

# Python

Class 01 by Sir Asharib Ali

# Python Virtual Machine (PVM)

- **Code Iteration** (Always Running Loops)
- **Run-time Engine**
- **Also known as Python Interpreter**
- **Bytecode is not a machine code**

# Byte Code Compilation in Python

## **Process Overview**

1. Write Python Code (.py file)
  2. Compile to Bytecode (Low-level & platform-independent)
  3. Bytecode runs faster
  4. Implicit & Explicit Programming
  5. Compiled Python (.pyc - Frozen Binaries)
  6. Stored in `__pycache__`
- Example: `main.cpython-313.pyc` (Depends on Python version)

# Google Colab

- **CPU:** Works synchronously (Central Processing Unit)
- **GPU:** Works parallel, making execution faster (Graphics Processing Unit)
- **TPU:** Higher than GPU (Tensor Processing Unit)

# Python Data Types (Interpreted Dynamic Language)

- 1.Strings (str) - " "
- 2.Integer (int) - Numbers
- 3.Float (float) - Decimal values
- 4.Boolean (bool) - True & False
- 5.List (list) - Array
- 6.Tuple (tuple) - Collection of data, immutable (can't change)
- 7.Dictionary (dict) - Object, key & value pairs
- 8.Set (set) - Stores unique data
- 9.None (NoneType) - Represents no value
- 10.Frozen Set (frozenset) - Immutable