

# **Python Course content**

## **Installation**

- Getting Started 3
- Installing Python
- Installing PyCharm IDE
- Setup Virtual Environment

## **Basic Python programming**

- A first program
- Printing
- Getting input
- Variables
- Exercises

## **Conditional Statement**

- Simple if statement
- If & else statement
- If,elif & else statement
- Nested if else
- Ternary Operator
- Exercises

## **Loops**

- For loop
- Range function
- Loop variable
- While loop
- Break statement
- Continue statement
- Exercises

## **Numbers**

- Integers and Decimal Numbers
- Math Operators
- Order of operations
- Math functions
- Exercises

## **Strings**

- Basics
- Concatenation and repetition
- The in operator
- Indexing
- Slices
- String methods

## **Lists**

- Basics
- Similarities to strings
- Built-in functions
- List comprehensions
- Two-dimensional lists
- Exercises

## **Dictionaries**

- Basics
- Dictionary methods
- Dictionary comprehensions
- Exercises

## **File Operation**

- Reading from files
- Writing to files
- Creating folder
- Reading all files
- Exercises

## **Functions**

- Basics
- Arguments
- Returning values
- Default arguments and keyword arguments
- Named Arguments
- Local variables
- Exercises

## **Object-Oriented Programming**

- Creating classes
- Constructor
- Private member
- Instance vs class variable
- Inheritance
- Exercises

**Exceptions**

- Basics
- Try/except
- Try/except/else
- try/ except /finally
- Exercises

**Miscellaneous:**

- Tuples
- Sets
- Lambda function
- map, filter, reduce
- enumerate and zip
- Exercises

**Advanced Concept (Data Science Tools)**

- Setup Jupiter notebook
- Pandas
- NumPy
- Exercises

**Web development**

- Flask
- Django

**Live Projects**

- Personalise blog
- Employee management