arithmetic operator
<, <=, >, >=, ==, !=	Relational operator
AND, OR, NOT	Logical operator
&, |, <<, >>, -, ^	Bitwise operator
=, +=, -=, *=, %=	Assignment operator

Python Arithmetic Operators: Arithmetic operators are used with numeric values to perform common mathematical operations

Operator	Name	Example
+	Addition	x + y
-	Subtraction	x - y
*	Multiplication	x * y
/	Division	x / y
%	Modulus	x % y
**	Exponentiation	x ** y
//	Floor division	x // y

Python Assignment Operators : Assignment operators are used to assign values to variables

Operator	Example	Equals To
=	a = 10	a = 10
+=	a += 10	a = a+10
-=	a -= 10	a = a-10
*=	a *= 10	a = a*10
/=	a /= 10	a = a / 10
%=	a %= 10	a = a % 10
//=	a //= 10	a = a // 10
**=	a **= 10	a = a ** 10
&=	a &= 10	a = a & 10
|=	a |= 10	a = a |10
^=	a ^= 10	a = a ^10
>>=	a >>= 10	a = a >> 10
<<=	a <<= 10	a = a << 10

Python Comparison Operators: Comparison operators are used to compare two values

Operators	Meaning	Example
>	Greater than	8>3=True, 4>9=False
<	Less than	8<3=False, 4<9=True
==	Equal to	(3==4)=False, (4==4)=True
!=	Not equal to	3!=4=True, (4!=4)=False
>=	Greater than or equal to	3>=2=True, 3>=3=True
<=	Less than or equal to	2<=3=True, 2<=2=True

Python Logical Operators: Logical operators are used to combine conditional statements

Operator	Description	Example
and	Returns True if both statements are true	x < 5 and x < 10
or	Returns True if one of the statements is true	x < 5 or x < 4
not	Reverse the result, returns False if the result is true	not(x < 5 and x <10)

Python Identity Operators: Identity operators are used to compare the objects, not if they are equal, but if they are actually the same object, with the same memory location

Operator	Description
is	It returns true if two variables point the same object and false otherwise
is not	It returns false if two variables point the same object and true otherwise

Python Membership Operators: Membership operators are used to test if a sequence is presented in an object

Operator	Description	Example
in	Returns True if a sequence with the specified value is present in the object	x in y
not in	Returns True if a sequence with the specified value is not present in the object	x not in y

Python Bitwise Operators: Bitwise operators are used to compare (binary) numbers

Operator	Name	Description	Example
&	AND	Sets each bit to 1 if both bits are 1	x & y
|	OR	Sets each bit to 1 if one of two bits is 1	x | y
^	XOR	Sets each bit to 1 if only one of two bits is 1	x ^ y
~	NOT	Inverts all the bits	~x
<<	Zero fill left shift	Shift left by pushing zeros in from the right and let the leftmost bits fall off	x << 2
>>	Signed right shift	Shift right by pushing copies of the leftmost bit in from the left, and let the rightmost bits fall off	x >> 2

Operator Precedence

Operator precedence describes the order in which operations are performed.

Operators	Associativity
() Highest precedence	Left - Right
**	Right - Left
+x , -x, ~x	Left - Right
*, /, //, %	Left - Right
+, -	Left - Right
<<, >>	Left - Right
&	Left - Right
^	Left - Right
|	Left - Right
Is, is not, in, not in, <, <=, >, >=, ==, !=	Left - Right
Not x	Left - Right
And	Left - Right
Or	Left - Right
If else	Left - Right
Lambda	Left - Right
=, +=, -=, *=, /= Lowest Precedence	Right - Left