Python Developer (code: LC-PYTHON)

Overview

Python is one of the most universal programming languages. It can be used for calculations, creating computer games, automating everyday activities and as a web application engine. This versatility means that it is often chosen even for non-programmers to simplify their everyday work. Also increasingly popular among engineers, analysts and in Big Data. The course is designed for people who are new to programming. Python can be learned by everyone!

Duration

80h

Agenda

1. **Introduction to programming**
   — the basics of computer operation
   — operating systems, programs, frameworks and libraries
   — overview of programming languages
2. **Introduction to the Python language**
   — genesis and history of Python
   — applications and possibilities
   — Python 2.x vs. Python 3.x
3. **Installation and configuration of the environment**
   — Python interpreter
   — virtual environment (venv)
   — integrated development environment (IDE) ('PyCharm' editor)
4. **The basics of the Python language syntax**
   — interaction with the user
   — variables and basic data types
   — data structures
   — conditional statement
   — loops
   — comprehensions
5. **Procedural programming**
   — basics of defining functions
   — passing arguments
   — documentation and annotations
6. **Object-oriented programming**
   — basis for defining classes
   — special methods
   — static and class methods
   — inheritance
7. **Exception handling**
   — throwing and capturing exceptions
   — defining your own exceptions
8. **Code organisation**
   — modules and packages
   — project structure
9. **Python Standard Library**
   — regular expressions (`re` module)
   — handling command line parameters (`argparse` module)
   — handling date and time (`datetime` module)

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    — advanced collections (`collections` module)
    — graphical user interface (GUI) (tkinter module)
10. **Installation of external libraries**
    — package repository (PyPI)
    — package installer (the `pip` tool)
    — management of dependencies in the project
11. **Input / output operations**
    — file operations
    — HTTP queries
    — object serialization (with `json` and `pickle` modules)
12. **Testing and debugging software**
    — testing using the standard library (`unittest` module)
    — external tools supporting testing (`pytest` project)
    — debugging code (module `pdb` and debugger built into `PyCharm`)
13. **Python applications**
    — web applications (`Django` framework)
    — data analysis and visualization (`pandas` and `matplotlib` libraries)
    — scientific calculations (`SciPy` and `NumPy` libraries)
14. **Good programming practices in Python**
    — coding style and conventions (PEP8)
    — idiomatic solutions

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Target audience and prerequisites

We require the participants to have a general familiarity with computers (ability to copy files, use text editors) and the ability to type quickly. Programming is difficult, especially at the beginning. It can be compared to learning a foreign language or playing musical instruments. Therefore, apart from attending the classes, it's important to have enough time to practice at home.

Certificates

Course participants receive completion certificates signed by ALX.

Locations

— Warsaw (English) – Jasna 14/16A
— Online (English) – your home, office or wherever you want
— any other location (London, UK, EU) on request

Price

1290 EUR

The price includes:

— course materials,
— snacks, coffee, tea and soft drinks,
— course completion certificate,
— one-time consultation with the instructor after course completion.