**Python Introduction and its Advantages**

**Python** is a **high-level, interpreted programming language** known for its **simplicity, readability, and versatility**. It was created by **Guido van Rossum** and released in **1991**. Python is widely used in **web development, data science, automation, machine learning, artificial intelligence, and more**.

**Key Features of Python**

1. **Easy to Learn and Read** – Uses a simple, English-like syntax.
2. **Interpreted Language** – Code runs **without compilation**, making development faster.
3. **Dynamically Typed** – No need to declare variable types (int, float, string, etc.).
4. **Extensive Libraries** – Includes numpy, pandas, matplotlib, tensorflow, and many others.
5. **Cross-Platform** – Runs on Windows, macOS, Linux, and embedded systems.
6. **Large Community Support** – One of the most widely used languages with active development.

**Basic Python Example**

# Hello World in Python

print("Hello, World!")

# Variables and Data Types

num = 10 # Integer

pi = 3.14 # Float

text = "Python" # String

# Loop Example

for i in range(5):

print(i)

**Where is Python Used?**

1. **Web Development** – Django, Flask
2. **Data Science** – Pandas, NumPy, Matplotlib
3. **Machine Learning & AI** – TensorFlow, Scikit-learn
4. **Automation & Scripting** – Writing system scripts and automation tools
5. **Game Development** – Pygame
6. **Cybersecurity** – Ethical hacking and penetration testing