**Class 01: Python Basics & Setup for Beginners**

1. **Overview of Python**

What is Python?

Ans: **Python** is a high-level, easy-to-read, and powerful **programming language** used to build websites, apps, games, AI, data science projects, and much more.

- High Level programming language, simplicity, readability

- Guido van Rossum and first released in 1991

- Python 3~ -> 2008->2025

- Interpreted programming language

**2. Why Learn Python?**

- Simplicity

- Versatility-> web development, data analysis, AI-ML

- Large Community

- Career Opportunities

**3**. **Real-world Applications**

- Web Development

- Data Science and Machine Learning

- Automation and Scripting

**4. Installing Python-https://www.python.org/**

- Windows Download Python

- Mac Download Python

- Linux Download Python

**5. Code Editor**

- PyCharm Community Edition https://www.jetbrains.com/pycharm/download/

- VS Code <https://code.visualstudio.com>

**6. Python Environment Check**

- python --version

- python3 –version

**7. Write Your first code**

- New Project

- .venv

- main.py

- print("Hello World")

**8. Run Your first code In Regular Mode**

- Click The Run Button

- From Terminal python main.py / python3 main.py

**9. Run Your first code In Debugger Mode**

- Debugger Mode

- Click Debug Option

- Debug Break Point

- Debug Mode Run

- Like Your TV Remote, You Founds Lots of Options

**10. Debug Options or Features**

- STOP-> Running Cancel

- Rerun -> Restart Debuging From first again

- Step Over -> Go Ahead Line After Line

- View Break Point--> If You want to explore all of Break Points inside your Project

- Mute Break Point--> You want to avoid the breaking

- Debug Console --> See Your print output there

- Threads & Variabls -->

- Eavluate Expression -->

- Step Into -> Enter Inside Code Blocks/Functions/Class

- Step Out --> Escape Inside Code Blocks/Functions/Class

**11. Why Debug**

- Finding Your bugs

- Resolve Your bugs

- Understanding Your Code

- Breking Down Complex Steps

- Small mistakes

- Large functions incrementally

- Understanding other people's code

- It is very important part of testing

- Performance drop Finding

- Code Quality Improvment

- Unfamiliar projects

- Varied coding styles