



INTRO TO PYTHON FOR DATA SCIENCE

Variables and Types

Variable

- Specific, case-sensitive name
- Call up value through variable name
- 1.79 m – 68.7 kg

```
In [1]: height = 1.79
```

```
In [2]: weight = 68.7
```

```
In [3]: height
```

```
Out[3]: 1.79
```



Calculate BMI

```
In [1]: height = 1.79
```

```
In [2]: weight = 68.7
```

```
In [3]: height  
Out[3]: 1.79
```

```
In [4]: 68.7 / 1.79 ** 2  
Out[4]: 21.4413
```

```
In [5]: weight / height ** 2  
Out[5]: 21.4413
```

```
In [6]: bmi = weight / height ** 2
```

```
In [7]: bmi  
Out[7]: 21.4413
```

$$\text{BMI} = \frac{\text{weight}}{\text{height}^2}$$

Reproducibility

 my_script.py

```
height = 1.79
weight = 68.7
bmi = weight / height ** 2
print(bmi)
```

Output:
21.4413

Reproducibility

 my_script.py

```
height = 1.79
weight = 74.2 ←
bmi = weight / height ** 2
print(bmi)
```

Output:
23.1578

Python Types

```
In [8]: type(bmi)  
Out[8]: float
```

```
In [9]: day_of_week = 5
```

```
In [10]: type(day_of_week)  
Out[10]: int
```

Python Types (2)

```
In [11]: x = "body mass index"
```

```
In [12]: y = 'this works too'
```

```
In [13]: type(y)
```

```
Out[13]: str
```

```
In [14]: z = True
```

```
In [15]: type(z)
```

```
Out[15]: bool
```

Python Types (3)

```
In [16]: 2 + 3  
Out[16]: 5
```

Different type = different behavior!

```
In [17]: 'ab' + 'cd'  
Out[17]: 'abcd'
```




INTRO TO PYTHON FOR DATA SCIENCE

Let's practice!