

# **Sohani Computer Classes**

## **Python Course Content**

### **Course Overview**

**Course Introduction**

**Course Curriculum Overview**

**Python 2 versus Python 3**

### **Python Setup**

**Command Line Basics**

**Installing Python (Step by Step)**

**Running Python Code**

**Getting the Notebooks and the Course Material**

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### **Python Object and Data Structure Basics**

**Introduction to Python Data Types**

**Python Numbers**

**Variable Assignments**

**Introduction to Strings**

**Indexing and Slicing with Strings**

**String Properties and Methods**

**Print Formatting with Strings**

**Print Formatting**

**Lists in Python**

**Lists**

**Dictionaries in Python**

**Tuples with Python**

**Booleans in Python**

**I/O with Basic Files in Python**

**Python Objects and Data Structures Assessment Test Overview**

**Python Objects and Data Structures Assessment Test Solution**

### **Python Comparison Operators**

**Comparison Operators in Python**

**Chaining Comparison Operators in Python with Logical Operators**

### **Python Statements**

**If Elif and Else Statements in Python**

**For Loops in Python**

**While Loops in Python**

**Useful Operators in Python**

**List Comprehensions in Python**

**Python Statements Test Overview**

**Python Statements Test Solutions**

# **Sohani Computer Classes**

## **Methods and Functions**

**Methods and the Python Documentation**

## **Functions in Python**

**\*args and \*\*kwargs in Python**

**Function Practice Exercises – Overview**

**Function Practice Exercises – Solutions**

**Function Practice - Solutions Level One**

**Function Practice - Solutions Level Two**

**Function Exercise Solutions - Challenge Problem**

**Lambda Expressions, Map, and Filter Functions**

**Nested Statements and Scope**

**Functions and Methods - Homework Assignment**

**Functions and Methods Homework - Solutions**

## **Milestone Project – 1**

**First Python Milestone Project Overview**

**Solution Overview for Mile Stone Project 1**

**Advanced Project Solution Overview**

## **Object Oriented Programming**

**Object Oriented Programming – Introduction**

**Object Oriented Programming - Attributes and Class Keyword**

**Object Oriented Programming - Class Object Attributes and Methods**

**Object Oriented Programming - Inheritance and Polymorphism**

**Object Oriented Programming - Special (Magic/Dunder) Methods**

**Object Oriented Programming – Homework**

**Object Oriented Programming - Homework Solutions**

**Object Oriented Programming - Challenge Overview**

**Object Oriented Programming - Challenge Solution**

## **Modules and Packages**

**Pip Install and PyPi**

**Modules and Packages**

**`__name__` and `"__main__"`**

## **Errors and Exceptions Handling**

**Errors and Exception Handling**

**Errors and Exceptions Homework**

**Errors and Exception Homework – Solutions**

**Pylint Overview**

**Running tests with the Unit test Library**

# **Sohani Computer Classes**

## **Milestone Project – 2**

**Milestone Project 2 Overview**

**Solution Walkthrough - Card and Deck classes**

**Solution Walkthrough - Hand and Chip Classes**

**Solution Walkthrough - Functions for Game Play09:11**

**Solutions Walkthrough - Final Gameplay Script**

## **Python Decorators**

**Decorators with Python Overview**

**Decorators Homework**

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## **Python Generators**

**Generators with Python**

**Generators Homework Overview**

**Generators Homework Solutions**

## **Final Capstone Python Project**

**Final Capstone Project**

## **Advanced Python Modules**

**Collections Module – counter**

**Collections Module – defaultdict**

**Collections Module – OrderedDict**

**Collections Module - namedtuple**

**Datetime**

**Python Debugger – pdb**

**Timing your code – timeit**

**Regular Expressions -re**

**StringIO**

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## **Advanced Python Objects and Data Structures**

**Advanced Numbers**

**Advanced Strings**

**Advanced Sets**

**Advanced Dictionaries**

**Advanced Lists**

**Advanced Python Objects Assessment Test**

**Advanced Python Objects Test - Solutions**

## **Bonus Material - Introduction to GUIs**

**Interact Functionality with GUIs**

**GUI Widget Basics**

**List of Possible Widgets**

**Widget Styling and Layouts**

**Example of what a Widget can do!**

## **BONUS SPECIAL OFFERS**

# **Sohani Computer Classes**

**Bonus Lecture: Coupons**

## **APPENDIX: OLDER PYTHON 2 MATERIAL**

**How to Approach This Course**

**Python 2 vs Python**

**Jupyter Notebook Installation**

**Notebooks**

**Numbers**

**IDE Selection**

**Strings**

**Print Formatting**

**Lists**

**Dictionaries**

**Files**

**Sets and Booleans**

**Tuples**

**Objects and Data Structures Assessment Test**

**Objects and Data Structures Assessment – Solutions**

**Comparison Operators**

**Chained Comparison Operators**

**Introduction to Python Statements**

**if, elif, and else Statements**

**for Loops**

**while Loops**

**range()**

**List Comprehensions**

**Statements Assessment Test**

**Statements Assessment Solutions**

**Methods**

**Functions**

**lambda expressions**

**Nested Statements and Scope**

**Milestone Project 1 Section**

**Milestone Project 1 -Assignment Overview**

**Milestone Project 1 - Solution Walkthrough - Part**

**Milestone Project 1 - Solution Walkthrough – Part**

**Milestone Project 1 - Solution Walkthrough – Part**

**OOP - Part 1 – Objects**

**OOP - Part 2 – Classes**

**OOP - Part 3 –Methods**

**OOP - Part 4 – Inheritance**

**OOP - Part 5 - Special Methods**

**OOP Homework Assignment**

**OOP Homework Solution**

**Errors and Exceptions**

**Exception Handling: try, except, finally**

**Errors and Exceptions Homework**

**Errors and Exceptions – Solutions**

**Modules, Packages, and Imports**

**Modules and Packages Assignment**

**Create your own Python modules.**

# **Sohani Computer Classes**

**Project Overview**

**Project 2 Solution**

**Map**

**Reduce**

**Filter**

**Zip**

**Enumerate**

**all() and any()**

**Complex**

**Built-in Functions Assessment Test**

**Built-in Functions Assessment Test Solutions**

**Decorators - Part 1**

**Decorators - Part 2**

**Decorators - Part 3**

**Iteration vs Generation**

**Creating Generators**

**Iterators and Generators Homework**

**Iterators and Generators Homework – Solutions**

**Interact**

**Widget Basics**

**Widget Events**

**Widget List**

**Widget Styling**

**Custom Widget Example**