

Introduction to Python Day 2

Verjina Metodieva and Daniel Parthier

2025-02-04

Jupyter Notebook

Recap homework

Let's take a look at the homework

Functions part 2

Goal of today

```
# TODO: add useful example to introduce class
# Some function we have to decide
def useful_function(par1, par2, par3):
    # some loop
    for i in par1:
        if par1 == "something":
            # do something
        else:
            pass # or something else
    return None # or an object
```

This is an example to showcase what we will achieve today.

Global vs. Local

Short interlude

- Whole numbers: Integers `int`

```
type(1)
```

```
int
```

- Real numbers: Floats `float`

```
type(1.0)
```

```
float
```

- Most of the time it might not matter¹

```
1 == 1.0
```

```
True
```

- Sometimes there is a difference and we will see later why

Most of the time python handles the integer vs. float automatically. You will not have to worry about assigning.

Conditional statements

The important question of what to do “if” something happens.

- Programming languages are languages
- `if` something is `True`
 - you should do `something`
- `else`
 - do `something else`

¹In python

```
if statement:
    print("the statement is true")
else:
    print("the statement is false")
```

This structure is the simplest of conditionals. The statement has to be `True` to enter the `if` part to execute. Should the statement be `False` it will skip and enter the `else` part which will then be executed.

Multiple if-statements

```
value = 3
if value == 1:                                ①
    print("the value is 1")
elif value == 2:                              ②
    print("the value is 2")
elif value == 3:                              ③
    print("the value is 3")                    ④
else:
    print("the value is something else")
```

- ① Check if `value` is 1
- ② Check if `value` is 2
- ③ Check if `value` is 3
- ④ Execute block

the value is 3

Statements will be checked sequentially. Should one statement be `True` the corresponding part of the `if/elif` block will be executed. All other blocks after that will be skipped. This means one `True` expression is enough.

How to check if everything is true?

For loops

Enumerate

Range

List comprehension

Compare different functions

While loops

- Perform a task `while` something is `True`
- Be careful:
 - Some loops never finish (get stuck)
 - Make sure that condition for ending the loop can be fulfilled

```
while check_condition:  
    perform_task()
```

Errors and how to read them

There are useful resources regarding errors

- Simply googling works surprisingly well
- You will often end up on [stackoverflow](#)
 - There is no question which was not already asked²

²if that is not true open up a question



JOBS
powered by **indeed**

**Finden Sie Ihren
nächsten
Karriereschritt mit
einer einfachen Suche**

Jetzt entdecken →

An advertisement for Indeed. It features the Indeed logo (a stylized orange 'i' made of horizontal lines) and the text 'JOBS powered by indeed'. Below this, the text reads 'Finden Sie Ihren nächsten Karriereschritt mit einer einfachen Suche'. At the bottom is a blue button with the white text 'Jetzt entdecken →'. The background is a blurred image of a laptop screen displaying a job listing.

- 🐻 What can a bear superhero use as a projectile?
- 🐉 Looking for an old fantasy book about dragons. Small ones are kept as pets but others are killed. Main character is from an underground society
- 🍷 Why can pressure be identified as partial of energy with respect to volume?
- 🕵️ How can the Director of National Intelligence be unaware of IMF?
- 💻 miks ex4d to log: 128-byte indices cannot handle dates beyond 2038 and are deprecated
- 📖 Is it appropriate to abbreviate authors' names in function names, even with proper attribution?
- 🕒 Is 13 minutes enough time to change platforms in

Fix errors