Faysal Aziz

Programming in Python

FA-0478 · 3 days

Software Development

Introduction

This course prepares the individual with universal computer programming concepts like data types, containers, functions, conditions, loops, as well as Python programming language syntax, semantics, and the runtime environment. This course follows the requirements set by the PCEP™ – Certified Entry-Level Python Programmer examination syllabus. As such, the learner may take the certification exam if he / she wishes - although sufficient practice is required.

Duration

3 days

Learning Outcome

By the end of this course, the learner may be expected to have sufficient knowledge on the following:

- Basics of programming
- Data structures
- Algorithms
- Pseudo coding
- High level programming concepts
- Python structure
- Python syntax and operations
- IDE’s, interpreters and compilers
- I/O structure
- Object Oriented Programming
- Application development in python
- Deployment

Prerequisites

- Internet connection
- Ability to install programs
- Willingness to learn

Training outline

1. Fundamentals of programming

1. Instructions system and logic
2. Data and storage
3. Communications

2. Basics of programming in python

1. Understand Python's logic and structure
2. Introduce literals and variables into code and use different numeral systems
3. Choose operators and data types adequate to the problem
4. Build complex expressions and determine data type

3. Control flow

1. Make decisions and branch the flow with the if instruction
2. Perform different types of iterations

4. Data Structures

1. Collect and process data using lists
2. Collect and process data using tuples
3. Collect and process data using dictionaries
4. Operate with strings

5. I/O Basics

1. Perform complex Input/Output operations
2. Filing system

3. OS and nuances

6. Functions

1. Decompose the code using functions
2. Organize interaction between the function and its environment
3. Basics of recursion
4. Basics of memoization

7. OOP

1. Introduction
2. Structure
3. Inheritance
4. Polymorphism
5. Overrides
6. Implementation

This course requires a lab for every participant.

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