

# Python Course Outlines

## 00-Python Object and Data Structure Basics

- Numbers (int, float)
- Variable Assignments
- Strings
- Print formatting with strings
- Lists
- Dictionaries
- Tuples
- Sets and Booleans
- Python Object and Data Structure Assignments Test
- Python Object and Data Structure Assignments Test Solutions

## 01-Python Comparison Operators

- Comparison Operations
- Chained Comparison Operations

## 02-Python Statements

- Introduction to python statements
- If, elif and else statements
- For loops
- While loops
- Useful operations
- List comprehension
- Statement Assessment Test
- Statement Assessment Test Solution
- Optional Project: Guessing Game Challenge
- Guessing Game Challenge Solution

### 03-Methods and Functions

- Methods
- Functions
- Functions Practice Exercises
- Functions Practice Exercises Solutions
- Lambda expression, Maps and Filters
- Nested statement and scope
- Args and kwargs
- Functions and Methods Homework
- Functions and Methods Homework Solutions

### 05-Object Oriented Programming

- Object Oriented Programming (OOP)
- Object Oriented Programming Homework
- Object Oriented Programming Homework Solutions

## Advance Python

### 06-Working-with-Images

- Overview of working with images
- Image Exercises
- Image Exercises Solutions

*Optional Class: Guide on using Jupyter Notebook*

#### Focus:

- *Programming and Python fundamentals*
- *Data structures*
- *Algorithms, object-oriented programming, & Pythonic style*
- *Reading and writing data*
- *Python data science packages*
- *SQL*
- *Data munging*
- *Object-relation mapping*