deerwalk
training center

DTD-PSD-106

Diploma in Python Programming

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Program Information

Nature of the Course
Theory + Practical

Total Hours per Day
2 hours

Course Duration
120 Hours

Course Summary

Diploma in Python course is targeted for beginners who want to learn how to think and write meaningful pieces of codes or read codes written by someone else in Python. This course teaches how to map literary description of a problem (requirement) to an application/library coded in Python. This is a core basic level course that is essential for anyone who has no prior programming experience but wishes to be a professional software engineer in the future.

Prerequisites

- No prior experience of Programming is required.
- Basics of HTML and CSS is a plus.

Course Details

Python Fundamentals

Lesson 1

Introduction to Python

- Python Installaon
- Text Editor/ IDE Installation
- Python Interpreter
- Applications of Python
- Identifiers
- Variables
- Multiple Variable Assignment
- Constants
- Comments

Lesson 2

Primitive Data Types

- Integer
- Float
- Boolean
- String
  - String Slicing
  - String methods
  - String Concatenation
  - String Formatting
  - Type Casting

Lesson 3

Python Operators

- Python Operators
- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Identity operators
- Membership operators

Lesson 5

Non-Primitive Data Types

- List
- Tuple
- Set
- Dictionary

Lesson 6

List

- Properties
- Access Value
- Update Value
- Delete/Remove value
- Insert Value
- Slice List
- Sort List
- Reverse List
- Join List
- List Comprehension

Lesson 7

Tuple

- Properties
- Access Value
- Update Value
- Join Tuple
- Unpacking

Lesson 8

Set

- Properties
- Insert Value
- Delete/Remove value
- Union, Intersection, Difference

Lesson 9

Dictionary

- Properties
- Access Value
- Update Value
- Delete/Remove value
- Insert Value
- Nested Dictionary
- User Input

Lesson 10

Conditional Statements

- if, elif, else
- Indentation
- Nested if...else
- Short Hand if...else
- pass

Lesson 11

Loops

- while loop
- for loop
- nested loop
- break
- continue

Lesson 12

Functions

- function declaration
- calling a function
- arguments
- *args
- **kwargs
- return
- local and global variable
- None
- recursion
- lambda function
- map, filter, reduce
- range function

Lesson 12

Exception Handling

- runtime errors
- try...except
- else
- finally
- raise an exception

Lesson 13

File Handling

- Opening a file
- file modes
- read, readlines
- write
- close files

Lesson 14

Python Modules and Packages

- Introduction to modules and packages
- creating a custom module
- import modules
- alias
- pip
- built-in modules
- datetime

Lesson 15

Python OOP

- Introduction to object oriented programming
- Objects and classes
- static and instance variables
- private and public variables
- instance, class and static method
- Four pillars of OOP (Inheritance, Polymorphism,
- Encapsulation, Abstraction)

Lesson 16

Advance Python

- Assertions
- Multi threading
- Decorators
- Generators
- Serialization and Deserialization
- Serialization using pickle
- Serialization using json

Python For Web Development

- How the Web Works
- Overview of Django
- Django Project
- Introduction to Projects and Apps
- Creating a Simple Web Application
- Django Life Cycle
- MVT Design Pattern
- Urls
- Views
- Templates
- Models
- Model Relationship
- Making Queries
- Django Admin
- Using Django Admin
- Django Forms
- Introduction to Rest API
- Final Project

deerwalk
training center

Sifal, Kathmandu, Nepal
Phone: +977 - 01 - 5913021 | 4567153
Mobile: +977 - 9765355167 | 9860422021
Email: training@deerwalkcompware.com
Website: deerwalktrainingcenter.com