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Learn  
**PYTHON**

**Knowledge  
For Bright Future**



# About Course

Python is a dynamic and flexible programming course designed to give advanced knowledge of python including how to write programs, create algorithms, test, debug python code and the fundamentals of data structures. Apart from being an open-source programming language, it is also one of the most versatile programming languages which is used for web development, task automation, data analysis, and data visualization.

## Learning Outcomes

- Learn how to work with various data structures within python, including: representation of strings, indexing, and slicing.
- You will be able to store multiple values in a list and loop through lists.
- You can use Python to create arcade, adventure and puzzle games that you can deploy within a few hours.
- You can work on python projects such as creating a simple python calculator, writing an interactive quiz and building an alarm clock.
- You will be able to edit and run python programs using IDEs.

## Course Duration

Months : 2 Month  
Hours : 60 hours

## Eligibility Criteria

Academic : 10th pass

## Career Opportunity

- Data Analyst
- Financial Analyst
- Data engineer
- Python developer
- Machine Learning Engineer

# Why Choose Us

- ✓ Backup class
- ✓ Expert Trainer
- ✓ Flexible Timing
- ✓ Free Library
- ✓ Practical Learning
- ✓ 100% Job Assistance

## Course Content

### INTRODUCTION TO LANGUAGES

- What is Language?
- Types of languages
- Introduction to Translators
- Compiler
- Interpreter
- What is Scripting Language?
- Types of Script
- Programming Languages v/s Scripting Languages
- Difference between Scripting and Programming languages
- What is programming paradigm?
- Procedural programming paradigm
- Object Oriented Programming paradigm

### PYTHON SOFTWARES

- Python Distributions
- Download & Python Installation Process in Windows,
- Unix, Linux and Mac
- Online Python IDLE
- Python Real-time IDEs like Spyder
- Jupyter Note Book
- PyCharm, Rodeo
- Visual Studio Code
- ATOM
- PyDevetc

### INTRODUCTION TO PYTHON

- What is Python?
- Why Python?
- Python implementations
- Python applications
- Python Versions
- Python in realtime industry
- Difference between Python and 3.x

### PYTHON LANGUAGE FUNDAMENTALS

- Interactive Mode
- Scripting Mode
- Programming Elements
- Structure of Python program
- First Python Application
- Comments in Python
- Python file extensions
- Setting Path in Windows
- Edit and Run python program without IDE
- Edit and Run python program using IDEs
- INSIDE PYTHON
- Programmers View of interpreter
- Inside INTERPRETER
- What is Byte Code in PYTHON?
- Python Debugger

## DIFFERENT MODES OF PYTHON

- Interactive Mode
- Scripting Mode
- Programming Elements
- Structure of Python program
- First Python Application
- Comments in Python
- Python file extensions
- Setting Path in Windows
- Edit and Run python program without IDE
- Edit and Run python program using IDEs
- INSIDE PYTHON
- Programmers View of interpreter
- Inside INTERPRETER
- What is Byte Code in PYTHON?
- Python Debugger

## PYTHON VARIABLES

- bytes Data Type
- byte array
- String Formatting in Python
- Math, Random, Secrets Modules
- Introduction
- Initialization of variables
- Local variables
- Global variables
- 'global' keyword
- Input and Output operations
- Data conversion functions

## OPERATORS

- Arithmetic Operators
- Comparison Operators
- Python Assignment Operators
- Logical Operators
- Bitwise Operators
- Shift operators
- Membership Operators
- Identity Operators
- Ternary Operator
- Operator precedence
- Difference between "is" vs "=="

## INPUT & OUTPUT OPERATORS

- Print
- Input
- Command-line arguments

## CONTROL STATEMENTS

- Conditional control statements
- If
- If-else
- If-elif-else
- Nested-if
- Loop control statements
- for
- while
- Nested loops
- Branching statements
- Break
- Continue
- Pass
- Return
- Case studies

## DATA TYPES AND STRUCTURES IN PYTHON

- Introduction
- Importance of Data structures
- Applications of Data structures
- Types of Collections
- Sequence
- Strings, List, Tuple, range
- Non sequence
- Set, Frozen set, Dictionary
- Strings
- What is string
- Representation of Strings
- Processing elements using indexing
- Processing elements using Iterators
- Manipulation of String using Indexing and Slicing
- String operators
- Methods of String object
- String Formatting
- String functions
- Case studies

## LIST COLLECTION

- HashSet class
- LinkedHashSet class
- TreeSet class
- PriorityQueue class
- ArrayDeque class
- Map interface
- HashMap class
- LinkedHashMap class
- TreeMap class
- Hashtable class
- Properties class

## DICTIONARY COLLECTION

- What is dictionary?
- Difference between list, set and dictionary
- How to create a dictionary?
- PYTHON HASHING?
- Accessing values of dictionary
- Python Dictionary Methods
- Reading items from Dictionary
- Delete Keys from the dictionary
- Sorting the Dictionary
- Python Dictionary Functions and methods
- Dictionary comprehension

## TUPLE COLLECTION

- What is tuple?
- Different ways of creating Tuple
- Method of Tuple object
- Process tuple through Indexing and Slicing
- List v/s Tuple
- Case studies

## FUNCTIONS

- What is Function?
- Advantages of functions
- Syntax and Writing function
- Calling or Invoking function
- Classification of Functions
- No arguments and No return values
- With arguments and No return values
- With arguments and With return values
- No arguments and With return values
- Recursion
- Python argument type functions :
- Default argument functions
- Required(Positional) arguments function
- Keyword arguments function
- Variable arguments functions
- 'pass' keyword in functions
- Lambda functions/Anonymous functions

## SET COLLECTION

- What is set?
- Different ways of creating set
- Difference between list and set
- Iteration Over Sets
- Accessing elements of set
- Python Set Methods
- Python Set Operations
- Union of sets
- Case study

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Or Need Some Help ?

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# Achievements



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We are truly overwhelmed by this chance that we have has received this honourable award by industrty expert

**Mr. Jeetendra Kumar Singh  
( Director Of IFDA )**



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## 9+ Associated Branches



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