Introduction to Python-I

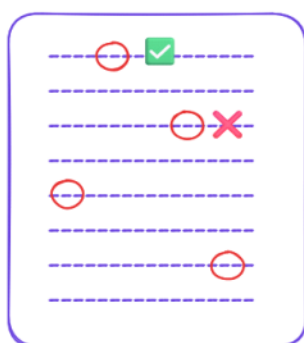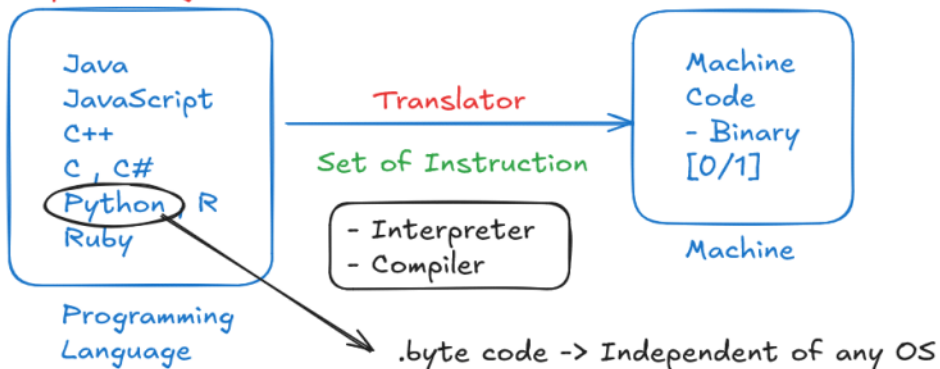🎓 **Session Objectives:**

🔍 Understand what Python is

🎮 Explore what Python can do

✨ Discover Python's features

⚖️ Compare Python with other programming languages

📈 Understand how Python differs from Excel and SQL

🖌️ Learn Python's role in Data Analytics

🖥️ Install Python and Anaconda (Jupyter Notebook)

What is Programming Language?

mode of communication.
Common in both ends.

Syntax[English]

Java		Machine
JavaScript	Translator	Code
C++		- Binary
C , C#	Set of Instruction	[0/1]
Python R		
Ruby	- Interpreter	
	- Compiler	Machine

Programming
Language

.byte code -> Independent of any OS

Interpreter
Line By Line
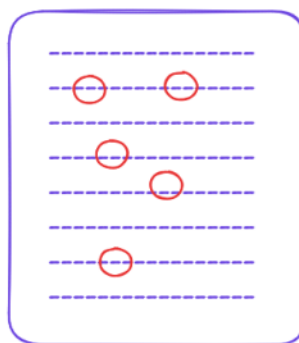
Compiler
Full Scan

❌ Line 2 ----- error
Line 4 error
Line 5 error
Line 7 error

Set of Instructions: → Pseudo Code [Flow Chart]

↘ Syntax [Proper Code]
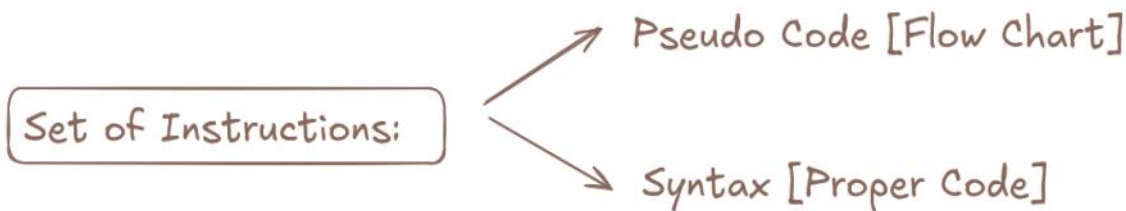
Make a step by step process to make Maggi🍜🍜:

Step-1: Boil 2 cups of water in a pan on high heat.
Step-2: Once the water starts boiling, add the Maggi noodle in boiling water
Step-3: Let the noodles cook and soften for about 2 to 3 minutes, add a tastemaker
      stirring occasionally.
Step-4: add vegetables like chopped onions, tomatoes, carrots, capsicum) by
      sautéing them in a little oil separately and then mixing them in
      while cooking.
Step-5: For extra taste, you can scramble an egg and add it during the
      cooking process or add cheese at the end.

What is Python? 🐍

1. Easy To Understand.
2. General English Like Syntax -> Easy to write [Beginner Friendly]
3. Independent on Operating System. [Byte Code]
4. Auto Type Detection while creating a variable
5. Great Community Support.
6. Multiple Libraries are build on Python Like :
    - Numpy [Mathematical Computation],
    - Pandas [Data Cleaning & Transformation] ,
    - Matplotlib/Seaborn/Dash/Plotly [Used for Visualization] ,
    - SQLAlchemy [Help you to run SQL in Python]
7. Open Source [Free to Access]

Semi-Structured -> JSON , XML [Meta-Data] [Extracting data from Web.]

```
{
    'Name'   : ['Shubham','Prateek','Aman','Rishab'],
    'Age'    : [21,29,31,33],
    'Gender' : ['M','M','M','M'],
    'City'   : ['Pune','Kolkata','Udaipur','North Goa'],
    'State'  : ['Maharastra', 'WB', 'Rajasthan' , 'Goa']
}
```

Key-Value Pair : Dict

Key

Value

Column Header

Name	Age	Gender	City	State
		Value[Rows]		

Pandas DataFrame
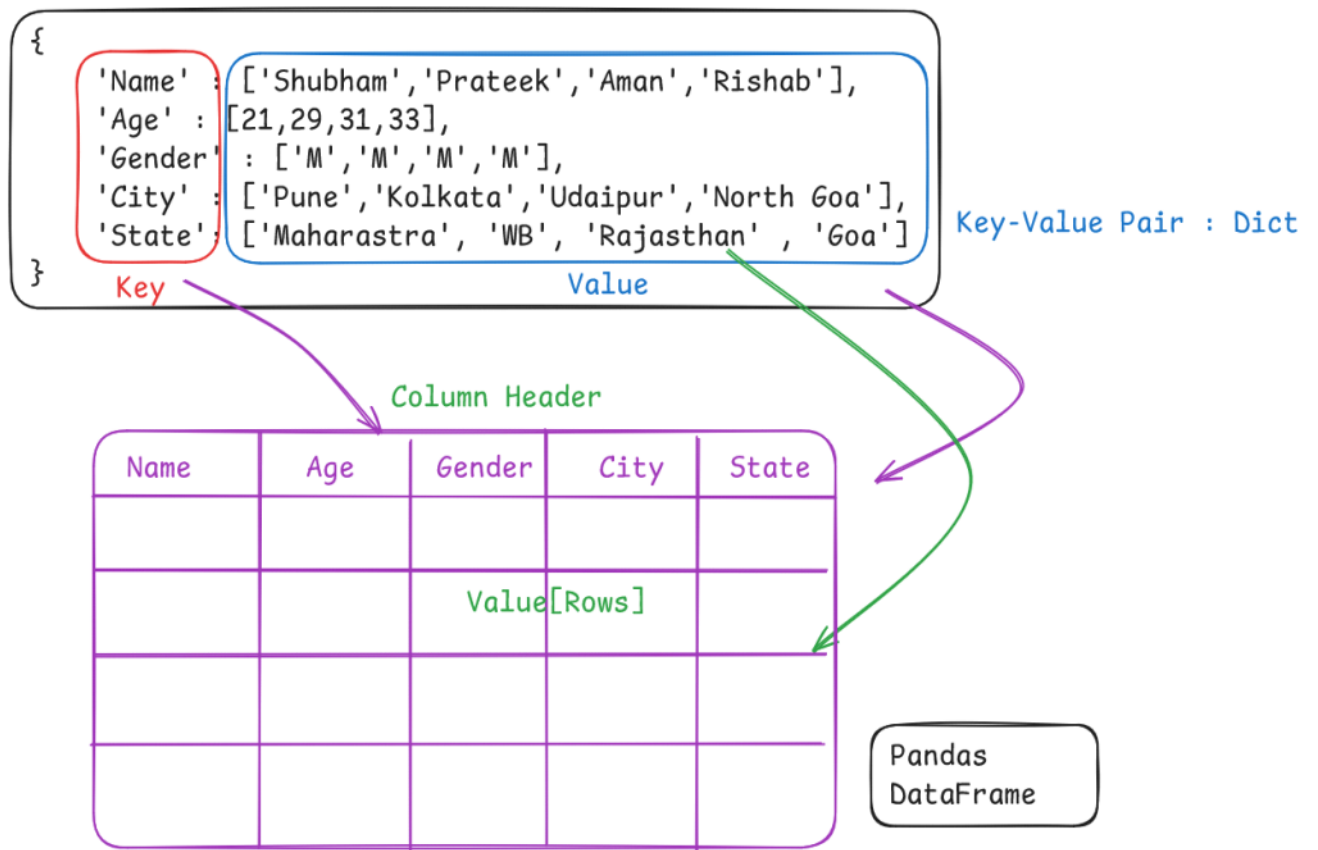
SQL + PowerBI + Excel = Python

Gmail

```
From : <Mail ID>
To : <Mail ID>
CC/BCC : <Mail ID>
```

Subject -> <String><Data Type - Consistent>

Body of Email -> Structured

Attach a file [Mixed Format -.jpeg,.png,.mp3]
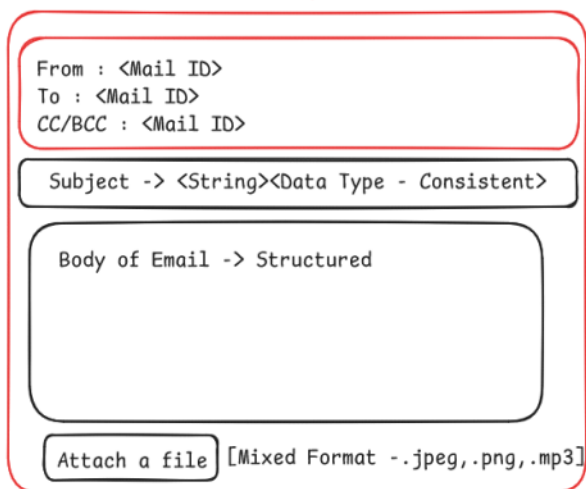
Anaconda navigation Installation :

https://www.anaconda.com/download/success

Anaconda3 2025.06-0 (64-bit) Setup

Welcome to Anaconda3 2025.06-0 (64-bit) Setup

Setup will guide you through the installation of Anaconda3 2025.06-0 (64-bit).

It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.

Click Next to continue.

Next >   Cancel

Anaconda3 2025.06-0 (64-bit) Setup

License Agreement

Please review the license terms before installing Anaconda3 2025.06-0 (64-bit).

Press Page Down to see the rest of the agreement.

By continuing installation, you hereby consent to the Anaconda Terms of Service available at https://anaconda.com/legal.

If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Anaconda3 2025.06-0 (64-bit).

Anaconda, Inc.

< Back   I Agree   Cancel

Anaconda3 2025.06-0 (64-bit) Setup

Select Installation Type

Please select the type of installation you would like to perform for Anaconda3 2025.06-0 (64-bit).

Install for:

● Just Me (recommended)

○ All Users (requires admin privileges)

Anaconda, Inc.

< Back   Next >   Cancel

Anaconda3 2025.06-0 (64-bit) Setup

Installation Complete
Setup was completed successfully.

Completed

Show details

Anaconda, Inc.

< Back   Next >   Cancel

Anaconda3 2025.06-0 (64-bit) Setup

Anaconda3 2025.06-0 (64-bit)
Code with Anaconda in the Cloud

Everything you love about Anaconda now available from the cloud with Anaconda's fully-loaded Jupyter notebook.

No setup required. Get started for free.

Code in the cloud with Anaconda Notebooks

ANACONDA.   jupyter

Anaconda, Inc.

< Back   Next >   Cancel

Anaconda3 2025.06-0 (64-bit) Setup

Completing Anaconda3 2025.06-0 (64-bit) Setup

Thank you for installing Anaconda Distribution.

Here are some helpful resources to get you started. We recommend you bookmark the 'Getting Started with Anaconda Distribution' link so you can refer back to it later.

☑ Launch Anaconda Navigator

☑ Welcome to Anaconda

< Back   Finish   Cancel