

Installing Python and Environment Setup

What is Python?

Python is a programming language you can use for:

- Web development
- Data analysis
- Machine learning
- Automation
- and more!

Before writing Python code, you must **install Python** and set up your **environment** (where you'll write and run code).

Installing Python

A. For Windows:

1. Go to the official website:

👉 <https://www.python.org/downloads/>

2. Click **Download Python (latest version)** – for example, “Download Python 3.13.0”.

3. Run the downloaded file (installer).

4. **Important:**

On the first screen, **check the box:**

5. Add Python 3.x to PATH

6. Click **Install Now** and wait for it to finish.

7. Once done, open **Command Prompt (cmd)** and type:

8. `python --version`

You should see something like:

Python 3.13.0

That means Python is installed!

B. For macOS:

1. Open **Terminal**.

2. Check if Python is already installed:

3. `python3 --version`

If it shows a version, you're good!

4. If not, install it using **Homebrew:**

5. `brew install python`

6. Verify:

`python3 --version`

Installing a Code Editor (IDE)

You'll need a place to write and run your Python code easily.

Common options:



CBSE



ICSE



NTSE



Banking &
Insurance



Central Govt.
Service



State Govt.
Services



LAW
Entrance



MBA
Entrance



Railways & Metro
Services

...many more





abhyasonline.in



**Course
&
Test Series**

Installing Python and Environment Setup

-  **CBSE**
-  **ICSE**
-  **NTSE**
-  **Banking & Insurance**
-  **Central Govt. Service**
-  **State Govt. Services**
-  **LAW Entrance**
-  **MBA Entrance**
-  **Railways & Metro Services**
- ...many more**

Editor / IDE	Description
 IDLE	Comes automatically with Python (simple and beginner-friendly)
 VS Code	Free, powerful editor for all programming
 PyCharm	Professional IDE for Python
 Jupyter Notebook	Best for data science / AI work

Environment Setup

An **environment** means all the tools, packages, and libraries you need for your project.

You can use **virtual environments** to keep projects separate.

Create a virtual environment

```
python -m venv myenv
```

Activate it

- **Windows:**
- myenv\Scripts\activate
- **macOS/Linux:**
- source myenv/bin/activate

You'll see (myenv) appear before your command line → environment is active.

Install libraries (example)

```
pip install numpy pandas
```

Deactivate environment

```
deactivate
```

Checking Installation

Test if everything works:

1. Open **Command Prompt / Terminal**.
2. Type:
3. python
4. You'll enter the **Python Shell** (looks like >>>).
5. Try:
6. print("Hello, Python!")

Output:

Hello, Python!

Success! Python is ready to use.



Course
&
Test Series

Installing Python and Environment Setup

Summary

Step	Description
1	Download and install Python
2	Check version using <code>python --version</code>
3	Install an IDE (IDLE, VS Code, PyCharm)
4	Set up a virtual environment
5	Test with a simple Python program

Jupyter Notebook

Best for:

Students learning Python basics, data analysis, or AI/ML.

What it is:

Jupyter Notebook lets you write Python in **small blocks (cells)** and see **instant output below each block** – perfect for experimenting and learning step by step.

Key Features:

- Run code **cell by cell** instead of all at once.
- You can see **code + output + notes** together.
- Supports **text formatting (Markdown)** for writing explanations.
- Used a lot in **data science and research**.

Example Use:

```
x = 10
y = 20
x + y
```

Output appears **right below** instantly.

Pros:

- Easy for beginners
- Interactive & visual
- Perfect for learning and experimenting
- Great for math, graphs, and data visualization

 CBSE

 ICSE

 NTSE

 Banking & Insurance

 Central Govt. Service

 State Govt. Services

 LAW Entrance

 MBA Entrance

 Railways & Metro Services

...many more

abhyasonline.in

Course & Test Series

Installing Python and Environment Setup

CBSE

ICSE

NTSE

Banking & Insurance

Central Govt. Service

State Govt. Services

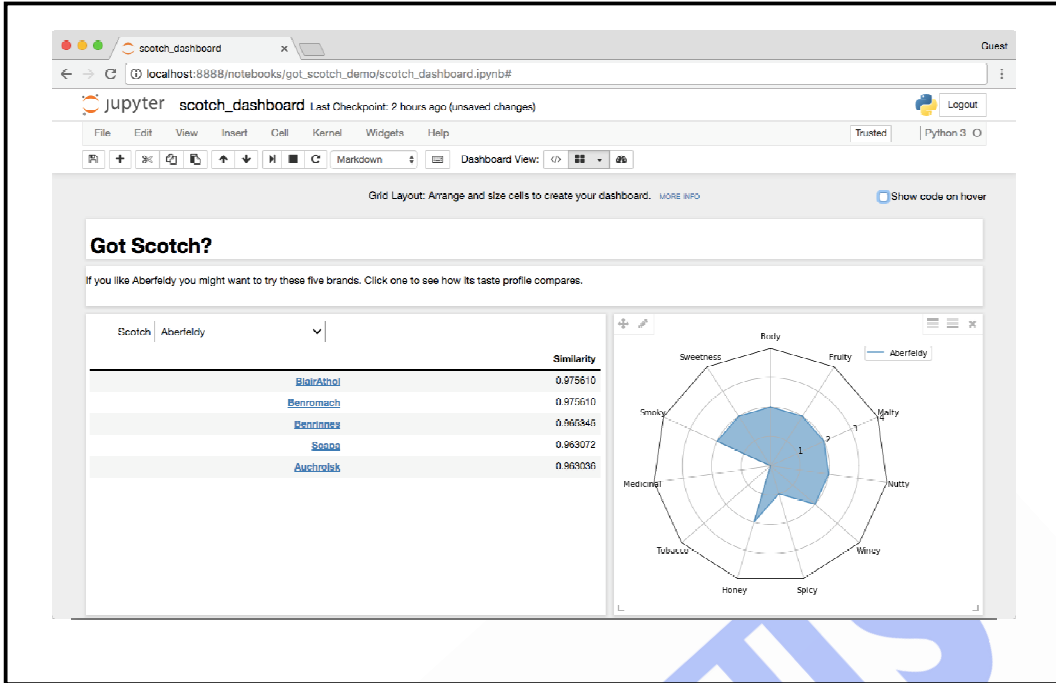
LAW Entrance

MBA Entrance

Railways & Metro Services

...many more

abhyasonline.in

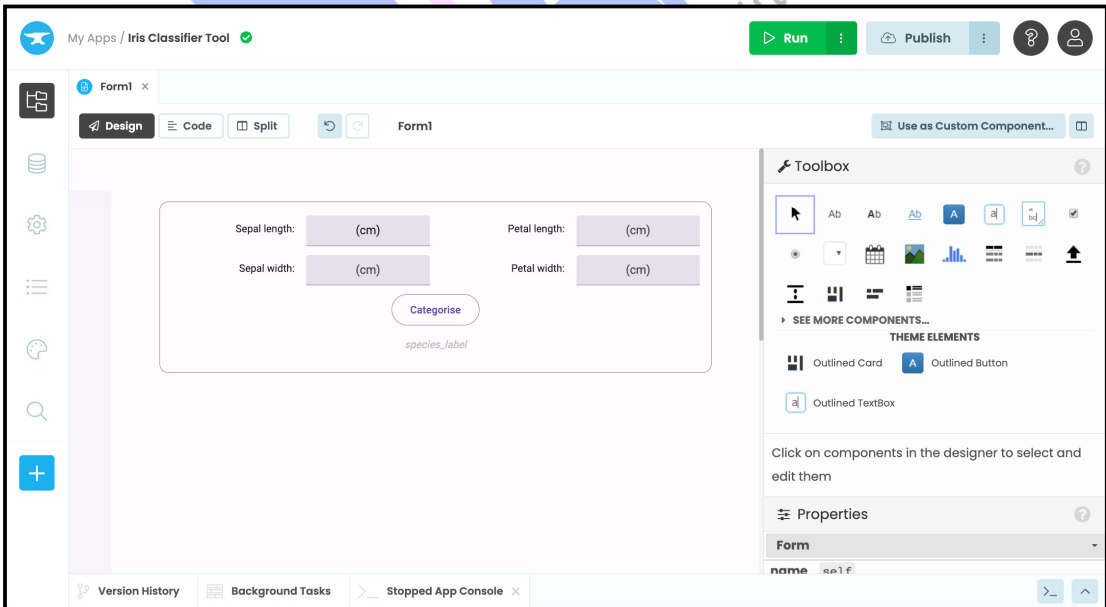


Google Colab

What it is:

Google Colab is an online version of Jupyter Notebook that runs in your browser.

- No installation required.
- Free to use, and you can save notebooks to **Google Drive**.
- Ideal if your computer doesn't have Python installed.



Course
&
Test Series

Installing Python and Environment Setup

Key Features of Google Colab:

1. Works entirely online – just a browser and Google account
2. Supports Python and most libraries (NumPy, Pandas, Matplotlib, TensorFlow)
3. Free access to GPU for heavy computation (like machine learning)
4. Shareable notebooks (like Google Docs)

How to Start Google Colab:

1. Go to <https://colab.research.google.com>
2. Sign in with your Google account.
3. Click **New Notebook**.
4. Start writing Python code in cells (just like Jupyter Notebook).

Example in Google Colab:

- ```
Google Colab code cell
name = input("Enter your name: ")
print("Hello", name)
```
- Run the cell → It will ask for input, then display output below.

- CBSE
- ICSE
- NTSE
- Banking & Insurance
- Central Govt. Service
- State Govt. Services
- LAW Entrance
- MBA Entrance
- Railways & Metro Services
- ...many more

abhyasonline.in

