# **PyChamps**

# **Course Overview:**

- Title: Master Python | From Beginner to Expert
- Duration: 1 month
- Format: Online, self-paced with live sessions, quizzes, assignments, projects, and certification.
- Target Audience: Beginners with no coding experience, intermediate learners looking to solidify their skills, and advanced users aiming to master Python for specialized applications.
- Outcome: By the end of the course, students will have a thorough understanding of Python programming, be capable of developing complex applications, and possess skills to excel in data science, web development, machine learning, and automation.

# **Detailed Structured:**

## 1.1. Introduction to Programming Concepts

- What is programming?
- Python and its uses
- Installing Python and setting up the development environment (IDEs, V S Code)
- Writing your first Python program

#### 1.2. Basic Syntax and Data Types

- Variables, constants, and literals
- Data types: integers, floats, strings, Booleans
- Type conversion

#### 1.3. Basic Operations and Functions

- Arithmetic operations
- String operations and manipulations
- Built-in functions
- Writing simple functions

#### 1.4. Control Flow Statements

- Conditional statements (if, elif, else)
- Looping statements (for, while)
- Understanding break, continue, and pass statements

#### 1.5. Collections

- Lists, tuples, sets, and dictionaries
- List comprehensions
- Working with nested collections

### 1.6. Error Handling and Debugging

- Understanding errors and exceptions
- Debugging tips

#### **Assessments:**

- Quizzes on basic concepts
- Assignments (e.g., build a simple calculator)

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