Welcome to Your First Python Class!

Today's Journey

Why Python?

Discover what makes Python special and why it's the perfect first language

Google Colab

Learn about our cloud-based coding environment

Python Basics

Explore syntax, printing, variables, input functions and basic math operations

By the end of today, you'll write your first Python program!

A little about me

Software Engineer

Full Stack Developer @ Gamica Cloud

(March 2024 - September 2024)

Ex Section Leader @ Stanford University: Code in Place

(April 2025 - May 2025)

Why Learn Python?

Python has become the language of choice for beginners and professionals alike.

- Easy to understand
- Versatile use in AI, Machine Learning, Data Analysis, Development

Its readable syntax and versatile applications make it an essential skill in today's tech landscape.

Why Python Stands Out

1

Global Popularity

One of the most widely used programming languages worldwide in 2025

Massive community support and extensive resources available

2

Beginner-Friendly

Easy to read and write with intuitive syntax

Emphasizes code readability and simplicity

3

Industry Standard

Used by tech giants like Google, Netflix, and NASA

High demand in job markets across industries

4

Versatile Applications

Web development, data science, AI, automation, and more

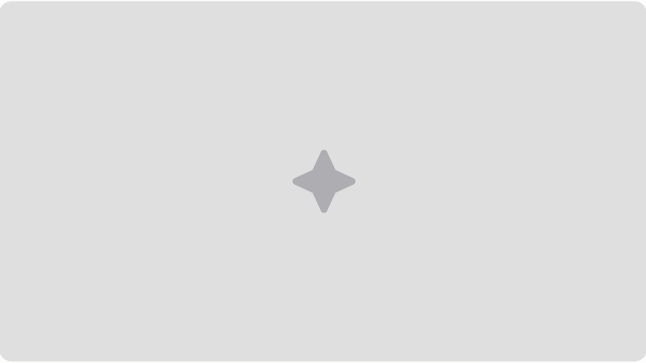
One language, countless possibilities

Your Coding Environment

Google Colab

A powerful, free cloud platform for writing and executing Python code

Introducing Google Colab



Cloud-Based Freedom

Free Python environment by Google - no installation needed

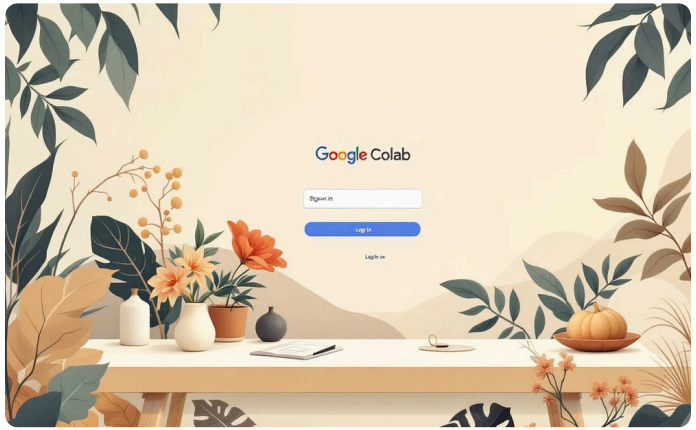
Collaborative Power

Real-time collaboration and easy sharing capabilities

Ready-to-Use

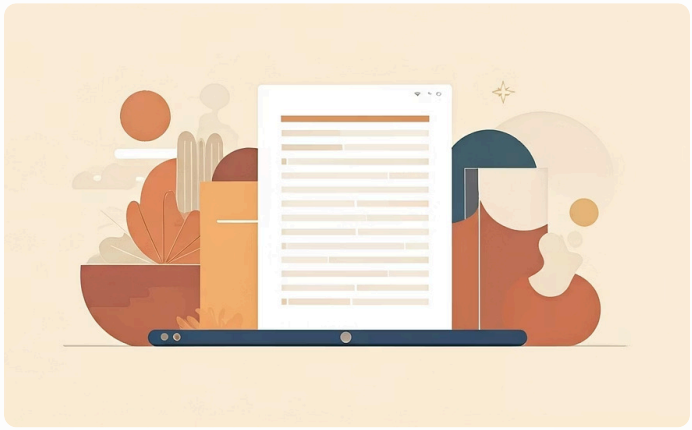
Pre-installed with popular Python libraries and tools

Getting Started with Google Colab



Sign In

Visit colab.research.google.com and sign in with your Google account



Create Notebook

Click "New Notebook" to start your Python coding journey

Run Code

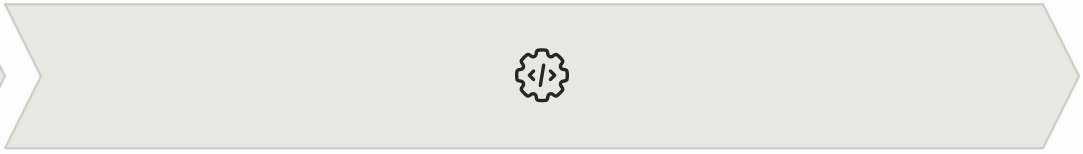
Write code in cells and press Shift+Enter to execute

Python Basics: The Programming Flow

Understand how your Python code transforms from text to action, producing results.

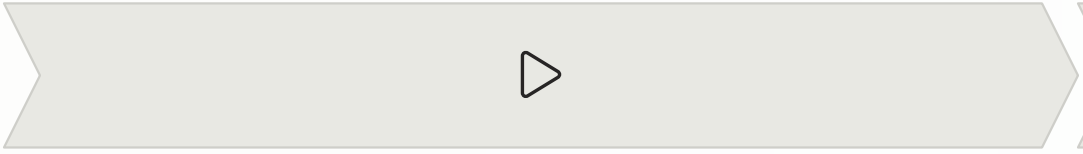
1- Write Code

Input your instructions into an editor or cell.



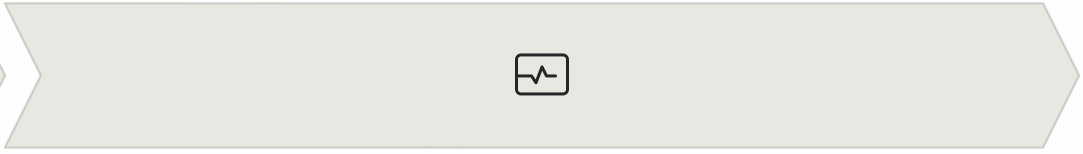
2- Interpret

Python translates your code line by line.



3- Execute

The translated instructions are run by the computer.



4- Output

View the results or actions generated by your program.

Python Basics: Your First Steps

Syntax

Clean, readable code structure with significant whitespace

```
if score > 90:
    print("Excellent!")
```

print()

Display text and values

```
print("Hello, Python!")
print(2023)
```

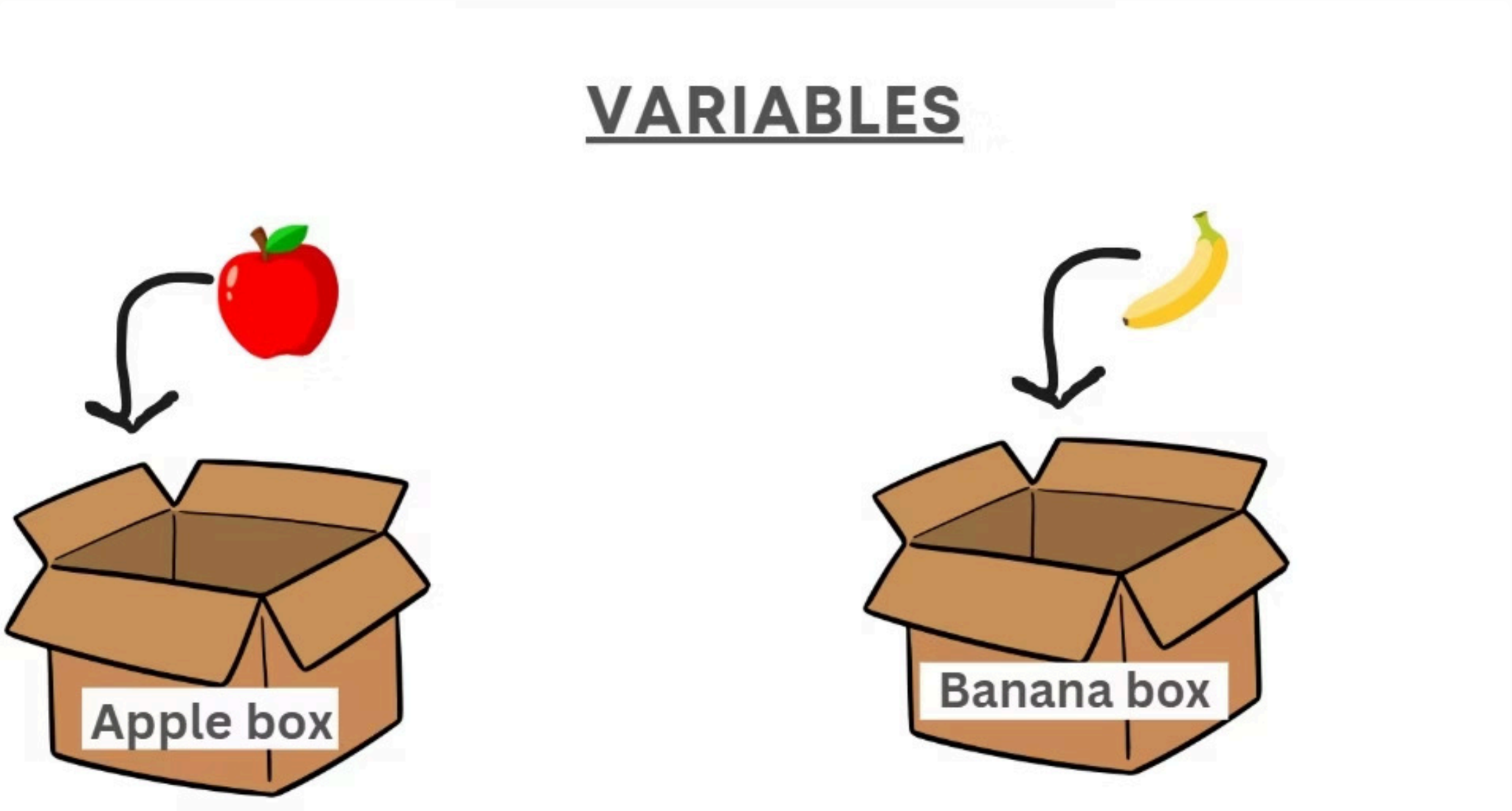
Variables

Store and manipulate data

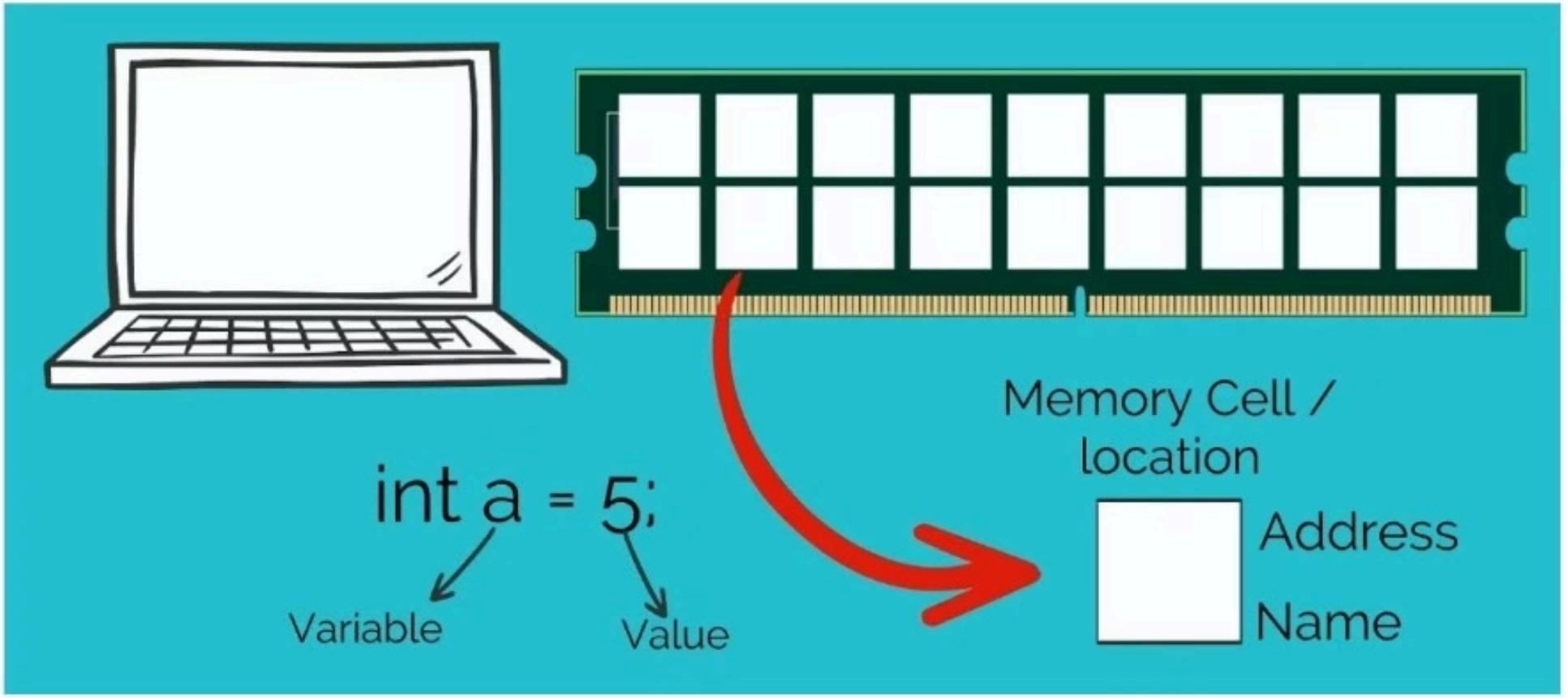
```
name = "Python"
age = 32
```

Variables

These are the **containers** to store **some value** (data).



VARIABLES IN MEMORY



Python Basics: Comments

Comments are lines within your code that the Python interpreter ignores. They are essential for explaining your code, making it more readable and understandable for you and others.

In Python, a single-line comment begins with a hash symbol (`#`).

```
# This is a single-line comment that explains the code below.
print("Hello, Python!")  # This comment explains what the print statement does.
```

Good commenting practices improve code maintainability and collaboration.

Python Basics: Input & Math

input() Function

```
name = input("Enter your name: ")
print("Hello, " + name + "!")
```

Captures user input and stores it as a string

Basic Math Operations

```
a = 10
b = 5
print(a + b)  # Addition: 15
print(a - b)  # Subtraction: 5
print(a * b)  # Multiplication: 50
print(a / b)  # Division: 2.0
```

Today's Challenge: Create a simple calculator that takes two numbers as input and performs all four basic operations!

🚀 Problem Statement:

You're given a person's weight on Earth, and you need to calculate their weight on Mars.
Gravity on Mars is about **38%** of Earth's gravity.

Formula to calculate weight on Mars: mars_weight = earth_weight * 0.38