Introduction to Python

Part 1

What we will learn

In this part of the course, we will learn how to:

- understand Python data types and data structures that are important for data science
- manipulate strings
- define and call Python functions
- call a Python object's methods and access its properties
- perform a sequence of operations using method chaining

Data types in Python

Python variables can store data of different types. These types are as follows:

- Strings
- Integers
- Floats
- Booleans

Data Type	Python Data Type	Example
string	str	“Hello world!”
integer	int	18
floating point	float	5.6
Boolean	Bool	True

Data types in Python

Use the **type()** function to find the data type of a variable

```
type("Hello")
```

str

```
type(True)
```

Bool

```
age = 27
type(age)
```

int

If you know the data type of a data item, you know what you can do with it. For instance, you can join a string with another string or perform mathematical operations on an integer.

Accessing characters in strings

- You can access:
- a **character** in a string using an **index** (note: these start at **[0]**)

```
name = "Ringo Starr"
```
⟹ name[0] "R"

- a character at the end of a string using a **negative index**

```
name[-1]
```
⟹ "r"

- a range of characters using **slicing**:
  - from index 1 to index 3 (but not including 3)

```
name[1:3]
```
⟹ "ing"

  - from index 0 to index 5 (but not including 5)

```
name[1:5]
```
⟹ "Ringo"

  - the last two characters

```
name[-2]
```
⟹ "rr"