Introduction

Welcome to this module on the **'Introduction to the Programming in Python'**.

This module is a prerequisite for the PG Diploma program in ML & AI. Since Python will be the main programming language used in the program, please go through the module thoroughly and attempt all the practice problems provided in the sessions.

The module does not assume any prerequisite knowledge of Python.

In this module

This module will teach you the basics of Python Programming: data structures such as lists and dictionaries, functions, conditional statements and loops, comprehensions, etc. In an upcoming module (Python for Data Science), you will learn Python specifically for data analysis. You will also learn about 'Data Visualisation in Python' in a separate module.

Module 1 will cover the following:

- Python atomic data types
- Python data structures
- Conditional statements and loops
- Comprehensions
- Functions
- NumPy
- Python for data analysis using pandas

It will not cover the following:

- Object-oriented programming (use of classes, objects, etc.)
- Data visualisation (matplotlib, ggplot)
- Generator expressions

In this session

- Installation
- Basic Python data types
- Lists
- Tuples
- Dictionaries
- Sets

Guidelines for in-module questions

The in-video and in-content questions in this module are not graded. All the other activities are non-graded as well and do not carry any weight in the assessments.

Guidelines for coding console questions

The lectures are interspersed with coding consoles to help you practice writing Python code. You will be given a brief problem statement and some pre-written code. You can write the code in the provided space, verify your answer using test cases, and submit when you are confident about the answer.

Note that the coding console questions are non-graded. Some instructions for these questions are as follows:

- Ignore the pre-written code on the console. Please don't change it.

- Write your answer where you're asked to write it.

- You may run and verify your codes any number of times, but you can submit them only twice.

People you will hear from in this session

Subject Matter Expert

[Prof. G. Srinivasaraghavan](#)

Professor, IIIT-B

The International Institute of Information Technology, Bangalore, commonly known as IIIT Bangalore, is a premier national graduate school in India. Founded in 1999, it offers Integrated M.Tech., M.S. (research), and PhD programs in the field of information technology.

You can download the reference ebook here – [Dive Into Python](#)

Additional Reading

If you want to learn more than what is provided in this module, you can optionally use the additional resources provided below:

Beginner level

- [Think Python](#)
- [The hitchhiker's guide to Python](#)
- [A byte of Python](#)

Advanced level

- [Problem-solving with algorithms](#)