

Video Training Python

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Installation & Getting Started

- [Get Started Tutorial for Python in Visual Studio Code](#)
- [Python in Visual Studio Code](#)
- [Hello World](#)
- [How to: Install Jupyter Notebook on an Android device](#)
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Python Exercises

Python Language Basics

- [Handouts - Python Language Basics](#)

Print() Function:

- [Python print\(\) function](#)
- [How to print multiple lines](#)
- [100 times "hello world" without loop](#)

Comments:

- [A Comprehensive Guide to Single Line & Multi-Line Comments](#)

Indentation:

- [Python Quiz - Basics](#)

Variables and Assignments

- [Handouts: Variables](#)
- [Video: Variables in Python](#)
- [Vide: Python Variables and Assignment](#)
- [Video: Asterisk \(*\) in Variable Assignment \(New\)](#)

Local and Global Variables:

- [Video: Local vs Global Variables in Python](#)
- Python Challenge to test your knowledge [Quiz #1](#)

Python Quiz - Variables

Data Types

- [Handouts: Data Types](#)

str:

- [Find Occurrences in Strings Effortlessly with Python's Count Method](#)
- [How to Replace the Second Occurrence of a Character in a String](#)
- [String swapcase\(\) Method](#)

Python Quiz -String**int:**

- [How to use int variable](#)
- [int variable](#)
- [How to Convert a Python String to int](#)
- [How to Convert a Python integer to string](#)
- [Convert integer to octal and hexadecimal](#)

float:

- [float variable](#)

bool:

- [Exploring Boolean Values and Type Checking with isinstance\(\) and bool\(\) functions](#)

Python Quiz - Scalar Types

Operators

- [Handouts: Operators](#)

1. Arithmetic Operators:

- [Why does -22 // 10 return -3?](#)
- [Calculating The Exponential Value](#)

2. Comparison Operators: 3. Assignment Operators: 4. Logical Operators:

- [Understand the OR operator](#)

5. Identity Operators:

- [Why You Should Avoid Using the 'not...is' Operator | Python Best Practices](#)

6. Membership Operators:

7. Bitwise Operators:

Python Quiz -Operators

Functions

- [Handouts: Functions](#)
- [How to Add Two Numbers and Print the Result](#)
- [Learn How to Use Default Parameters in Function Definition](#)
- [Understanding *args in Functions - How to Add Any Number of Arguments with *args](#)
- [How to Use *args in Python Functions](#)
- [How to use **kwargs in Python](#)

Python def examples:

- example #1: [How to Write a Python Function to Find the Length of a Word](#)
- example #2: [How to Find the Maximum Value in a List of Numbers](#)

Python Quiz - Functions

Anonymous (Lambda) Functions

- [#1 How to: Use of Lambda function](#)
- [#2 How to: Use of Lambda function](#)

Python lambda examples:

- [How to: use a LAMBDA function as an argument in filter\(\) and map\(\)](#)

Generators

- [How to Use Yield to Generate Values](#)

Python generator examples:

- [Learn to Generate the Fibonacci Sequence in Python using Generators](#)

Control Flow Statements

if Statement

- [How to check if a number is odd or even](#)
- [Python Program to Find Grade of a Student Using if elif else](#)
- [Use Walrus Operator with if-else \(New\)](#)
- [How to Write Single-Line Code Instead of If-Else Statements \(New\)](#)

Python Quiz -IF

for Statement

- [For loops in Python](#)
- [Underscore to Ignore Values in for loop \(New\)](#)

while Statement

- [Learn how to use while loops](#)
- [Learn how to use INFINITE while loop](#)
- [Python while loop](#)

The Range() function

- [The range\(\) Function](#)
- [Use of range\(\) in for loop](#)

The break and continue Statement

- [How to Effectively Use Break and Continue Statements](#)
- [Using Python break statement with a while loop](#)

The else Clauses on Loops

pass Statement

match Statement

- Python Challenge to test your knowledge [Quiz1](#) | [Quiz2](#) | [Quiz3](#) | [Quiz4](#) | [Quiz5](#)

Data Structures and Sequences

- [Handouts: Data Structures and Sequences](#)

Tuple:

- [#1 Tuple Assignment](#)
- [#2 Tuple Assignment](#)
- [How to create a tuple in Python](#)
- [Learn how to print elements of a tuple](#)
- [How to Calculate the Sum of a Tuple Using a For Loop](#)
- [How to create an Empty tuple and Single value tuple](#)
- [How to: Access Tuple Items in Python](#)

list

- [How to use list](#)
- [Python List Slicing](#)
- [Python Nested List](#)
- [How to modify a list by replacing multiple elements with a single element](#)
- [Adding and Removing Elements from a Python List](#)
- [Check if Data Structure is Empty Using 'not' Operator](#)

- [Remove duplicate elements from a list](#)

List Methods:

- [List Index Function: Find the Index of an Element in a List](#)
- [List pop\(\) Method](#)

Built-in Sequence Functions:

- [#1 Python zip\(\) Function](#)
- [#2 Python Zip Function: Handling Lists with Different Numbers of Elements](#)
- [Python Iterators and Iterables: How to Loop Over Lists and Iterators](#)
- [How to Iterate Over Tuples with the Enumerate Function](#)
- [Python example: Finding the maximum value in a list using a one-liner](#)
- [Python example: Find the sum of all even numbers between 1 and 100 using a one-liner](#)
- [Python example: Counting the number of occurrences of an element in a list](#)

dict

- [Use of dict](#)
- [How to Print a Dictionary](#)
- [Python Dictionary with For Loop](#)
- [How to Merge Dictionaries with the | Operator](#)

dict Methods:

- [dictionary copy\(\) method](#)

set

- [How to: Add or Remove Elements in a Set](#)
- [How to: Create Empty Set in Python](#)
- [Find the Union of Two Sets in Python](#)

List, Set and Dict Comprehensions

List comprehension examples:

- [List Comprehension with Easy-to-Understand Code Example](#)
- [Create a list of squares of all even numbers](#)
- [How to Convert List Elements to Upper Case](#)
- [How to: Use list comprehension for DATA CLEANING](#)
- [Real-Life Use Case for List Comprehension](#)
- [Python Challenge to test your knowledge Quiz1 Quiz2 Quiz3](#)

Python Sorting

- [Handouts: Python Sorting](#)
- [List sort\(\) Function](#)
- [sorted\(\) Function](#)

Python sorting examples:

- example #1: [Sorting a List of Colors by Length using Python's sorted\(\) Function](#)
- example #2: [How to Sort a List of Fruit Tuples](#)
- example #3: [Sorting a List of Dictionaries by Age using Lambda Function](#)

Error and Exception Handling

- [Python Exception Handling run-time error : division by zero](#)

Python Performance

- [List vs Tuple Memory Usage Comparison using sys module](#)
- [Performance Comparison of For Loop vs List Comprehension](#)

Python in Excel

- [Handouts: Python in Excel](#)

Classes - Object Oriented Programming

- [Handouts: Classes](#)
- [How to Create a Class in Python](#)
- [What is Class Constructor](#)
- [Python Attributes: Class and Instance Attribute Example](#)

Modules

Numpy

- [Handouts: Numpy](#)
- [#1 NumPy | How to Create 1D, 2D, and 3D Arrays in NumPy](#)
- [#2 NumPy | Python NumPy Array Creation Methods Explained | Zeros, Ones, Empty, Arange, and Linspace](#)
- [#3 NumPy | Python Array Dimensions: Understanding Shape and Size @yasirbhutta](#)
- [#4 Python NumPy Tutorial: Reshape an Array](#)
- [#5 Python NumPy Tutorial: Indexing and Slicing](#)
- [#6 Python NumPy Tutorial: Vertically and Horizontally Stack Arrays with vstack and hstack](#)

- [#7 Python NumPy Tutorial: Mastering Arithmetic and Logical Operations for Efficient Data Processing](#)
- [#8 NumPy | Matrix Multiplication using NumPy in Python](#)
- [#9 NumPy | Matrix Transpose using NumPy in Python](#)
- [#10 NumPy | Inverse of a Matrix in Python with NumPy](#)
- [#11 Python NumPy: How to Find Unique Values in an Array](#)
- [#14 Python NumPy Tutorial: 3 Ways to Use a Random Generator](#)

Numpy in Python examples:

- [How to Handle Missing Values in NumPy with Masked Arrays](#)
- [Generate a Random Number Between 0 and 1 in #Python with #NumPy](#)

pandas

- [Handouts: pandas](#)
- [How to Create a Data Frame with Fruits and Colors Example](#)

calendar

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- [Print the calendar for a specific month](#)

File Handling

Read CSV and XML Files

Python Regular Expressions

Python Utilities

Testing

Modules

Data Analysis