

Main Data Types

In this notebook, we revisit data types in Python and also look at how values of one type can be converted to another

All Python variables and constants are categorized into types. Main types to start off: `str`, `int`, `float`

In [5]:

```
'''
Use the type() function to find out the type of the value or variable
'''
c = type(5678)
print(c)
print(type(5678))
print(type(45.83))
print(type('hajksdl'))
```

```
<class 'int'>
<class 'int'>
<class 'float'>
<class 'str'>
```

In [6]:

```
'''
You can convert a variable of one type to another by using the appropriate inbuilt function.
int(), float(), str().
'''
i = 45
x = 25.5
my_str = 'Hello'
my_int_str = '145'
my_float_str = '145.8'
print(type(i))
print(type(x))
print(type(my_str))
print(type(my_int_str))
print(type(my_float_str))
```

```
<class 'int'>
<class 'float'>
<class 'str'>
<class 'str'>
<class 'str'>
```

In [7]:

```
'''
Builtin functions can be used to convert one type to another only if the values are "convertible".
'''
my_str = 'Hello'
my_int_str = '145'
my_float_str = '145.8'
my_int1 = int(my_int_str) # This is will work as expected
print(type(my_int1))
#my_int2 = int(my_float_str) #This will generate an error since the value of my_float_str cannot be
converted to int
my_float1 = float(my_float_str)
print(type(my_float1))
my_float = float(my_str) # This will generate an error since my_str cannot be converted to a float
value
```

```
<class 'int'>
<class 'float'>
```

ValueError Traceback (most recent call last)
<ipython-input-7-1b893980fcfa> in <module>

```
10 my_float1 = float(my_float_str)
11 print(type(my_float1))
--> 12 my_float = float(my_str) # This will generate an error since my_str cannot be converted to
a float value
```

ValueError: could not convert string to float: 'Hello'

In [8]:

```
'''
convert i to a float value
convert x to a str value
can you convert my_str to an int value? to a float value?
can you convert i to a str value?
can you convert x to an int value?
'''
i = 67
x = 23.5
my_str = 'Wow'
```