

Department of Computer Science, Gujarat Vidyapith & Gujarat Vidyapith Computer Science Alumni Association

Short Term Course Python Programming Language

Start Date – 23/08/2018

Duration approx. - 80 hrs.

1 Introduction

Installation Setup and Overview
IDEs and Course Resources
Command Line Basics
Running Python Code
Git and GitHub Overview (Optional)

2 Introduction to Data Types

Numbers
Numbers: Simple Arithmetic

3 Introduction to Strings

Quick Print Check
Indexing and Slicing with Strings
String Properties and Methods
Print Formatting with Strings

4 Booleans in Python

5 Data Structure

Lists in Python
Dictionaries in Python
Tuples with Python

6 Python Comparison Operators

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

7 Python Statements

If and Else Statements in Python
For Loops in Python
While Loops in Python
Useful Operators in Python
List Comprehensions in Python

8 I/O with Basic Files in Python

9 Methods and Functions

Methods and the Python Documentation
Functions in Python

10 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

11 Modules and Packages

Pip Install and PyPi

Modules and Packages

12 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

13 Python Decorators

Decorators with Python Overview

14 Python Generators

Generators with Python

15 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

Advanced Python Modules FAQ

NOTE: Projects and Exercise can be given based on the web application using

<https://cloud.google.com/appengine/docs/python/>

Contact Details : Email : stc.cs@gujaratvidyapith.org

Contact No : 9426587062 / 40016326