

An Introduction to Python Programming

Course Outline and Specification



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Introduction

This course is an introduction to Python programming, for those who are new to Python programming concepts, detailing areas such as understanding the editor, variables, data types, functions, conditions, loops, and arrays.

This is an interactive course and practical in nature. It can be held fully self-paced, online or within the classroom, to suit learner needs.

A practical course throughout, learners should be prepared to program directly from the beginning.

Duration

This is a one day short-course in a classroom setting or can be held online and tutor-led over a number of sessions, or alternatively self-paced via purely online learning.



Course Outline

Introduction to Python

- Using the IDLE
- Getting to know the editor
- The Python command line
- Using syntax
- Creating comments

Understanding Operators

- Getting to know operator values, such as: add, subtract, multiply and divide
- Applying Python operators with values and variables, such as: arithmetic, assignment and logical

Understanding Variables

- An introduction to variables
- Understanding variable case
- Assigning values to a variable
- Outputting variables
- Differences between global and local variables

Understanding Lists

- Defining lists
- Data types
- Index ranges
- Insert, change, add, extend, and remove items
- Sorting lists

Data Types

- Understanding data types
- Using and using data types
- Using classes

Loops

- Using For
- Using a range
- Using While

Strings

- Assigning strings
- Using strings methods, such as: looping, slicing, length, modifying, formatting, checking and characters

Tuples

- Ordered lists
- Creating tuples
- Data types
- Using methods
- Using loops

Boolean and Values

- True and False values
- Boolean Functions
- Creating a simple program using Boolean values

Sets and Dictionaries

- Understanding set values
- Data types and functions
- Understanding dictionaries
- Items and types
- Functions and methods



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