First Steps with Python

Report of Contributions

https://events.hifis.net/e/1189

Contribution ID: **1** Type: **not specified**

Welcome & Organization

Monday 22 January 2024 10:00 (15 minutes)

Contribution ID: **2** Type: **not specified**

Setting up a Python Project

Monday 22 January 2024 10:15 (15 minutes)

You learn how a basic project is set up and explore two approaches to Python programming: using the REPL and writing Python files.

Session Classification: Lessons

Contribution ID: **3** Type: **not specified**

Importing

Monday 22 January 2024 11:15 (15 minutes)

Since projects often get distributed over multiple files or require code from other sources, we will investigate how to import code from other files or libraries.

Session Classification: Lessons

Contribution ID: **4** Type: **not specified**

Variables, Assignments and Data Types

Monday 22 January 2024 10:30 (45 minutes)

Get to know the basic constructs for storing and manipulating information in a program. Understand what data types are and how they influence how information is processed.

Session Classification: Lessons

Contribution ID: **5** Type: **not specified**

Conditionals

Monday 22 January 2024 12:30 (45 minutes)

It is often necessary to check conditions and act accordingly. This section will cover expressing those conditions and how to control in which order they get checked and how to react to them.

Session Classification: Lessons

Contribution ID: **6** Type: **not specified**

While-Loops

Monday 22 January 2024 13:15 (45 minutes)

Loops are a good choice when it comes to repeating actions. In this section, the “while”-loop will be introduced as a method of repeating code based on condition.

Session Classification: Lessons

Contribution ID: **7** Type: **not specified**

Recap from Day 1

Tuesday 23 January 2024 10:00 (15 minutes)

Contribution ID: **8** Type: **not specified**

Functions

Tuesday 23 January 2024 10:15 (1 hour)

Splitting parts of programs off into self contained, reusable blocks is a good way to handle complexity and allow for parts of a program to also be used in other projects.

Session Classification: Lessons

Contribution ID: **9** Type: **not specified**

For-Loops

Tuesday 23 January 2024 11:15 (15 minutes)

Introducing the second kind of loop, the “for”-loop is well suited to iterate over a set of data or repeat a set of instructions a given amount of times.

Session Classification: Lessons

Contribution ID: **10** Type: **not specified**

Recap from Day 2

Wednesday 24 January 2024 10:00 (15 minutes)

Contribution ID: **11** Type: **not specified**

Tuples

Wednesday 24 January 2024 10:15 (30 minutes)

Tuples are a great way to bundle up multiple values. Learn how to employ them and take advantage of Python's automatic Packing/unpacking feature.

Session Classification: Lessons

Contribution ID: **12** Type: **not specified**

Lists

Wednesday 24 January 2024 10:45 (30 minutes)

Another very useful data type is the List, a sorted collection of data. In this section we introduce some basic functionality and learn where to find more detailed information for this data type and many others.

Session Classification: Lessons

Contribution ID: **13** Type: **not specified**

Finalizing the Project

Wednesday 24 January 2024 11:15 (15 minutes)

We will put some finishing touches on our example project to make it ready for a first release. Further, possible future learning paths will be outlined.

Session Classification: Lessons

Contribution ID: **14** Type: **not specified**

Exercise: Basics

Monday 22 January 2024 14:30 (1h 30m)

In this exercise session we will write our first own programs to solve small problems. The focus is on gaining experience with the use of assignments, conditionals and loops and fostering structure-oriented thinking.

Session Classification: Exercises

Contribution ID: **15** Type: **not specified**

Exercise. Functions

Tuesday 23 January 2024 14:30 (1h 30m)

In addition to the basic concepts we will now also use functions to better structure and sub-divide our programs, enabling us to solve increasingly complex tasks.

Session Classification: Exercises

Contribution ID: **16** Type: **not specified**

Exercise: Increased complexity

Tuesday 23 January 2024 12:30 (1h 30m)

Further training the use of the basic structures to solve increasingly complex problems. Planning approaches to solve tasks that are increasingly hard to solve by “just doing it”.

Session Classification: Exercises

Contribution ID: **17** Type: **not specified**

Exercise: Larger Programs

Wednesday 24 January 2024 12:30 (1h 30m)

In this exercise part we will encounter increasingly complex tasks that also require the use of lists, tuples, other loop structures and imports. The required approaches need to become increasingly more structured and require subdividing into multiple files.

Session Classification: Exercises