

# Hello, Python

Computação I  
LCE  
2024.2

Prof. Dr. Rogério Vargas

## A aula

1. Roteiro
2. Linguagem de programação
3. Programação na LCE/UFPR
4. Instalação
5. Codificação
6. Considerações finais



## Participar

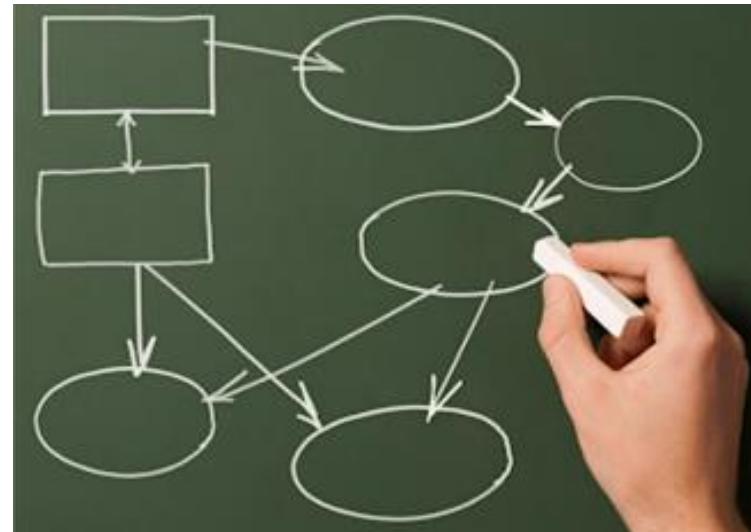
Levante a mão para participar. Sinta-se à vontade, assim irá fluir melhor com sua participação.

# Linguagem de Programação

O que é? Pra que serve? Como funciona?

# Algoritmo

- O que é um algoritmo?
- Vir a UFPR
- Prever situações
- Fluxograma, casos de uso, português estruturado, esquema próprio...



# Semântica x Sintaxe

- ▶ Semântica



- ▶ Sintaxe

```
msg ("TEXTO")
```



## Linguagem de máquina

A Linguagem máquina ou código máquina é um sistema de instruções e dados codificados em código binário que podem entender os microprocessadores.





# INTERPRETADOR

A linguagem Python é interpretada.

# Quem usa Python?



# Ranking das linguagens de programação (Jun/2024)



Jun 2024	Jun 2023	Change	Programming Language	Ratings	Change
1	1		Python	15.39%	+2.93%
2	3	▲	C++	10.03%	-1.33%
3	2	▼	C	9.23%	-3.14%
4	4		Java	8.40%	-2.88%
5	5		C#	6.65%	-0.06%
6	7	▲	JavaScript	3.32%	+0.51%
7	14	▲	Go	1.93%	+0.93%
8	9	▲	SQL	1.75%	+0.28%
9	6	▼	Visual Basic	1.66%	-1.67%
10	15	▲	Fortran	1.53%	+0.53%

Fonte: <https://www.tiobe.com/tiobe-index/>

# Licenciatura em Ciências Exatas

## Computação na LCE/UFPR

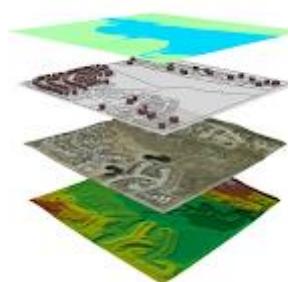
# E na Licenciatura em Ciências Exatas?



- **Computação I**
- **Computação II**

# E na Licenciatura em Ciências Exatas?

- Topografia
- Robótica
- Microcontroladores
- Fotogrametria
- Rotinas
- Modelagem matemática
- Inteligência artificial
- Sensores



- Cartografia
- Sensoriamento remoto
- Geoprocessamento
- Sistemas de Informações Georreferenciadas
- Gráficos

**Agisoft**



**ArcGIS**



**SPRING**

**QGIS**

# Instalação

Eis algumas possibilidades para usar o Python

# Instalação do Interpretador

## ▶ Windows

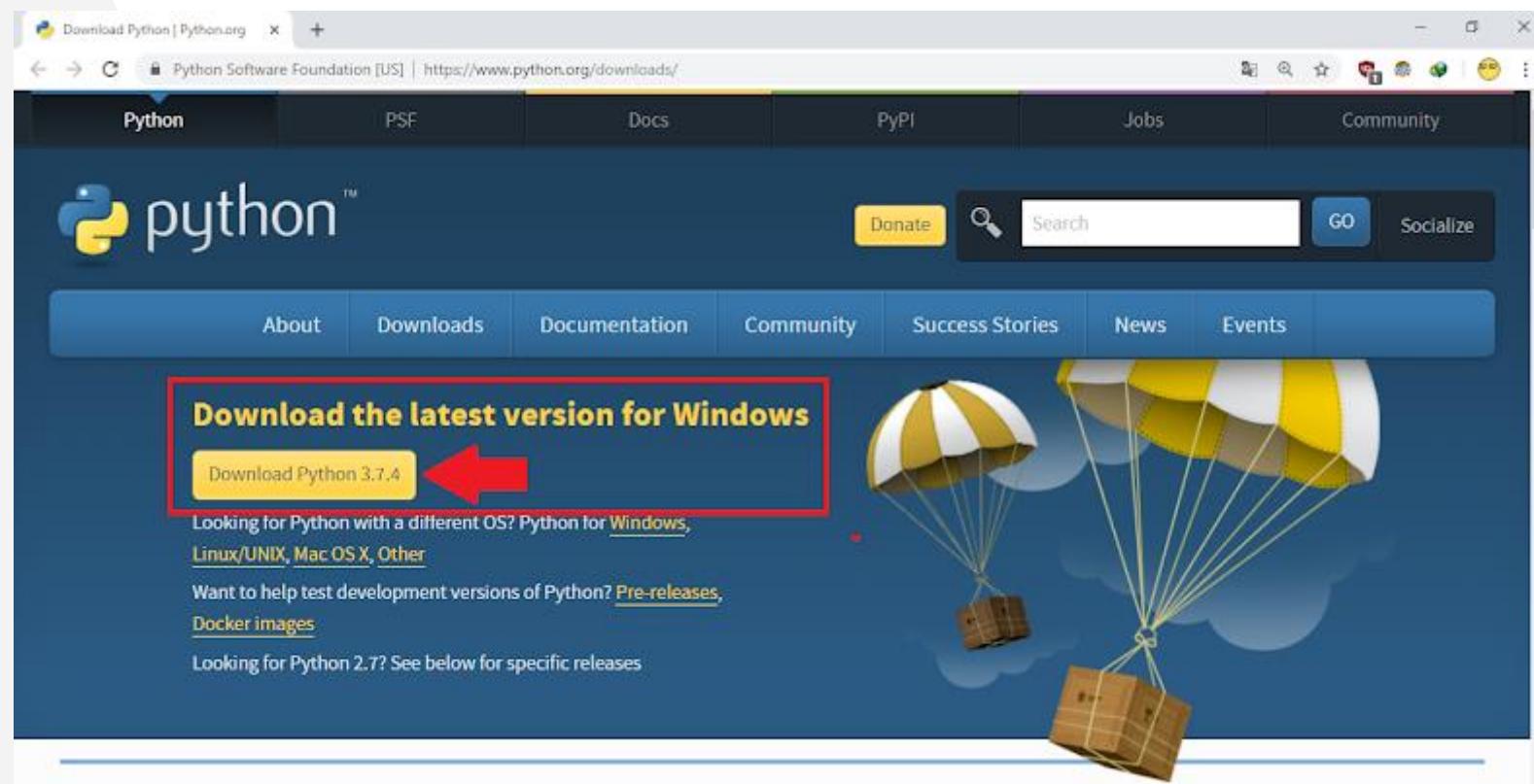
Versão mais recente: 3.13.0

## ▶ Download

<https://www.python.org/downloads/windows/>



# Instalação: Download



The screenshot shows a web browser displaying the Python Software Foundation's download page at <https://www.python.org/downloads/>. The page has a dark blue header with the Python logo and navigation links for Python, PSF, Docs, PyPI, Jobs, and Community. Below the header is a search bar with a magnifying glass icon and a 'GO' button. The main content area features a large yellow button with the text 'Download Python 3.7.4' and a red arrow pointing to it. The text 'Download the latest version for Windows' is displayed above the button. Below the button, there are links for other operating systems: 'Python for Windows', 'Linux/UNIX', 'Mac OS X', and 'Other'. Further down, there are links for 'Pre-releases', 'Docker images', and 'Python 2.7'. To the right of the text, there is a graphic of two parachutes descending from the sky, each carrying a large brown box.

Download the latest version for Windows

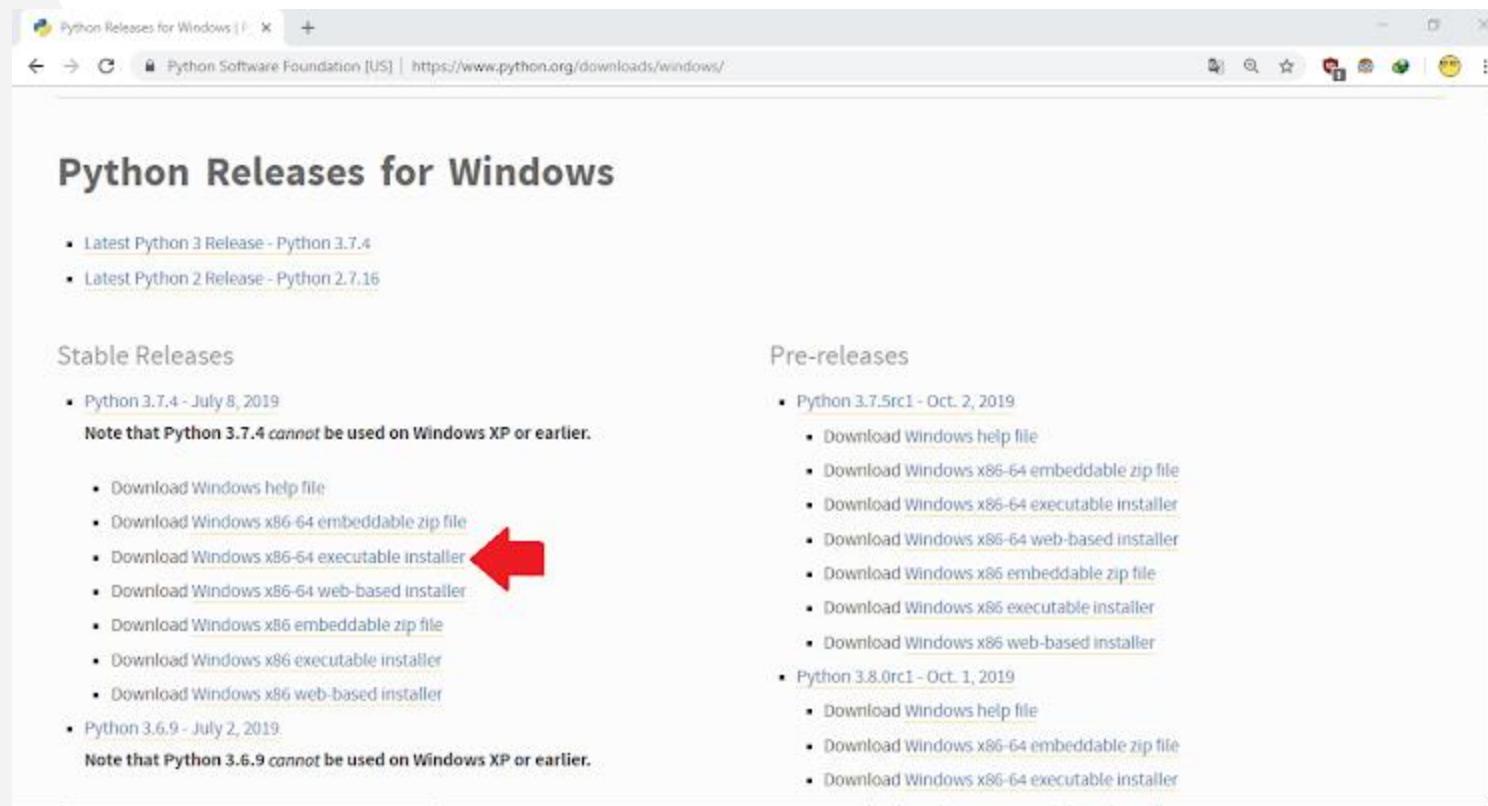
Download Python 3.7.4

Looking for Python with a different OS? Python for [Windows](#), [Linux/UNIX](#), [Mac OS X](#), [Other](#)

Want to help test development versions of Python? [Pre-releases](#), [Docker images](#)

Looking for Python 2.7? See below for specific releases

# Instalação: 64 bits



Python Releases for Windows | Python Software Foundation [US] | https://www.python.org/downloads/windows/

## Python Releases for Windows

- Latest Python 3 Release - Python 3.7.4
- Latest Python 2 Release - Python 2.7.16

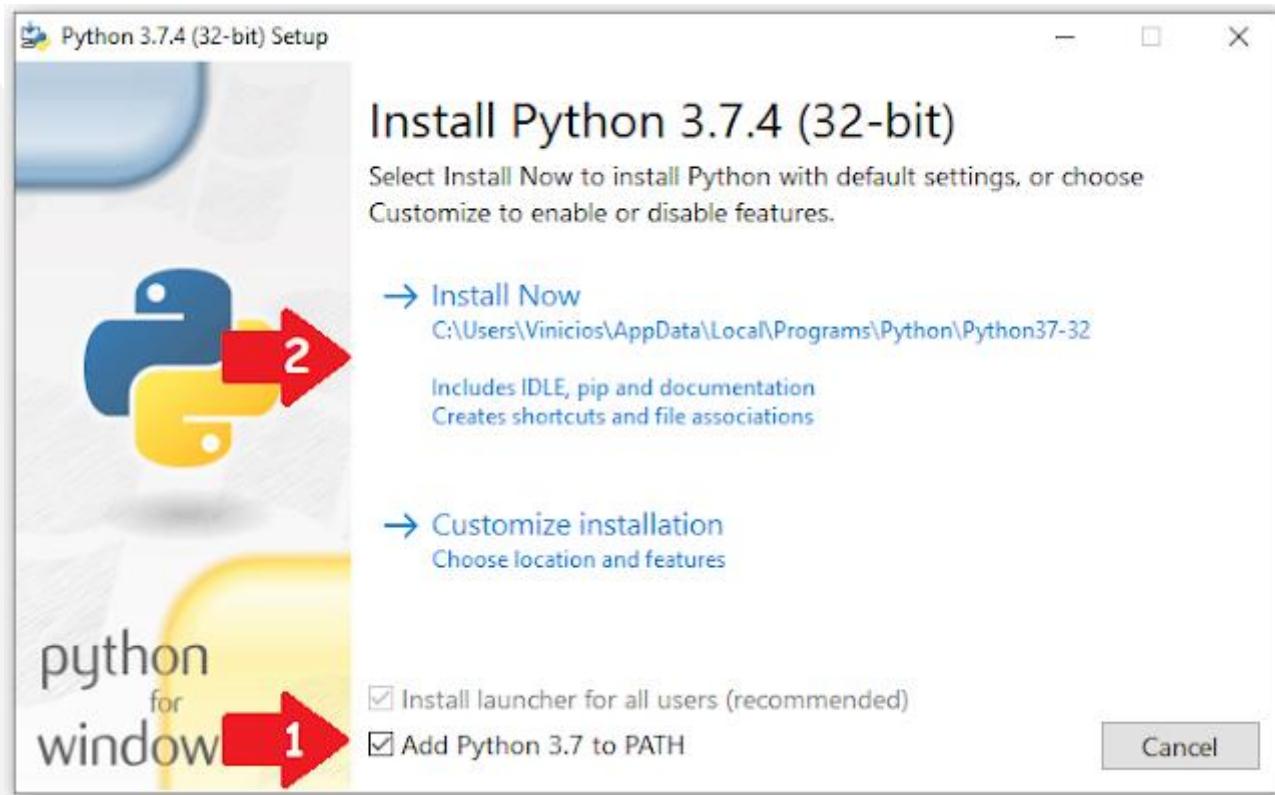
### Stable Releases

- Python 3.7.4 - July 8, 2019
  - Note that Python 3.7.4 cannot be used on Windows XP or earlier.
  - Download Windows help file
  - Download Windows x86-64 embeddable zip file
  - Download Windows x86-64 executable installer** 
  - Download Windows x86-64 web-based installer
  - Download Windows x86 embeddable zip file
  - Download Windows x86 executable installer
  - Download Windows x86 web-based installer
- Python 3.6.9 - July 2, 2019
  - Note that Python 3.6.9 cannot be used on Windows XP or earlier.

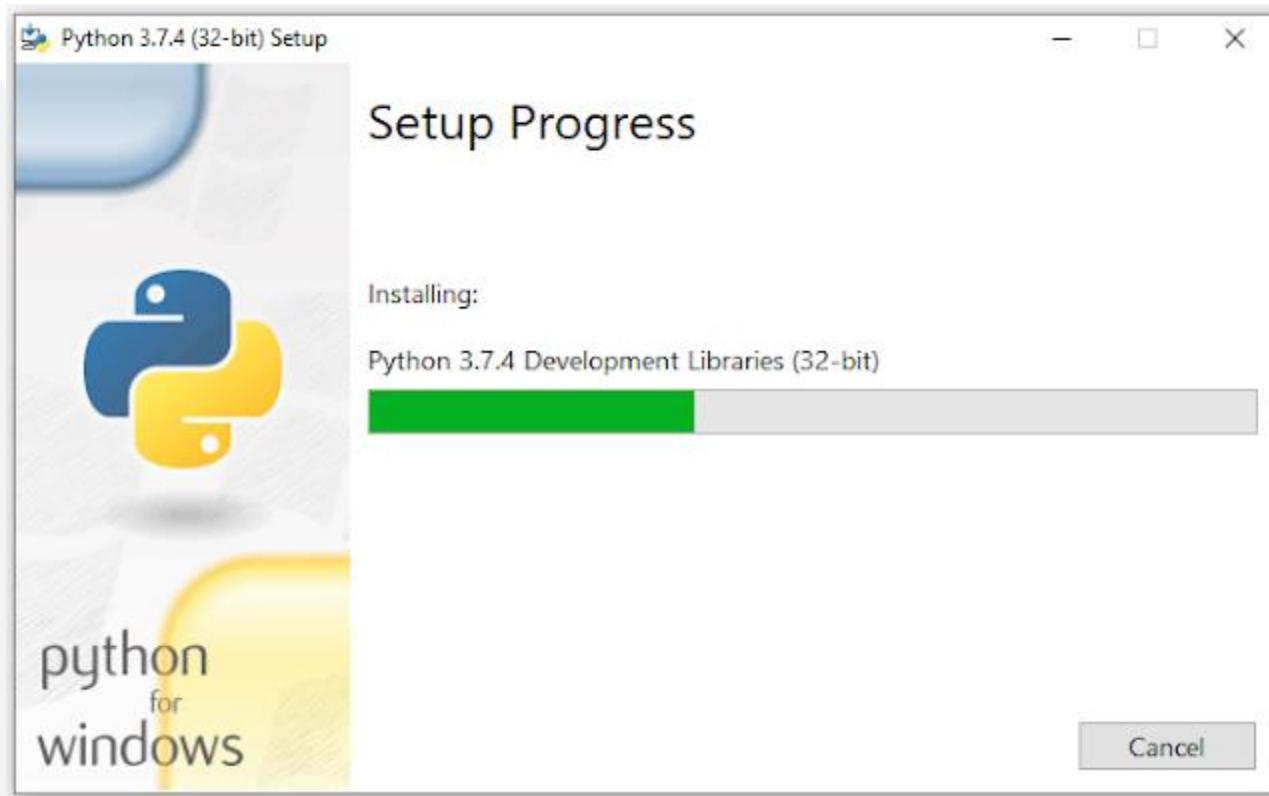
### Pre-releases

- Python 3.7.5rc1 - Oct. 2, 2019
  - Download Windows help file
  - Download Windows x86-64 embeddable zip file
  - Download Windows x86-64 executable installer
  - Download Windows x86-64 web-based installer
  - Download Windows x86 embeddable zip file
  - Download Windows x86 executable installer
  - Download Windows x86 web-based installer
- Python 3.8.0rc1 - Oct. 1, 2019
  - Download Windows help file
  - Download Windows x86-64 embeddable zip file
  - Download Windows x86-64 executable installer

# Instalação: PATH



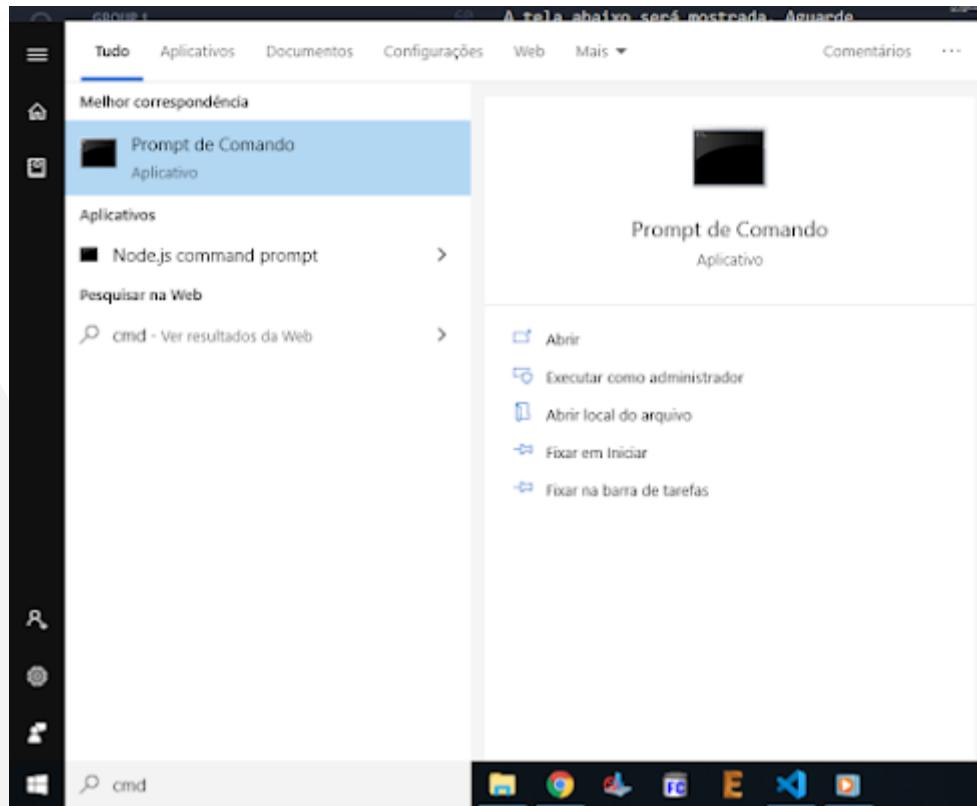
# Instalação: Andamento



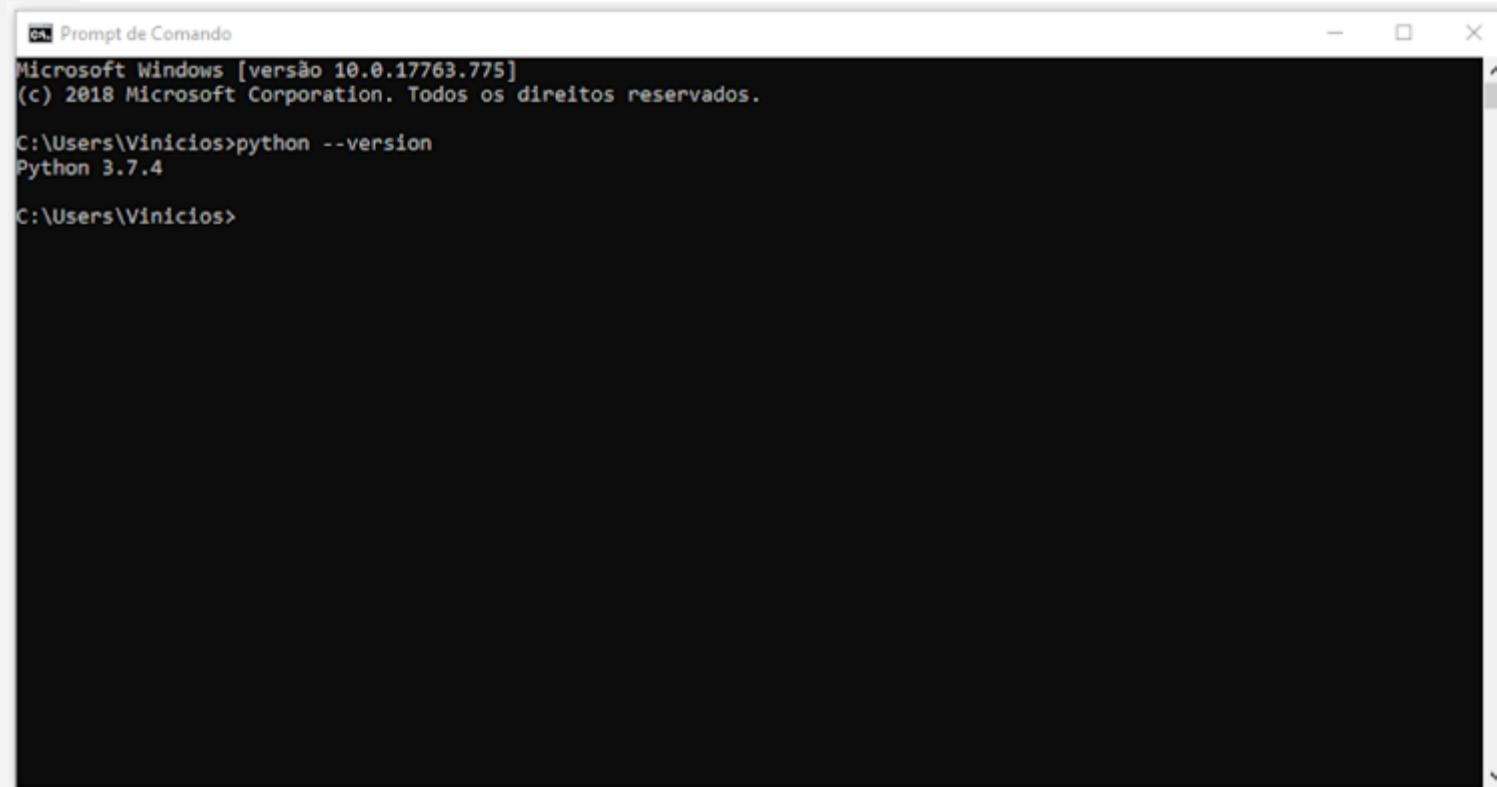
# Instalação: Sucesso



# Instalação: CMD



# Instalação: CMD



A screenshot of a Windows Command Prompt window titled "Prompt de Comando". The window shows the following text:

```
Microsoft Windows [versão 10.0.17763.775]
(c) 2018 Microsoft Corporation. Todos os direitos reservados.

C:\Users\Vinicios>python --version
Python 3.7.4

C:\Users\Vinicios>
```

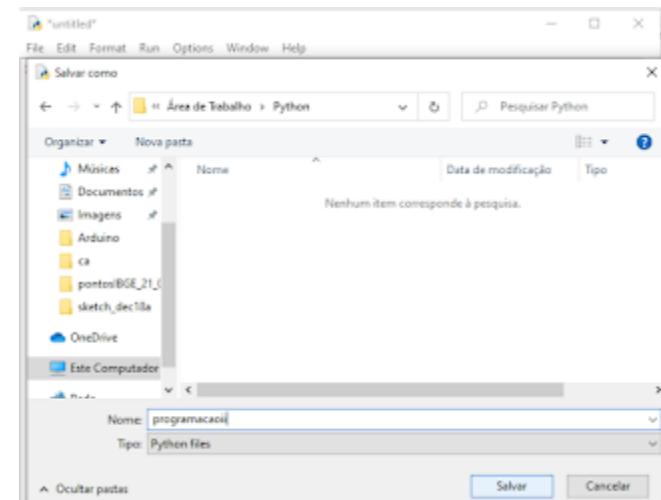
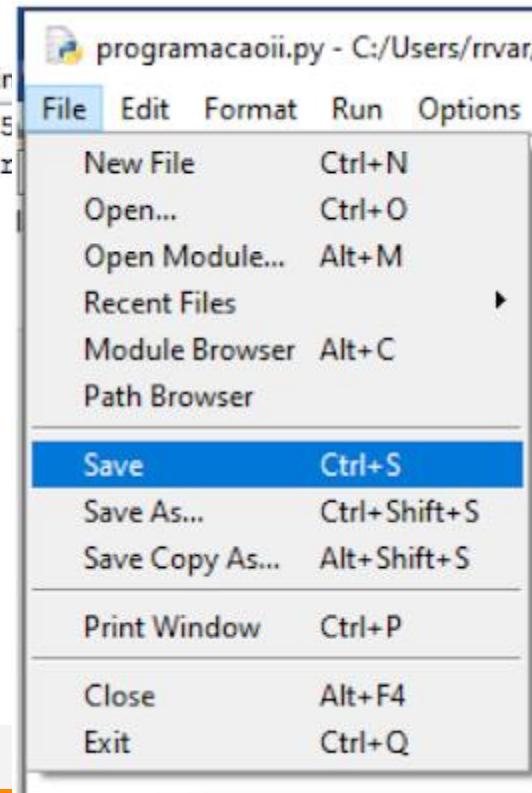
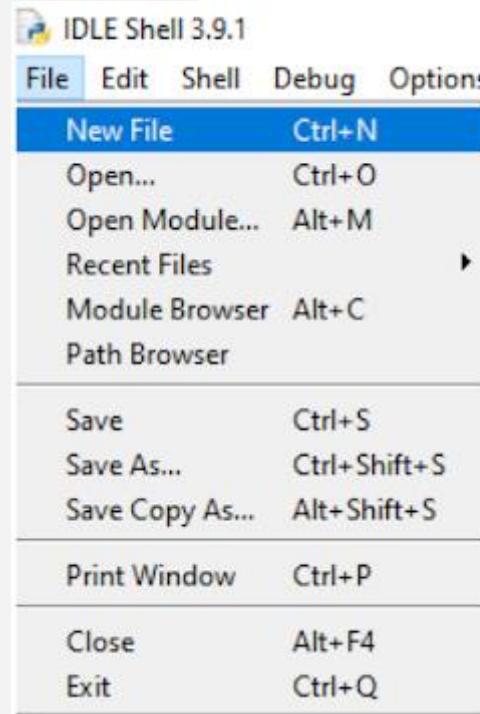
# IDE (Ambiente de Desenvolvimento Integrado)



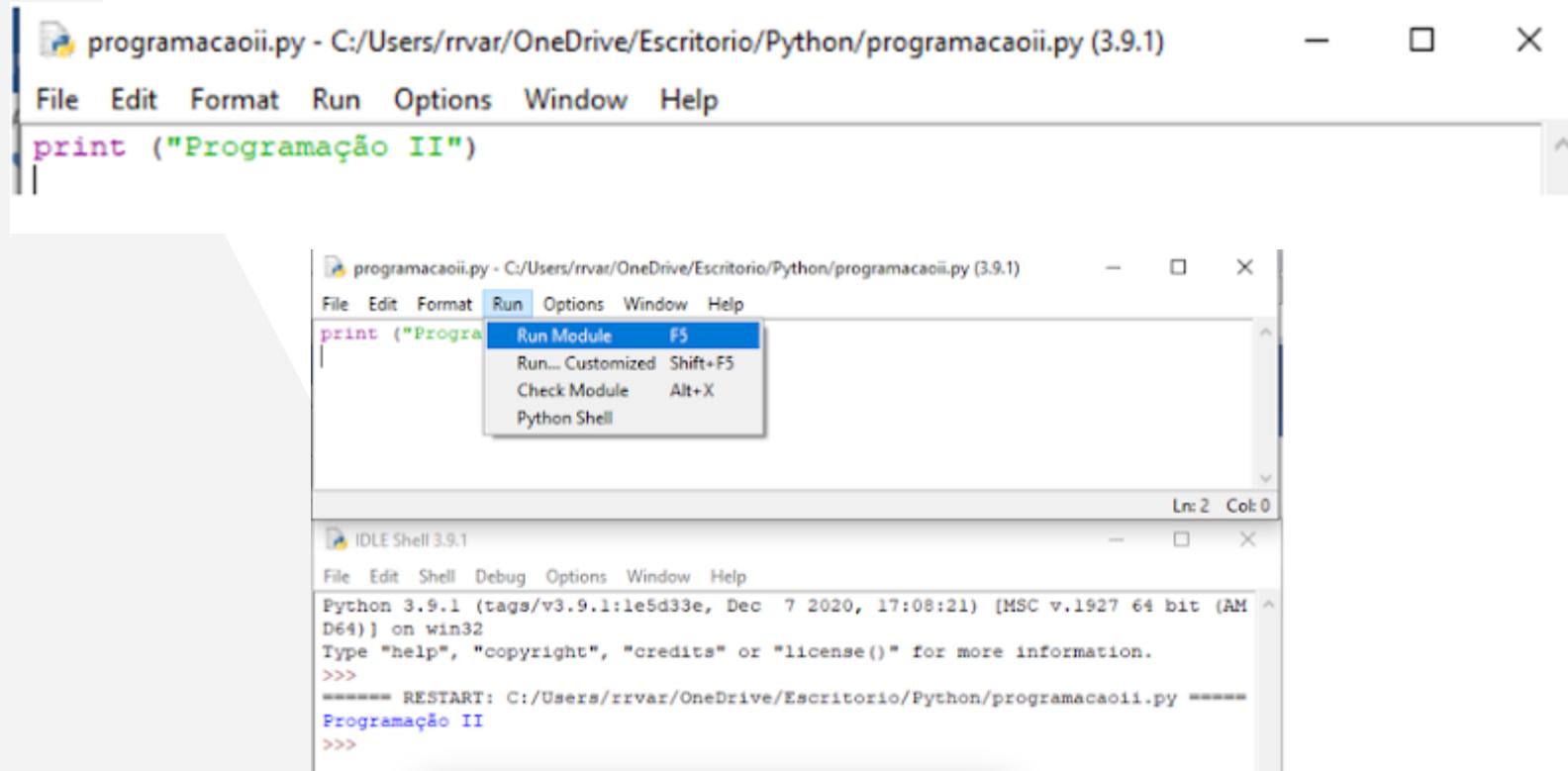
# Usando a IDLE



# Usando a IDLE



# Usando a IDLE



The image shows the Python IDLE interface. At the top, there is a title bar for a file named "programacaoii.py" located at "C:/Users/rrvar/OneDrive/Escritorio/Python/programacaoii.py (3.9.1)". Below the title bar is a menu bar with "File", "Edit", "Format", "Run", "Options", "Window", and "Help". The "Run" menu is currently active, showing options: "Run Module" (F5), "Run..." (Shift+F5), "Customized", "Check Module" (Alt+X), and "Python Shell". The main code editor window contains the following Python code:

```
print ("Programação II")
```

Below the code editor is a terminal window titled "IDLE Shell 3.9.1". The terminal window has its own menu bar with "File", "Edit", "Shell", "Debug", "Options", "Window", and "Help". The terminal displays the Python version and build information, followed by a prompt and the output of the printed string:

```
Python 3.9.1 (tags/v3.9.1:1e5d33e, Dec 7 2020, 17:08:21) [MSC v.1927 64 bit (AM  
D64)] on win32  
Type "help", "copyright", "credits" or "license()" for more information.  
>>>  
===== RESTART: C:/Users/rrvar/OneDrive/Escritorio/Python/programacaoii.py =====  
Programação II  
>>>
```

# Python online



Screenshot of the OnlineGDB interface. The top bar shows tabs for Java, C, C++, C#, Python, and More. The language is set to Python 3. The code editor contains the following Python code:print('SARCA 2021')  
print('Hello, Python')

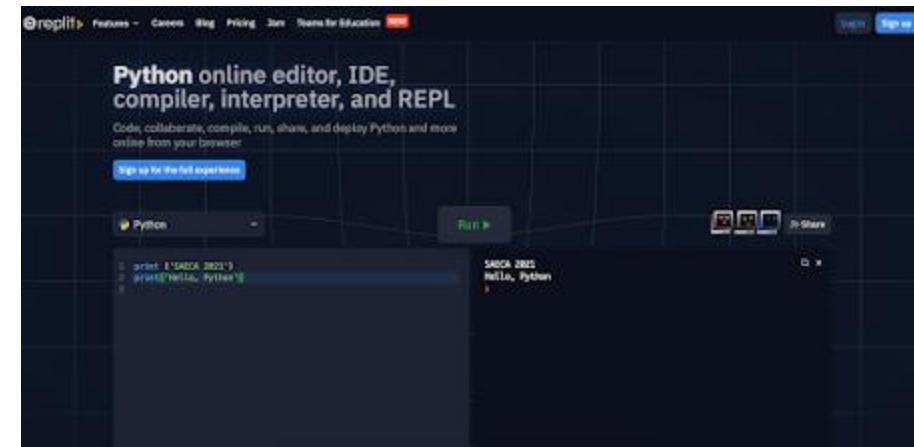
```
Output: SARCA 2021  
Hello, Python
```

Terminal output: 

```
Process finished with exit code 0  
Press ENTER to exit console.
```

## ► OnlineGDB

[https://www.onlinegdb.com/online\\_python\\_compiler](https://www.onlinegdb.com/online_python_compiler)



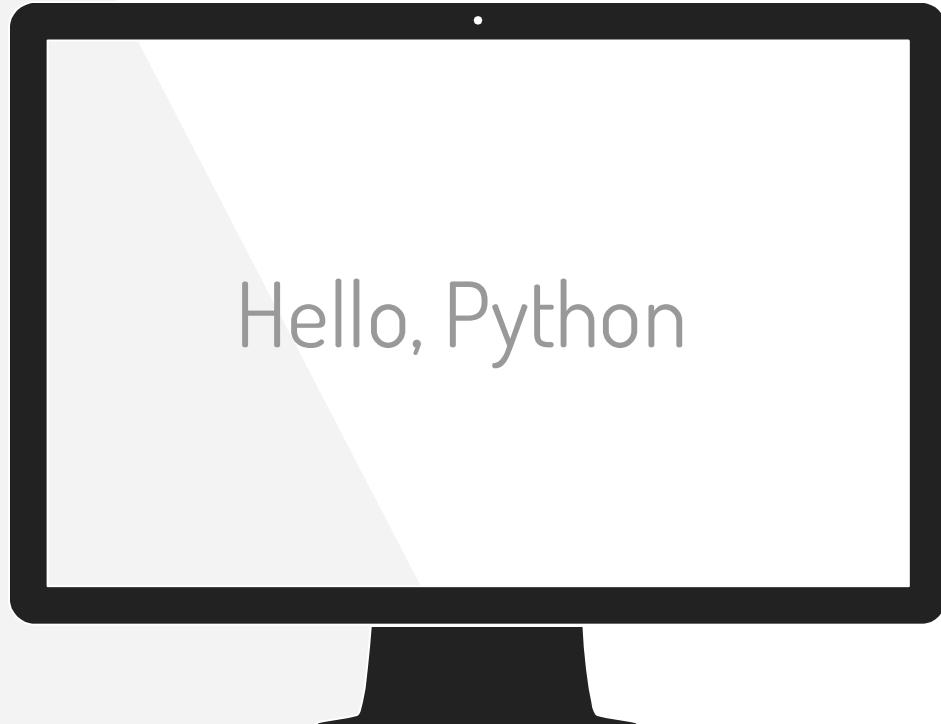
Screenshot of the Replit interface. The top bar shows tabs for Features, Careers, Blog, Pricing, Jobs, Teams for Education, and a red button. The main heading is "Python online editor, IDE, compiler, interpreter, and REPL". Below it, the text "Code, collaborate, compile, run, share, and deploy Python and more online from your browser." is displayed. A "Sign up for the full experience" button is present. The code editor shows the same Python code as the OnlineGDB screenshot. A "Run" button is visible, and the terminal output is identical to the OnlineGDB screenshot.

## ► Replit

<https://replit.com/languages/python3>

# Codificação

Agora vamos programar. Começaremos com *Hello, Python*



Código-fonte:  
`print('Hello, Python')`

“

*Só se aprende a programar  
programando.*

– ***Rogério Vargas***

”

# Hello, Python

**Alguma dúvida?**

Considerações finais...

# Contato

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**<http://rogerio.in>**