

Python

Essentials

Orientation Day | June 10 2023

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2023



About Instructor

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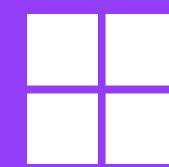
Muhammad Huzaifa Shahbaz

Machine Learning Engineer
Lenaar Digital LLC



CTTC Academy
Registered Trainer

Former Associations



Microsoft Learn



04

Bootcamps

180+

Workshops

5000+

Global Students



About CTTC Academy

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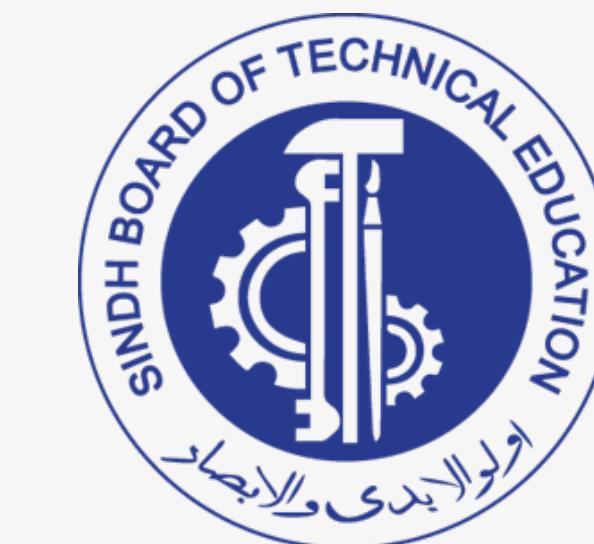
Since 1998, CTTC (Pvt) Ltd

Graduated
25000+
students

Director & CEO

Farrukh Nizami

- Engr. [California State University]
- Microsoft certified Trainer
- Microsoft Certified Systems Engineer
- Achieved 50 Certifications



About Python

- ⌚ Easiest Syntax on Any Language
- ↗️ Growing popularity with largest market share
- ≣ General purpose Scripting language

Diverse Community & Opensource

The screenshot shows the GitHub repository page for `cpython`. The repository is public and has 547 tags. The main branch is `main`, which has 7 branches. The repository has 117,381 commits. Recent contributions include:

- `erlend-aasland` (gh-105375): Harden error handling in `_testcapi/heaptypes.c` (#105375) - 18 hours ago
- `azul` (gh-103142): Upgrade binary builds and CI to OpenSSL 1.1.1u (#105174) - last week
- `erlend-aasland` (gh-104913): Fix umask test failures under Codespaces (#104913) - 2 weeks ago
- `azul` (CI): Configure macOS build as per updated devguide recommendations (#105569) - 2 days ago
- `azul` (Doc): Clarify the supported cases in the tokenize module (#105569) - yesterday
- `azul` (Grammar): Fix format specifier escaped characters in f-strings (#105231) - last week

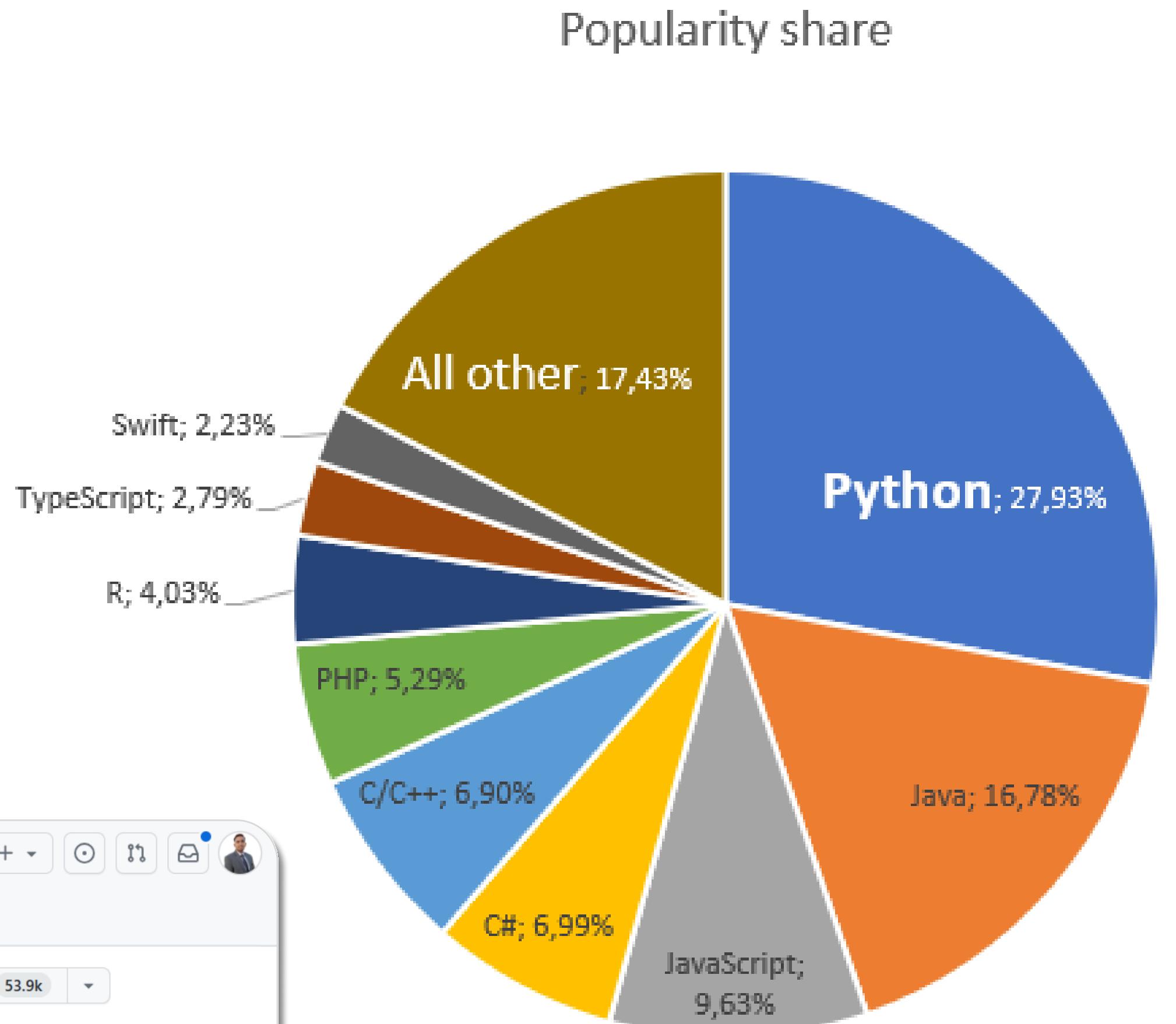
The repository has 53.9k stars, 27k forks, and 1.5k issues. The Insights tab shows 28 projects and 1.5k pull requests.

About

The Python programming language

www.python.org/

[Readme](#) [View license](#) [Code of conduct](#) [Security policy](#) [Activity](#) [53.9k stars](#)



Versatility and Ease of Use



C++

```
#include <iostream>
int main()
{
    std::cout << "Hello, World!";
    return 0;
}
```

Java

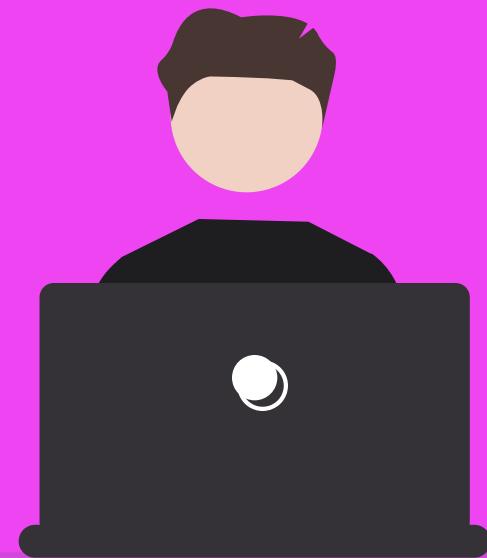
```
class Greeting {
    public static void main(String[] args) {
        System.out.println("Hello World!");
    }
}
```

Python

```
print('Hello world!')
```

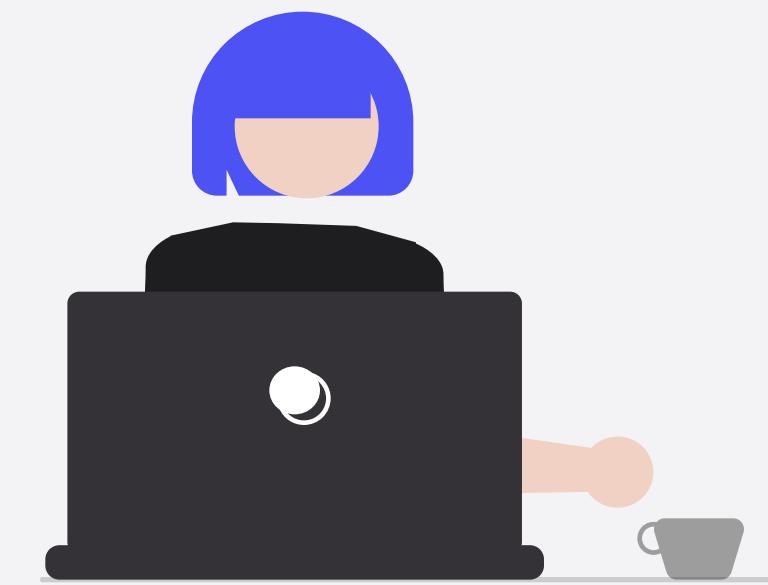
Python - A general purpose language

Internet of Things & Robotics



Cybersecurity & Networking

Data Science & Artificial Intelligence



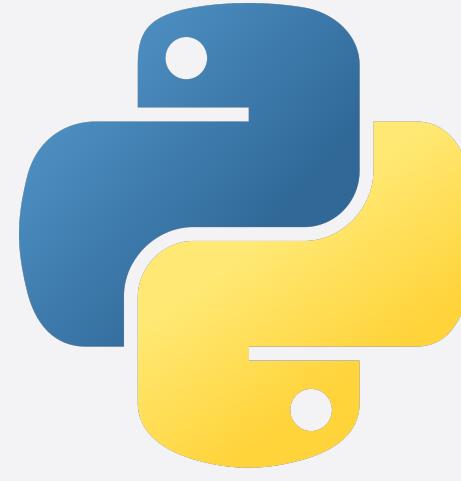
Backend Development

Microservices Architect

Data Science

Automation and Scripting

Overview Python Essentials



Python Fundamentals

Basic Syntax, Data Types, Decision Controls, Loops, Functions & Modules

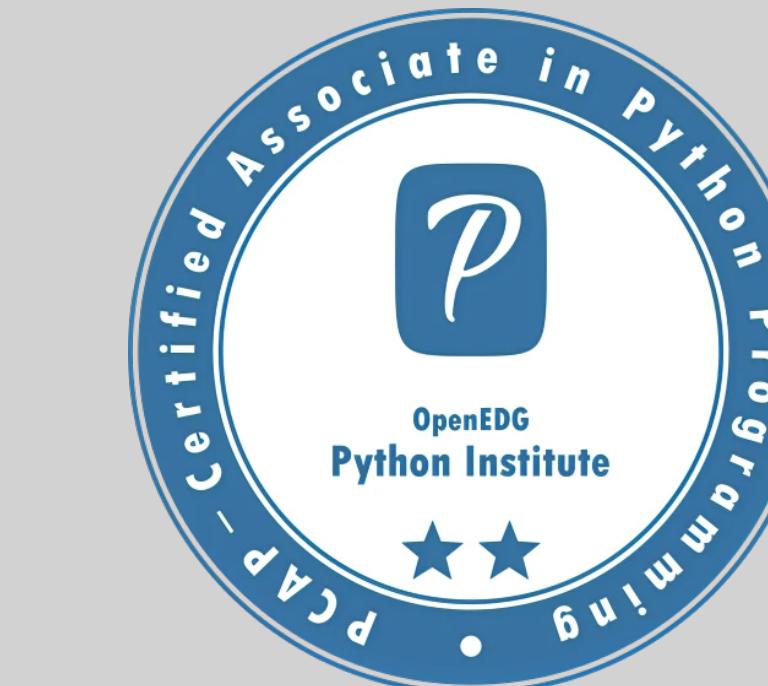


Object Oriented Programming



Advance Topics

Exception Handling, I/O, Lambda Expressions, Unit Testing & Project



Ability Development for Prestige Certifications

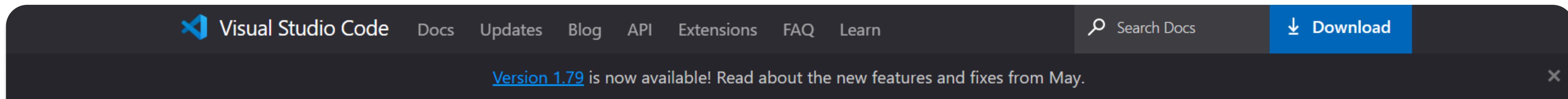
Installation of Python IDE

www.python.org/downloads/

The screenshot shows the Python.org website's "Downloads" section. At the top, there is a dark header with links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the header is a large Python logo. To the right of the logo are buttons for "Donate", "Search" (with a magnifying glass icon), "GO", and "Socialize". A blue navigation bar below the header contains links for About, Downloads, Documentation, Community, Success Stories, News, and Events. The main content area features a yellow button labeled "Download Python 3.11.4". Below this button, text says "Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [macOS](#), [Other](#)". Further down, it says "Want to help test development versions of Python 3.12? [Prereleases](#), [Docker images](#)". To the right of the text is a graphic of two wooden crates suspended by ropes from two large, striped parachutes against a blue background with white clouds.

Installation of VS Code

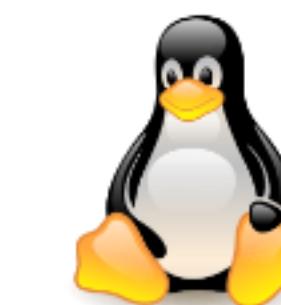
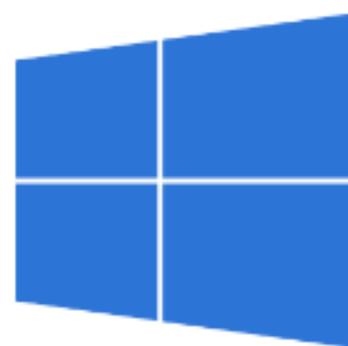
code.visualstudio.com/download



A screenshot of the Visual Studio Code website's download page. The top navigation bar includes links for Visual Studio Code, Docs, Updates, Blog, API, Extensions, FAQ, Learn, a search bar labeled "Search Docs", and a prominent blue "Download" button. A notification banner at the top states, "Version 1.79 is now available! Read about the new features and fixes from May.".

Download Visual Studio Code

Free and built on open source. Integrated Git, debugging and extensions.



[↓ Windows](#)

Windows 8, 10, 11

[↓ .deb](#)

Debian, Ubuntu

[↓ .rpm](#)

Red Hat, Fedora, SUSE

[↓ Mac](#)

macOS 10.11+

Introduction to Google Colab

colab.research.google.com

Welcome To Colaboratory

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Share Connect ^

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Getting started

- Data science
- Machine learning
- More Resources
- Featured examples

+ Code + Text Copy to Drive

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Getting started

The document you are reading is not a static web page, but an interactive environment called a **Colab notebook** that lets you write and execute code.

For example, here is a **code cell** with a short Python script that computes a value, stores it in a variable, and prints the result:

```
[ ] seconds_in_a_day = 24 * 60 * 60
seconds_in_a_day
```

86400

To execute the code in the above cell, select it with a click and then either press the play button to the left of the code, or use the keyboard shortcut "Command/Ctrl+Enter". To edit the code, just click the cell and start editing.

Variables that you define in one cell can later be used in other cells:

```
[ ] seconds_in_a_week = 7 * seconds_in_a_day
```