Python Data Types

* Built-in data types: In programming, data type is an important concept.
* Variables can store data of different types, and different types can do different things.
* Python has the following data types built-in by default, in these categories:

|  |  |
| --- | --- |
| 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 |

1. Getting the data types:

You can get the data type of any object by using the type() function:

Print the data type of the variable x:

x = 5  
print(type(x))

o/p: <class ‘int’>

2.Setting the data type:

|  |  |
| --- | --- |
| EXAMPLE | DATA TYPE |
| x = "Hello World" | str |
| x = 20 | INT |
| x = 20.5 | FLOAT |
| x = 1j | FLOT |
| 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 |

3.Setting a specific data type:

* x = str("Hello World")
* x = int(20)
* x = float(20.5)
* x = complex(1j)
* x = list(("apple", "banana", "cherry"))
* x = tuple(("apple", "banana", "cherry"))
* x = range(6)
* x = dict(name="John", age=36)
* x = set(("apple", "banana", "cherry"))
* x = frozenset(("apple", "banana", "cherry"))
* x = bool(5)
* x = bytes(5)
* x = bytearray(5)
* x = memoryview(bytes(5))

4.Python Data Type Conversion

You can convert from one type to another with the int(), float(), and complex() methods:

Convert from one type to another:

x = 1 # int  
y = 2.8 # float  
z = 1j # complex  
  
#convert from int to float:  
a = float(x)  
  
#convert from float to int:  
b = int(y)  
  
#convert from int to complex:  
c = complex(x)  
  
print(a)  
print(b)  
print(c)  
  
print(type(a))  
print(type(b))  
print(type(c))