Welcome to First Class

Agenda → 1) Introduction

2) Module Overview

3) Getting started with Python

4) print ()

5) Data Types

6) Variables

7) input ()

Module Overview

Below, you'll find a comprehensive breakdown of the lectures:

1 — **Date Types, Variables and I/O**
Understanding Python data types, declaring variables and performing input-output operations.

2 — **Operators**
Learn how to use arithmetic, boolean, comparison and logical operators in Python for problem solving.

3 — **Control Statements**
Learn how to control the flow of a Python program according to logical conditions using if-elif-else statements.

4 & 5 — **Loops in Python**
Learn how to use while loop and for loop for performing iterative tasks, jump statements and understand how to nest two or more loop together.

6 — **Functions Introduction**
Learn what are Python functions, how to define them, call them and use them to make the program more modular and efficient.

7 & 8 — **Lists**
Learn how to use the Python lists, perform list operations like indexing, slicing, masking and using nested lists.

9 — **Strings**
Understanding Python strings, ASCII format, string formatting & manipulation and using string methods.

10 — **Sets and Tuples**
Understanding tuples in Python and their important properties. Using Python sets and performing set operations.

11 — **Dictionaries**
Creating a dictionary in Python, storing data in form of key-value pairs. Understanding the properties of dictionaries and iterating over them.

At the end of this module, there will be a **MODULE TEST** designed to evaluate and solidify your acquired skills.

Attendance → 80%. +

PSP → 90%. +   (~5 assignments / lecture)

SQL
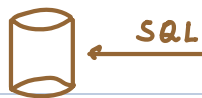
Program → Sequence of steps to do a task.

Syntax → Set of rules / grammar for writing
a computer program.

Why Python? → Easy to learn & hence popular.

* → Anyone good with Python car skip by giving test.

Data Types

1) Integer → +ve / -ve whole number   -2, 100, 32651
2) Float → decimal value   2.3, 5.6, -0.3
3) String → text (Anything inside quotes " " / ` `)
   "Hello" 'Hi'
4) Bool → True / False
5) None → Nothing / Null

Variables

Container to keep data in a reserved memory location.

$$a = 10 - 3 + 8 \qquad x = \text{"Hello Team"}$$

$$xyz = 2.3 \qquad green = True$$

Variable Naming

Combination of lowercase/uppercase letters,

digits or underscore.

$$a - z \qquad A - Z \qquad x25yA \checkmark$$

$$0 - 9 \qquad \_$$

* → Variable cannot begin with a digit. Eg 2crt ✗

Taking Input

$$x = input()$$

default data type → String

$$n = input(\text{"Enter your name : "})$$

How to take integer input ?

```
x = int ( input ())
```