# Unidad 1 – Caso Práctico

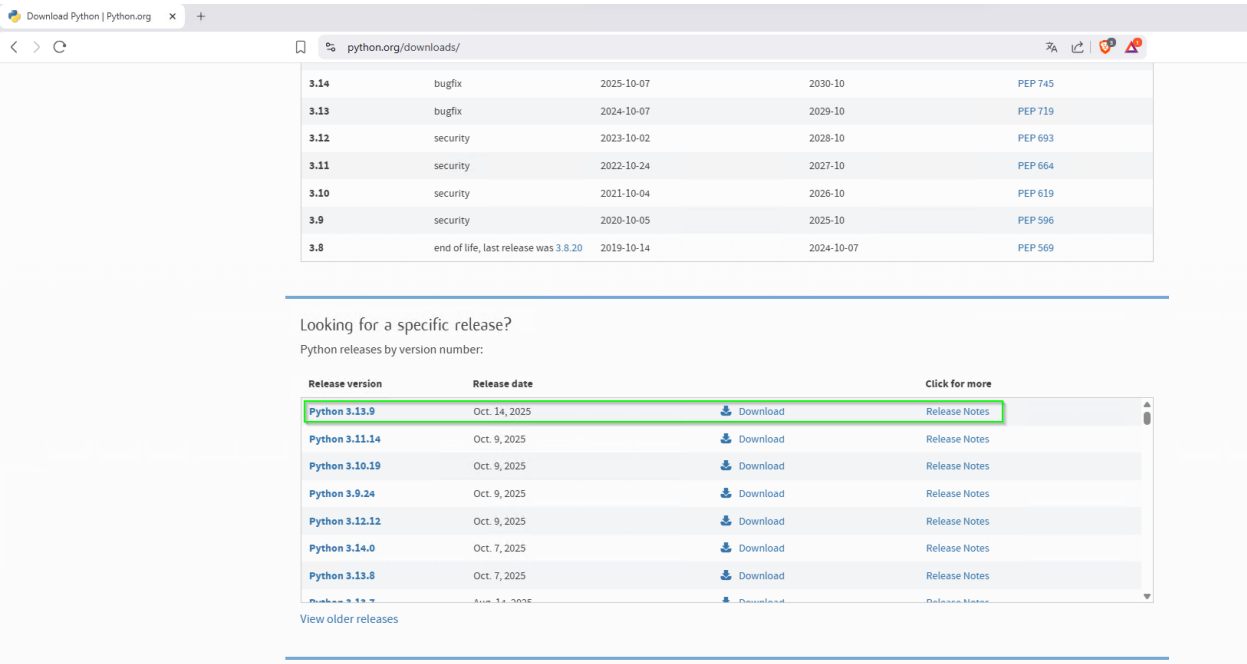
## Repositorio Github

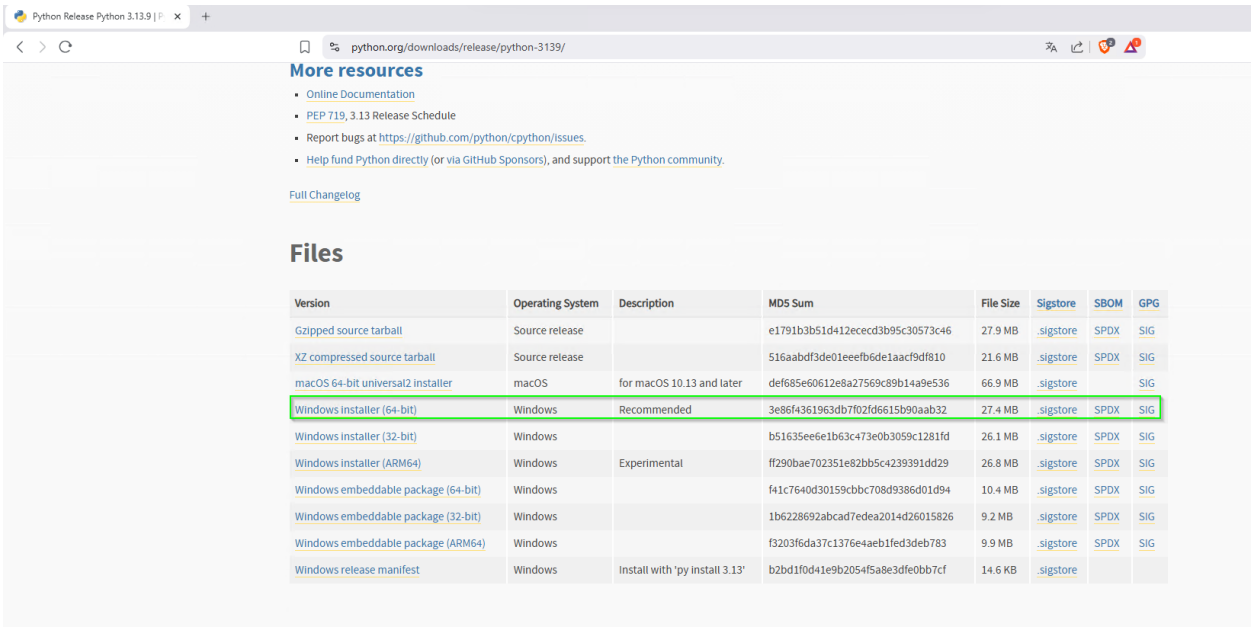
Repositorio en Github con toda la información de la unidad.

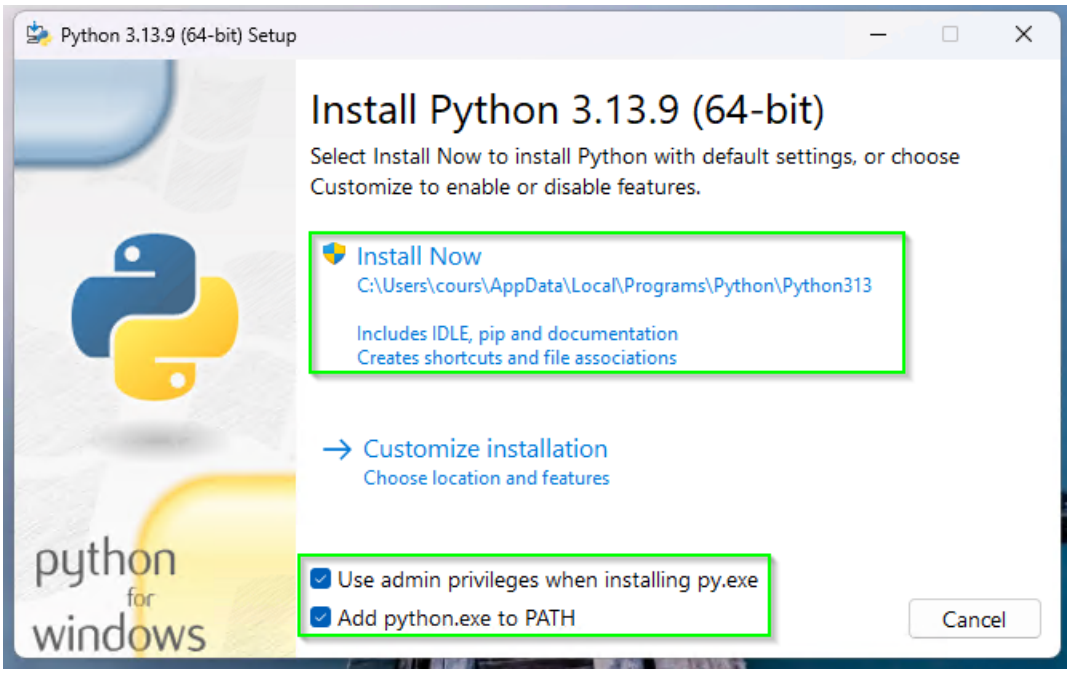
https://github.com/darovero/ecci-sena-python

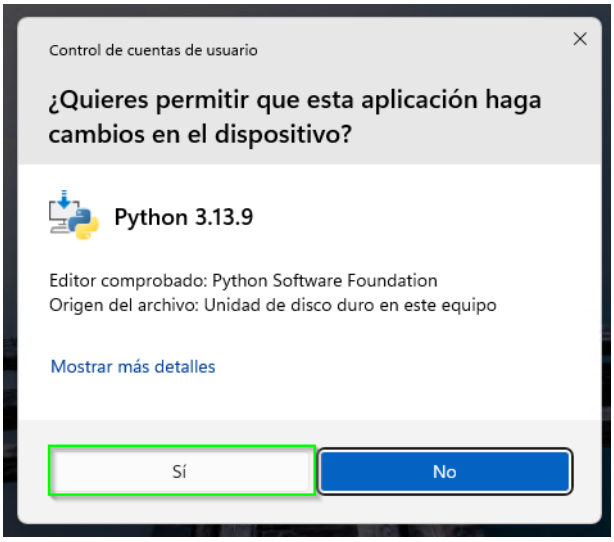
## Instalación Python

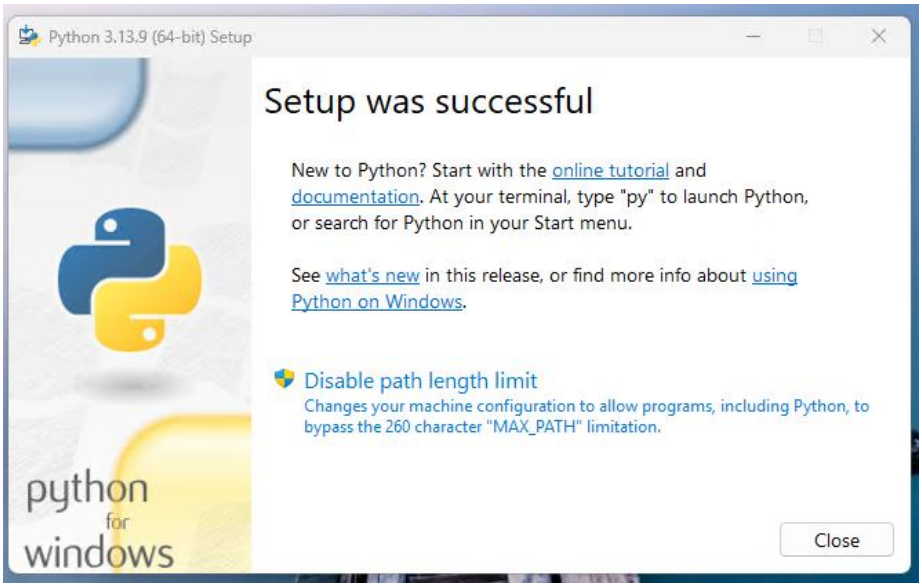
https://www.python.org/downloads/

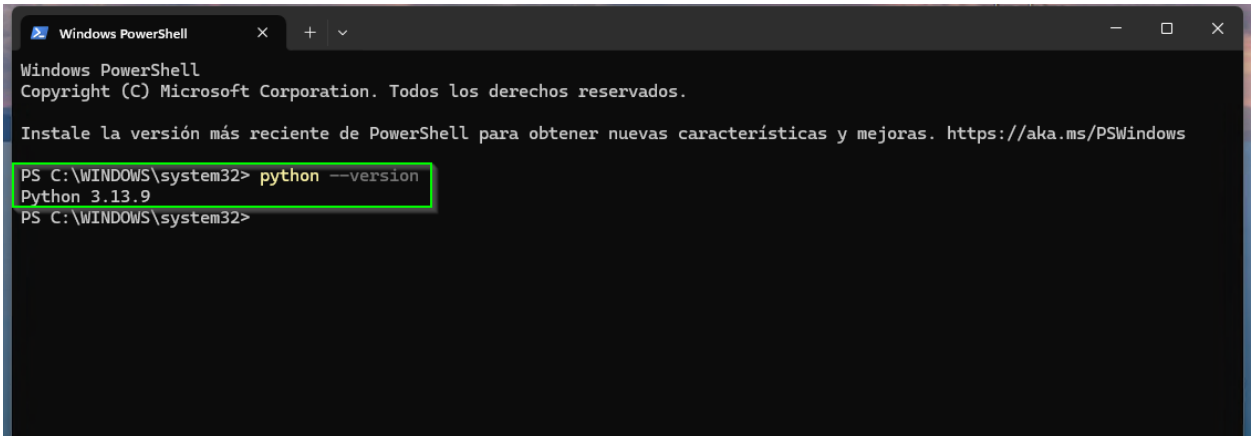



Python Release Python 3.13.9 | P
python.org/downloads/release/python-3139/
More resources
Online Documentation
PEP 719, 3.13 Release Schedule
Report bugs at https://github.com/python/cpython/issues.
Help fund Python directly (or via GitHub Sponsors), and support the Python community.
Full Changelog
Files
Version | Operating System | Description | MD5 Sum | File Size | Sigstore | SBOM | GPG
Gzipped source tarball | Source release | | e1791b3b51d412ececd3b95c30573c46 | 27.9 MB | .sigstore | SPDX | SIG
XZ compressed source tarball | Source release | | 516aabdf3de01eeefb6de1aacf9df810 | 21.6 MB | .sigstore | SPDX | SIG
macOS 64-bit universal2 installer | macOS | for macOS 10.13 and later | def685e60612e8a27569c89b14a9e536 | 66.9 MB | .sigstore | | SIG
Windows installer (64-bit) | Windows | Recommended | 3e86f4361963db7f02fd6615b90aab32 | 27.4 MB | .sigstore | SPDX | SIG
Windows installer (32-bit) | Windows | | b51635ee6e1b63c473e0b3059c1281fd | 26.1 MB | .sigstore | SPDX | SIG
Windows installer (ARM64) | Windows | Experimental | ff290bae702351e82bb5c4239391dd29 | 26.8 MB | .sigstore | SPDX | SIG
Windows embeddable package (64-bit) | Windows | | f41c7640d30159cbbc708d9386d01d94 | 10.4 MB | .sigstore | SPDX | SIG
Windows embeddable package (32-bit) | Windows | | 1b6228692abcad7edea2014d26015826 | 9.2 MB | .sigstore | SPDX | SIG
Windows embeddable package (ARM64) | Windows | | f3203f6da37c1376e4aeb1fed3deb783 | 9.9 MB | .sigstore | SPDX | SIG
Windows release manifest | Windows | Install with 'py install 3.13' | b2bd1f0d41e9b2054f5a8e3dfe0bb7cf | 14.6 KB | .sigstore


Python 3.13.9 (64-bit) Setup
Install Python 3.13.9 (64-bit)
Select Install Now to install Python with default settings, or choose
Customize to enable or disable features.
Install Now
C:\Users\cours\AppData\Local\Programs\Python\Python313
Includes IDLE, pip and documentation
Creates shortcuts and file associations
Customize installation
Choose location and features
python
for
windows
Use admin privileges when installing py.exe
Add python.exe to PATH
Cancel

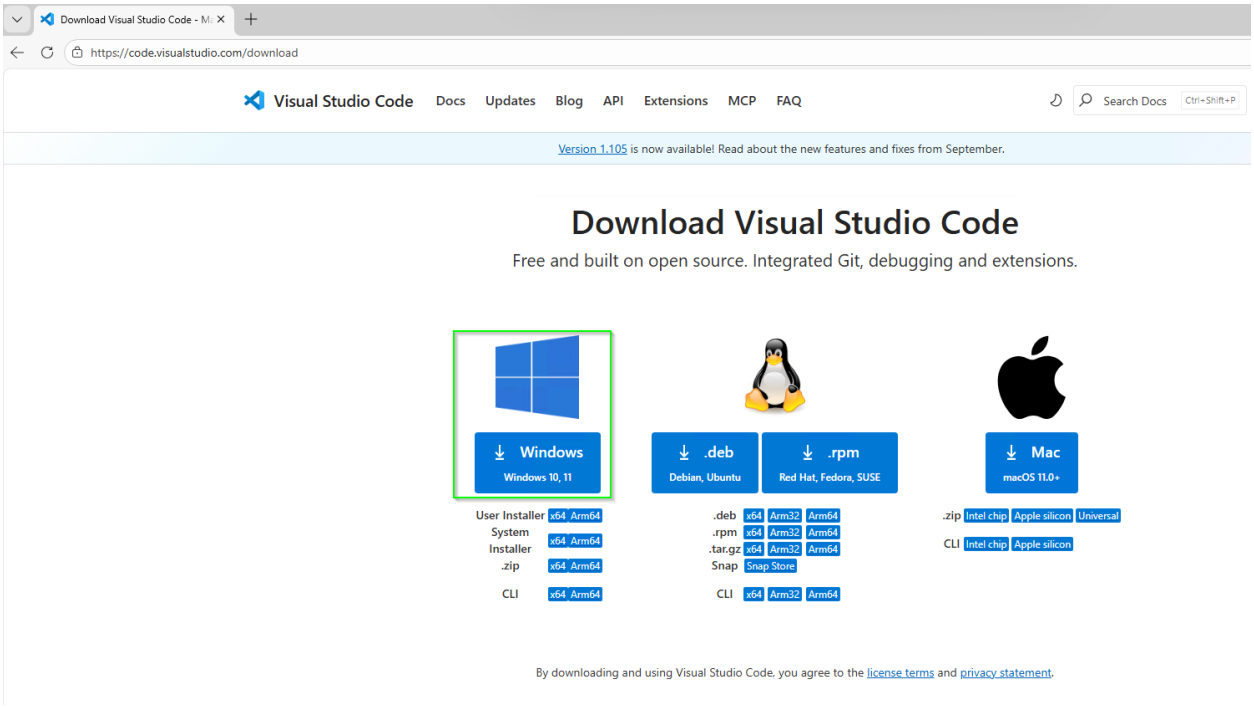

Control de cuentas de usuario
¿Quieres permitir que esta aplicación haga cambios en el dispositivo?
Python 3.13.9
Editor comprobado: Python Software Foundation
Origen del archivo: Unidad de disco duro en este equipo
Mostrar más detalles
Sí
No

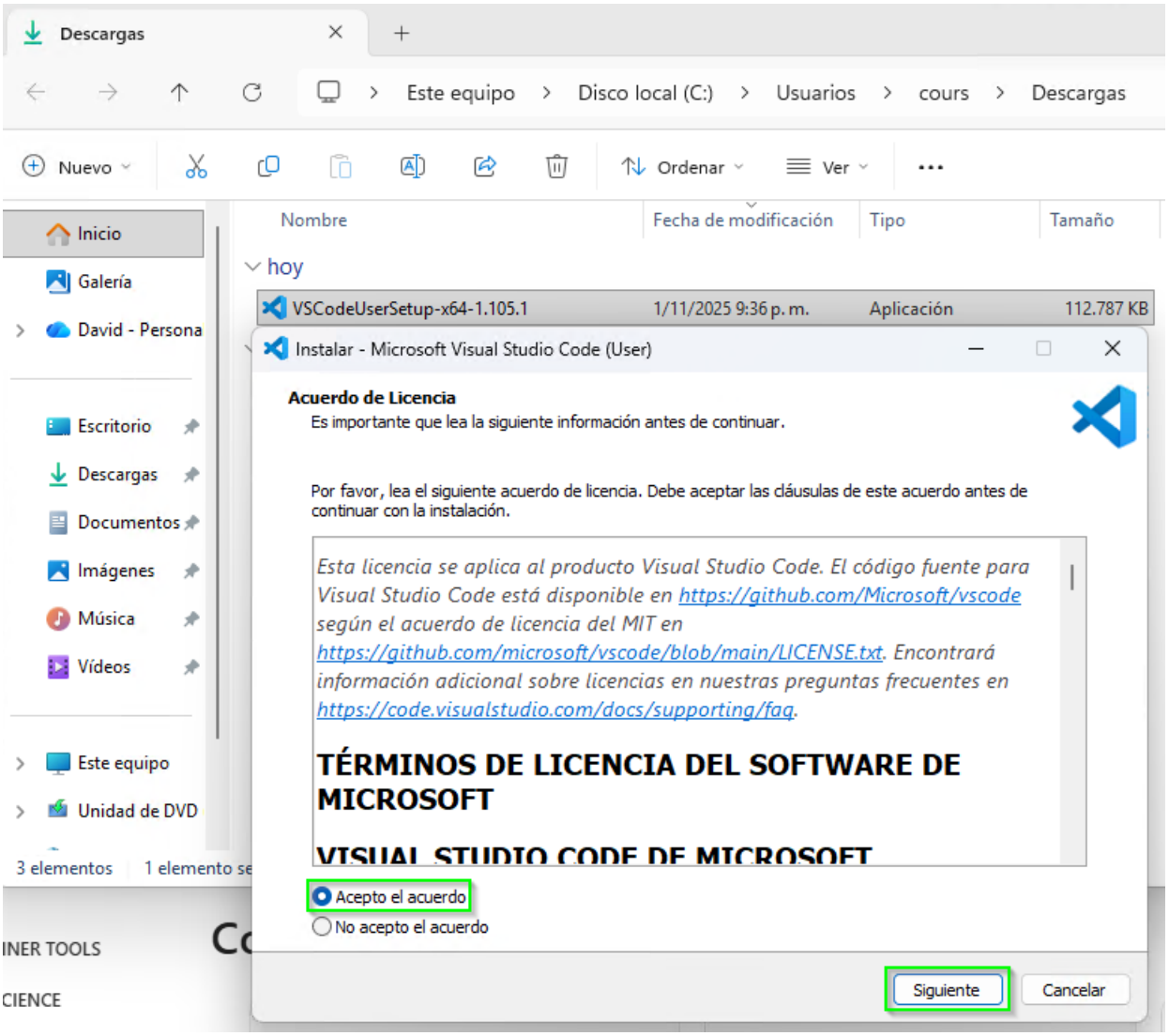

Python 3.13.9 (64-bit) Setup
Setup was successful
New to Python? Start with the online tutorial and documentation. At your terminal, type "py" to launch Python, or search for Python in your Start menu.
See what's new in this release, or find more info about using Python on Windows.
Disable path length limit
Changes your machine configuration to allow programs, including Python, to bypass the 260 character "MAX_PATH" limitation.
Close
python
for
windows

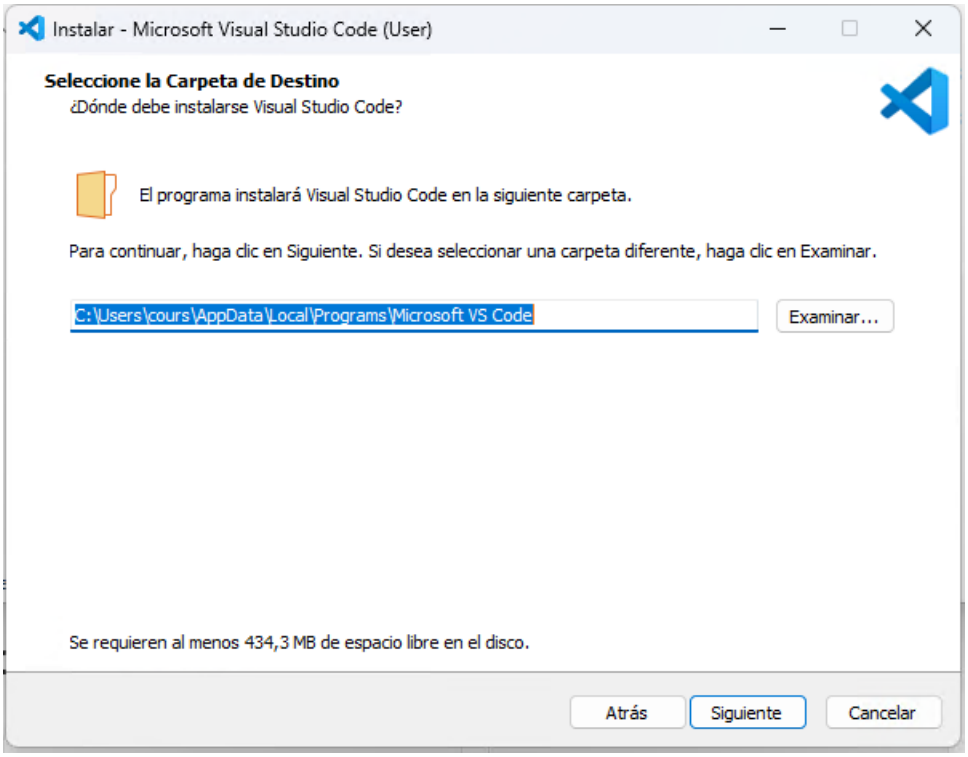

Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. Todos los derechos reservados.
Instale la versión más reciente de PowerShell para obtener nuevas características y mejoras. https://aka.ms/PSWindows
PS C:\WINDOWS\system32> python --version
Python 3.13.9
PS C:\WINDOWS\system32>

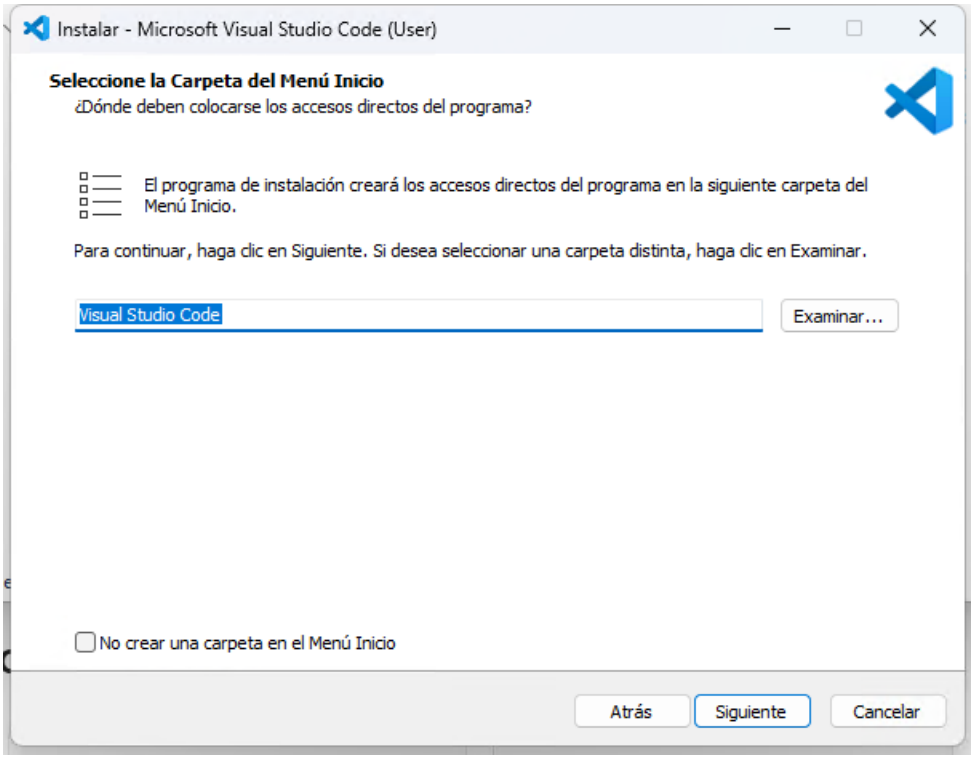
# Instalación Visual Studio Code

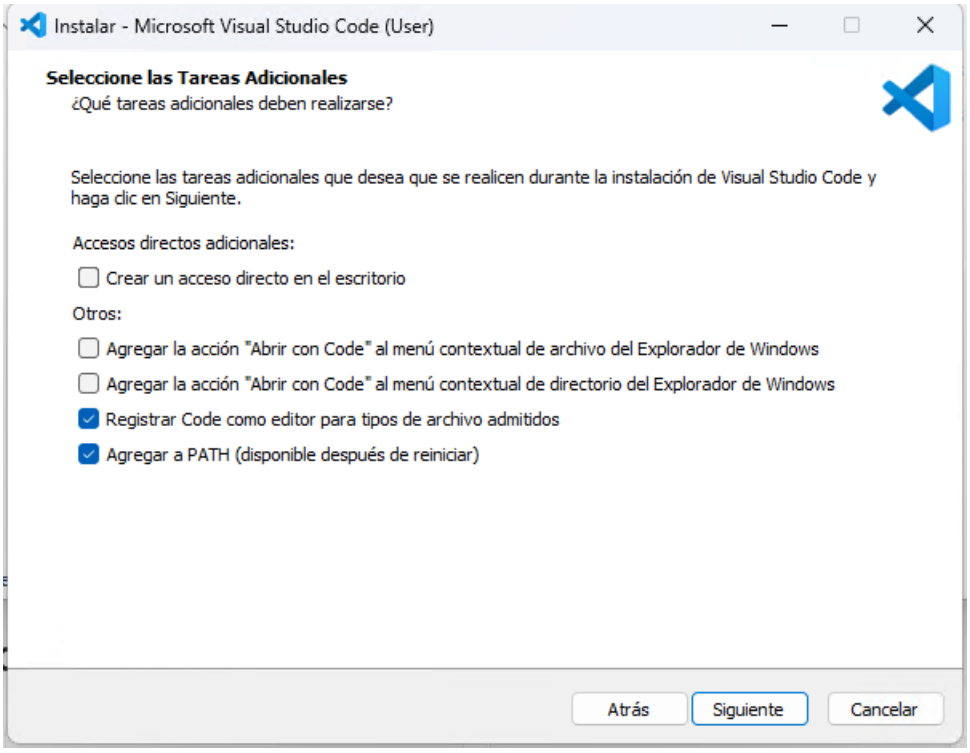
https://code.visualstudio.com/download

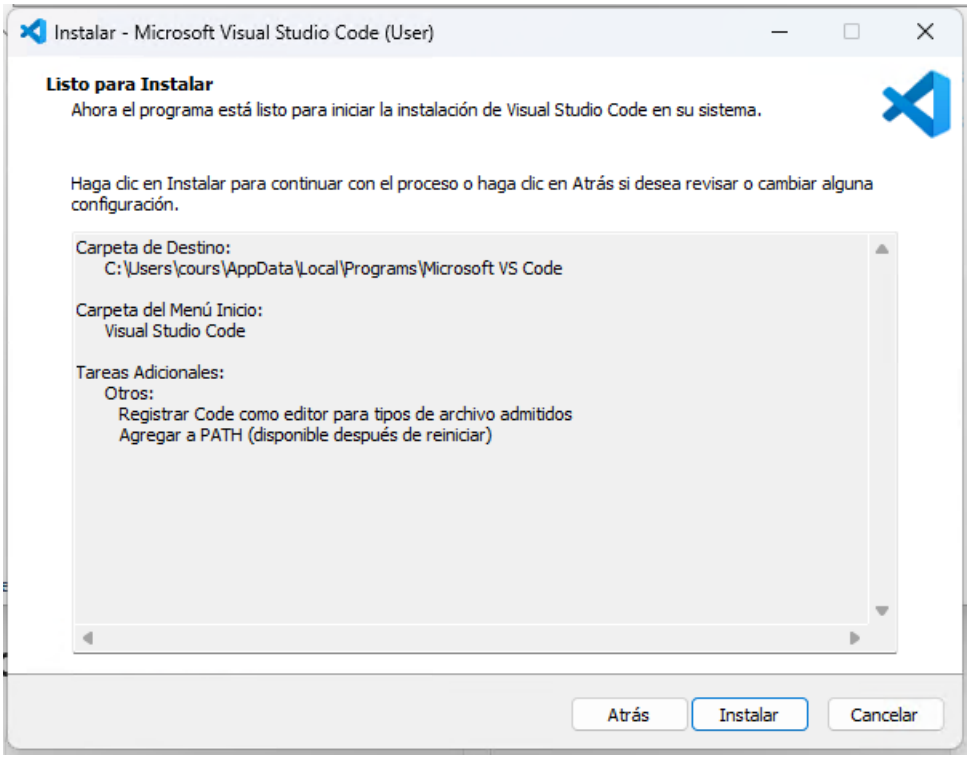


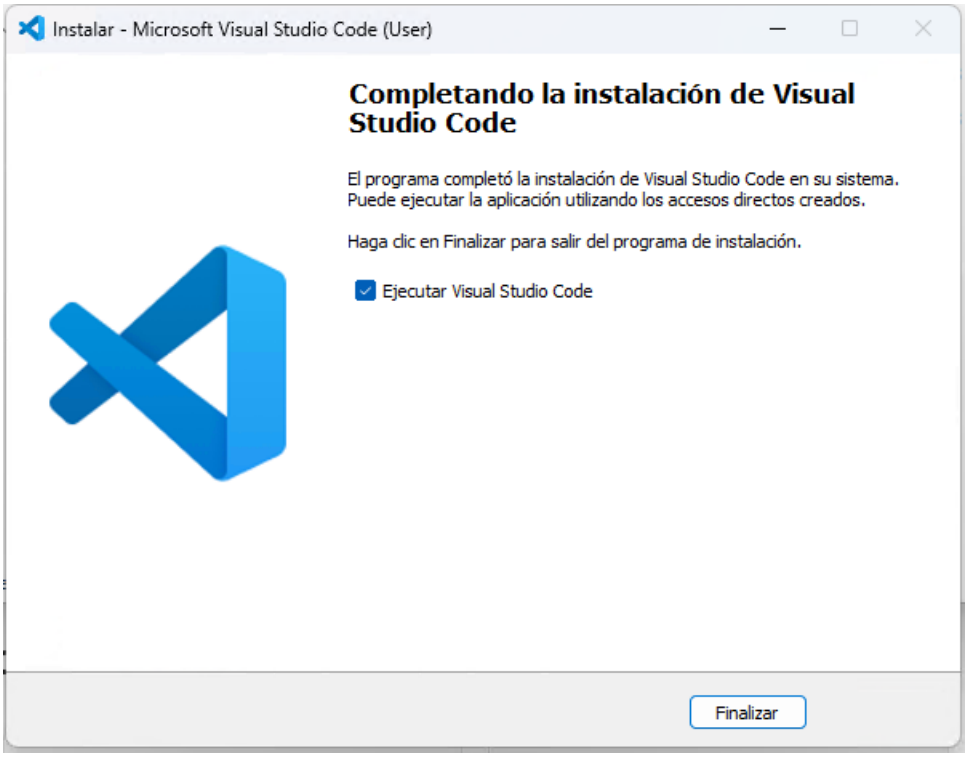

Descargas
Este equipo
Disco local (C:)
Usuarios
cours
Descargas
Nuevo
Ordenar
Ver
Inicio
Galería
David - Persona
Escritorio
Descargas
Documentos
Imágenes
Música
Vídeos
Este equipo
Unidad de DVD
Nombre
Fecha de modificación
Tipo
Tamaño
hoy
VSCodeUserSetup-x64-1.105.1
1/11/2025 9:36 p. m.
Aplicación
112.787 KB
3 elementos
Instalar - Microsoft Visual Studio Code (User)
Acuerdo de Licencia
Es importante que lea la siguiente información antes de continuar.
Por favor, lea el siguiente acuerdo de licencia. Debe aceptar las cláusulas de este acuerdo antes de continuar con la instalación.
Esta licencia se aplica al producto Visual Studio Code. El código fuente para Visual Studio Code está disponible en https://github.com/Microsoft/vscode según el acuerdo de licencia del MIT en https://github.com/microsoft/vscode/blob/main/LICENSE.txt. Encontrará información adicional sobre licencias en nuestras preguntas frecuentes en https://code.visualstudio.com/docs/supporting/faq.
TÉRMINOS DE LICENCIA DEL SOFTWARE DE MICROSOFT
VISUAL STUDIO CODE DE MICROSOFT
Acepto el acuerdo
No acepto el acuerdo
Siguiente
Cancelar


Instalar - Microsoft Visual Studio Code (User)
Seleccione la Carpeta de Destino
¿Dónde debe instalarse Visual Studio Code?
El programa instalará Visual Studio Code en la siguiente carpeta.
Para continuar, haga clic en Siguiente. Si desea seleccionar una carpeta diferente, haga clic en Examinar.
C:\Users\cours\AppData\Local\Programs\Microsoft VS Code
Examinar...
Se requieren al menos 434,3 MB de espacio libre en el disco.
Atrás
Siguiente
Cancelar


Instalar - Microsoft Visual Studio Code (User)
Seleccione la Carpeta del Menú Inicio
¿Dónde deben colocarse los accesos directos del programa?
El programa de instalación creará los accesos directos del programa en la siguiente carpeta del Menú Inicio.
Para continuar, haga clic en Siguiente. Si desea seleccionar una carpeta distinta, haga clic en Examinar.
Visual Studio Code
Examinar...
No crear una carpeta en el Menú Inicio
Atrás
Siguiente
Cancelar

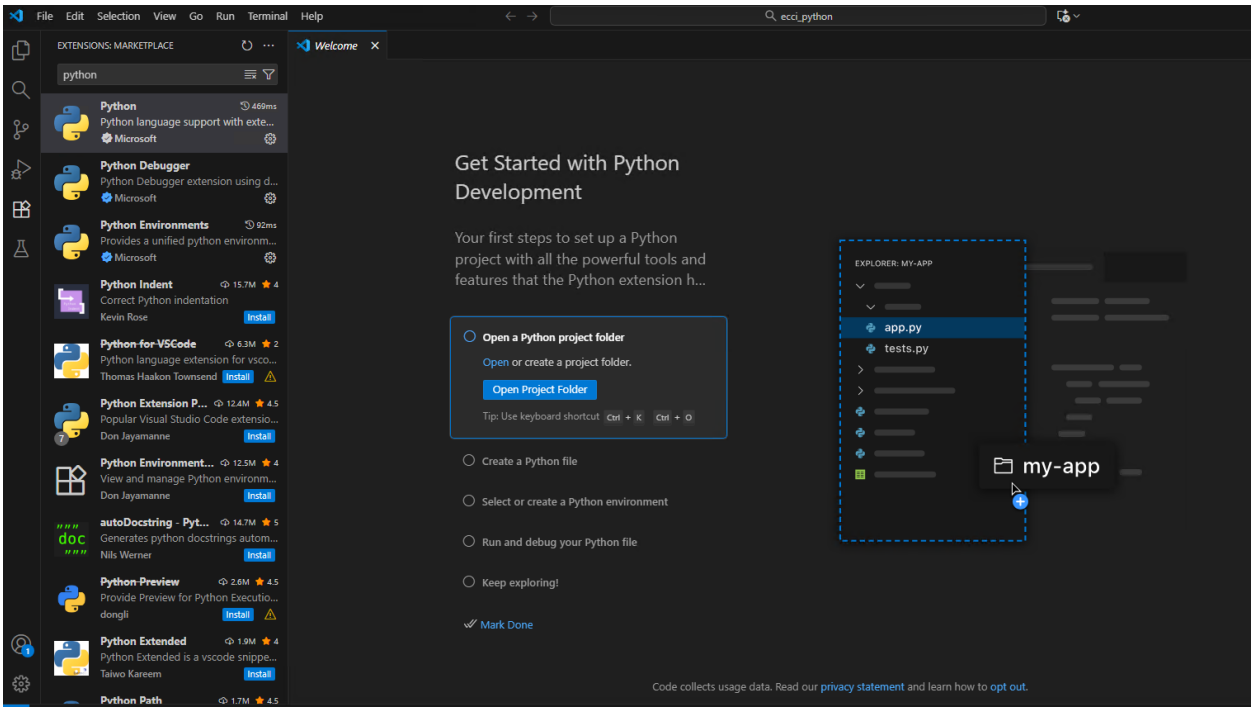

Instalar - Microsoft Visual Studio Code (User)
Seleccione las Tareas Adicionales
¿Qué tareas adicionales deben realizarse?
Seleccione las tareas adicionales que desea que se realicen durante la instalación de Visual Studio Code y haga clic en Siguiente.
Accesos directos adicionales:
Crear un acceso directo en el escritorio
Otros:
Agregar la acción "Abrir con Code" al menú contextual de archivo del Explorador de Windows
Agregar la acción "Abrir con Code" al menú contextual de directorio del Explorador de Windows
Registrar Code como editor para tipos de archivo admitidos
Agregar a PATH (disponible después de reiniciar)
Atrás
Siguiente
Cancelar


Instalar - Microsoft Visual Studio Code (User)
Listo para Instalar
Ahora el programa está listo para iniciar la instalación de Visual Studio Code en su sistema.
Haga clic en Instalar para continuar con el proceso o haga clic en Atrás si desea revisar o cambiar alguna configuración.
Carpeta de Destino:
C:\Users\cours\AppData\Local\Programs\Microsoft VS Code
Carpeta del Menú Inicio:
Visual Studio Code
Tareas Adicionales:
Otros:
Registrar Code como editor para tipos de archivo admitidos
Agregar a PATH (disponible después de reiniciar)
Atrás
Instalar
Cancelar

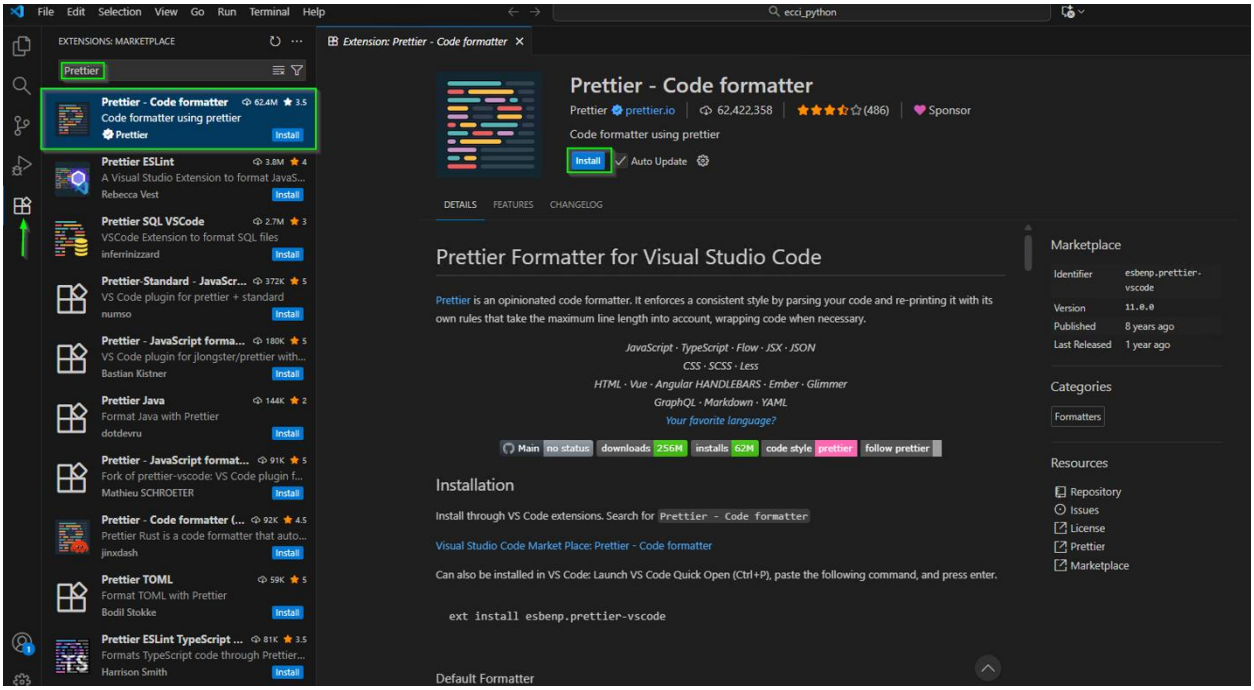

Instalar - Microsoft Visual Studio Code (User)
Completando la instalación de Visual Studio Code
El programa completó la instalación de Visual Studio Code en su sistema.
Puede ejecutar la aplicación utilizando los accesos directos creados.
Haga clic en Finalizar para salir del programa de instalación.
Ejecutar Visual Studio Code
Finalizar

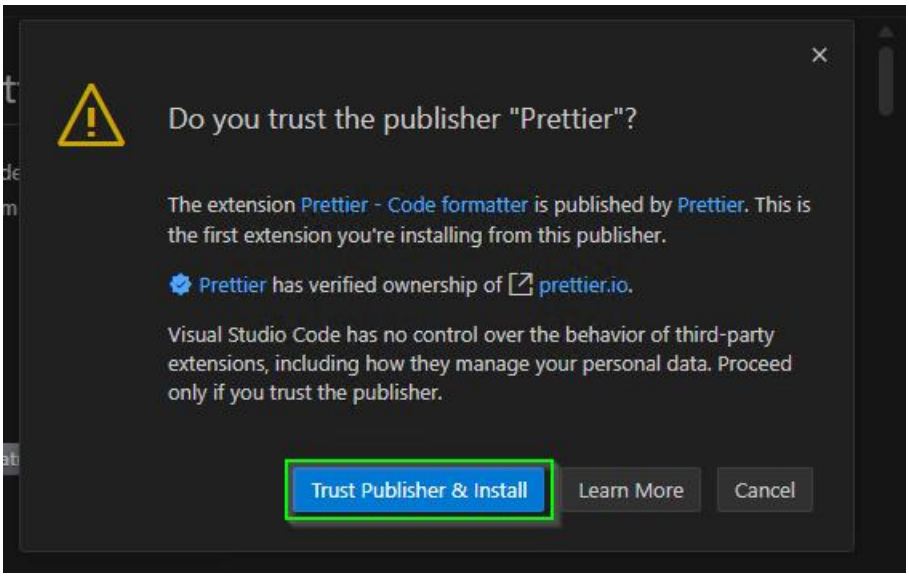
# Instalación Extensiones de VS Code

## Python

## Prettier

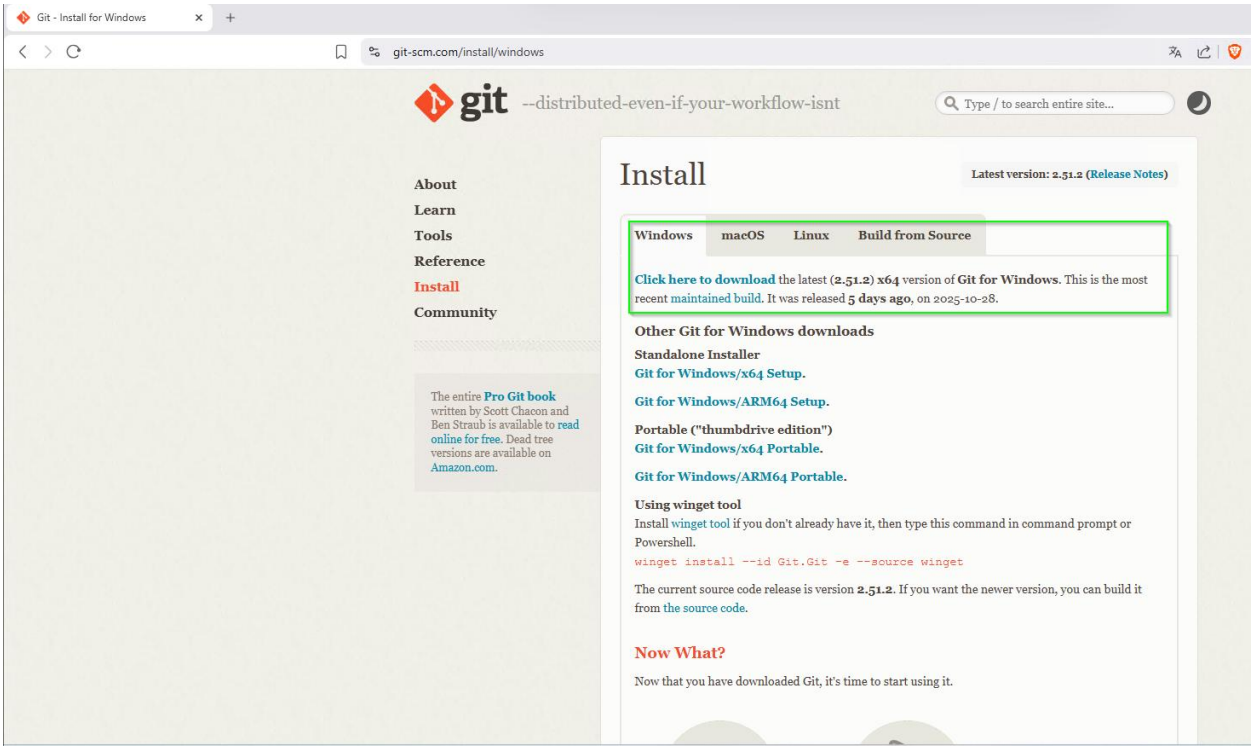


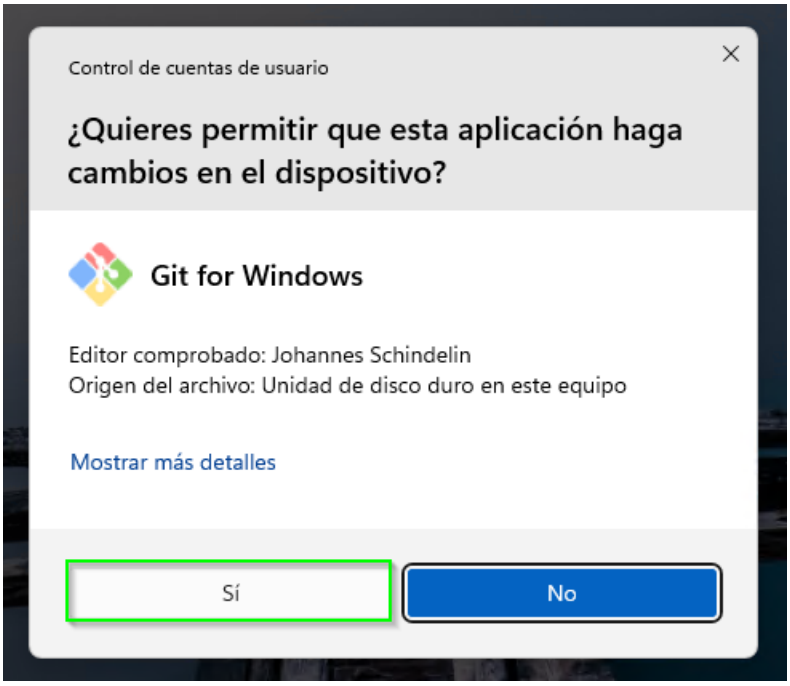




**Nota: Instalar las extensiones Python, Prettier - Code formatter, GitLens, Jupyter, Path IntelliSense, Symbols, Remote-SSH, Indent-Rainbow, Better Commets.**

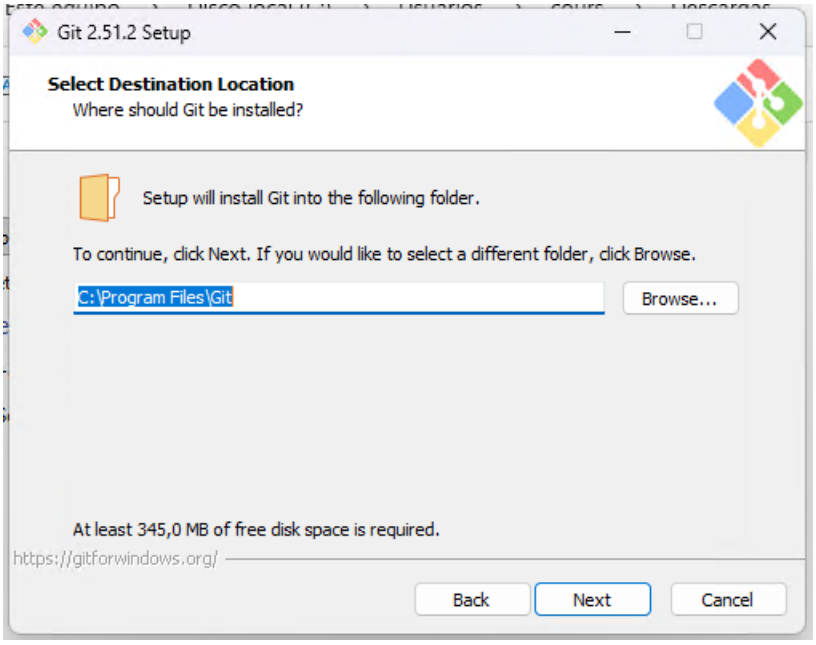
# Instalación GIT

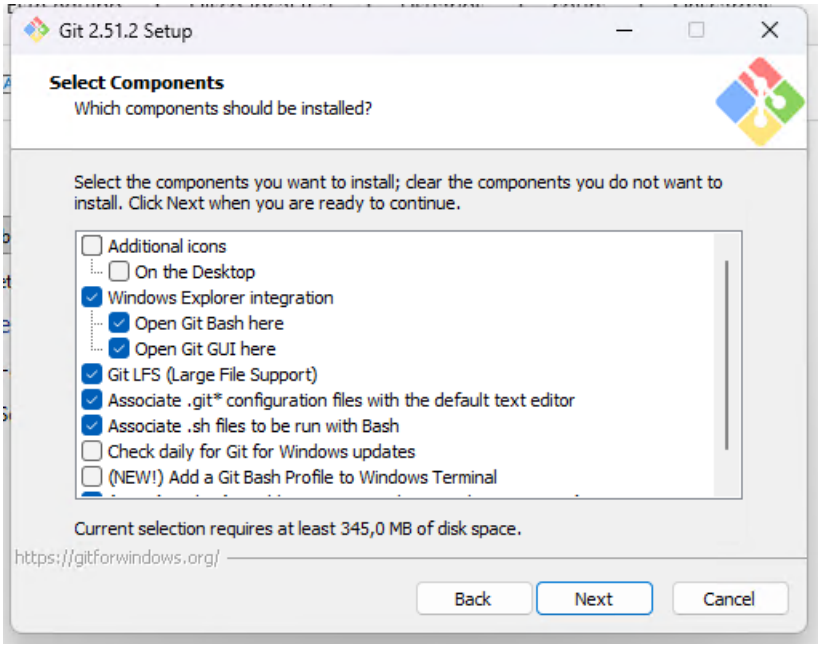
https://git-scm.com/install/windows

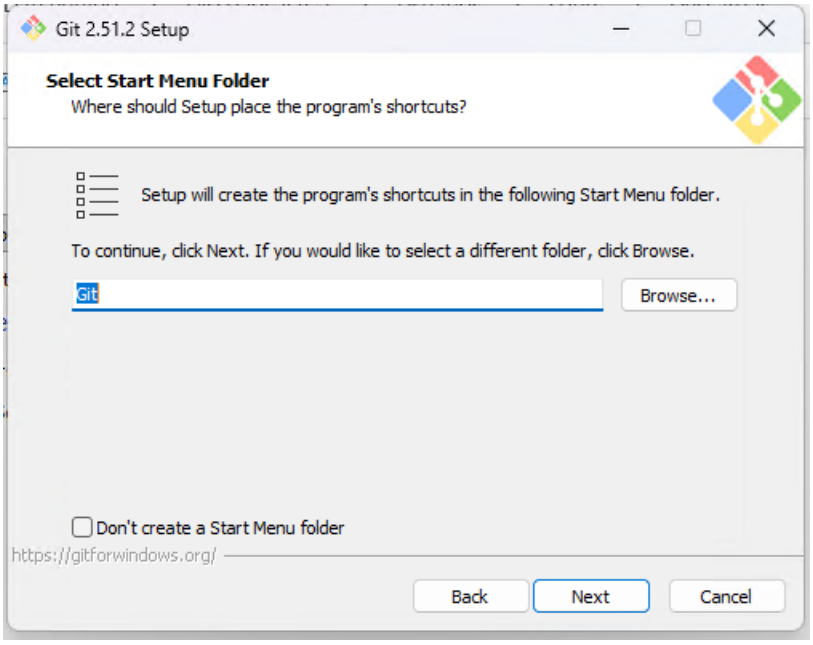


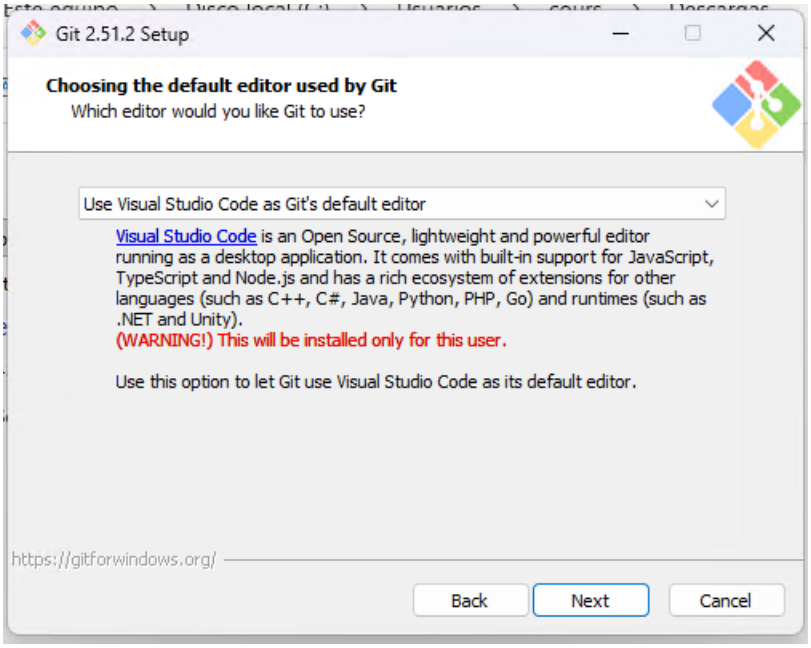



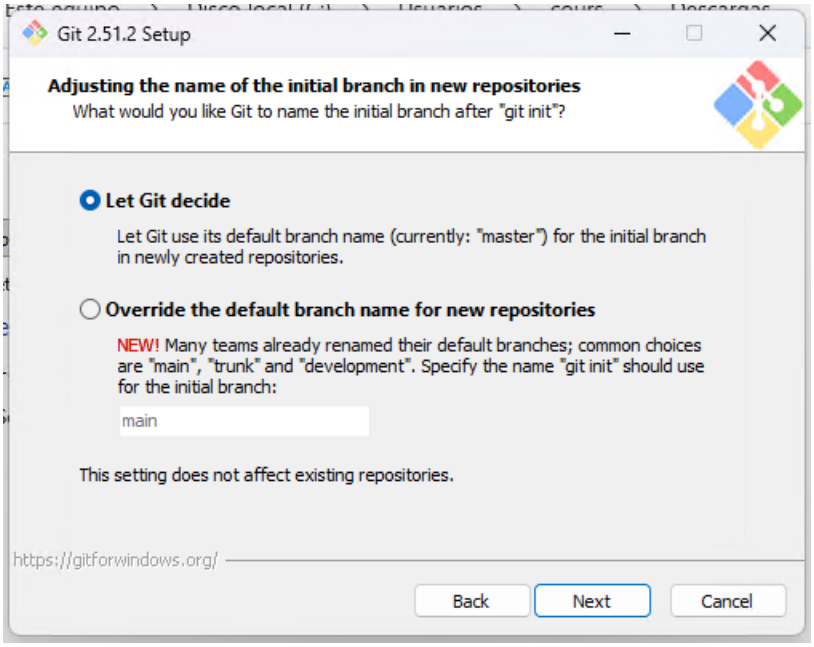

Git 2.51.2 Setup
Information
Please read the following important information before continuing.
When you are ready to continue with Setup, click Next.
GNU General Public License
Version 2, June 1991
Copyright (C) 1989, 1991 Free Software Foundation, Inc.
59 Temple Place - Suite 330, Boston, MA 02111-1307, USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.
Preamble
The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
License is intended to guarantee your freedom to share and change
https://gitforwindows.org/
Next
Cancel

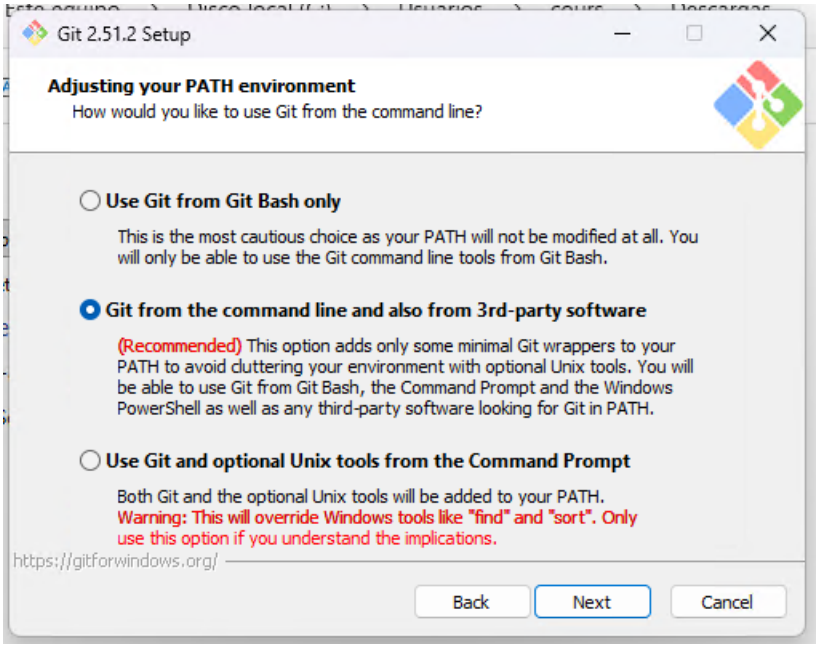

Git 2.51.2 Setup
Select Destination Location
Where should Git be installed?
Setup will install Git into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\Git
Browse...
At least 345,0 MB of free disk space is required.
https://gitforwindows.org/
Back
Next
Cancel

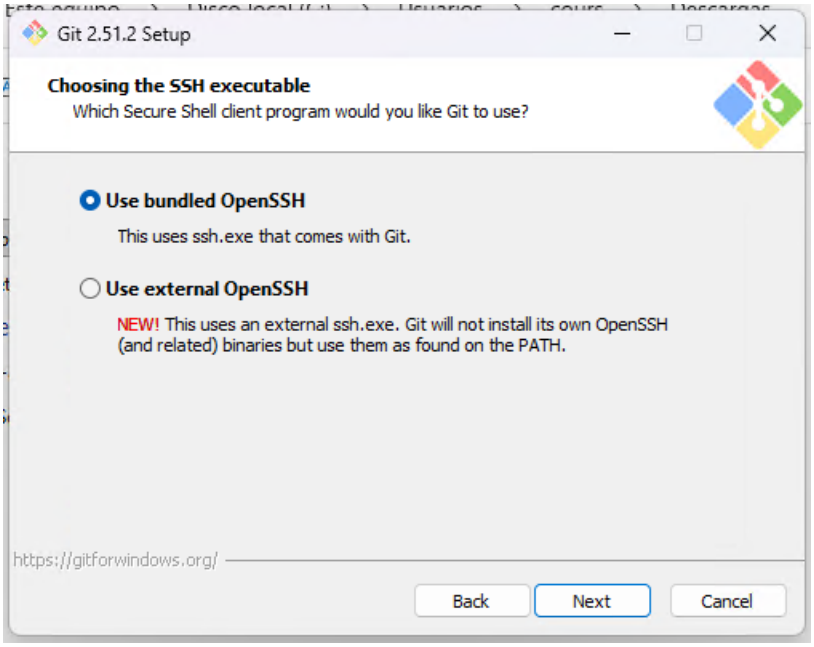

Git 2.51.2 Setup
Select Components
Which components should be installed?
Select the components you want to install; clear the components you do not want to install. Click Next when you are ready to continue.
Additional icons
On the Desktop
Windows Explorer integration
Open Git Bash here
Open Git GUI here
Git LFS (Large File Support)
Associate .git* configuration files with the default text editor
Associate .sh files to be run with Bash
Check daily for Git for Windows updates
(NEW!) Add a Git Bash Profile to Windows Terminal
Current selection requires at least 345,0 MB of disk space.
https://gitforwindows.org/
Back
Next
Cancel

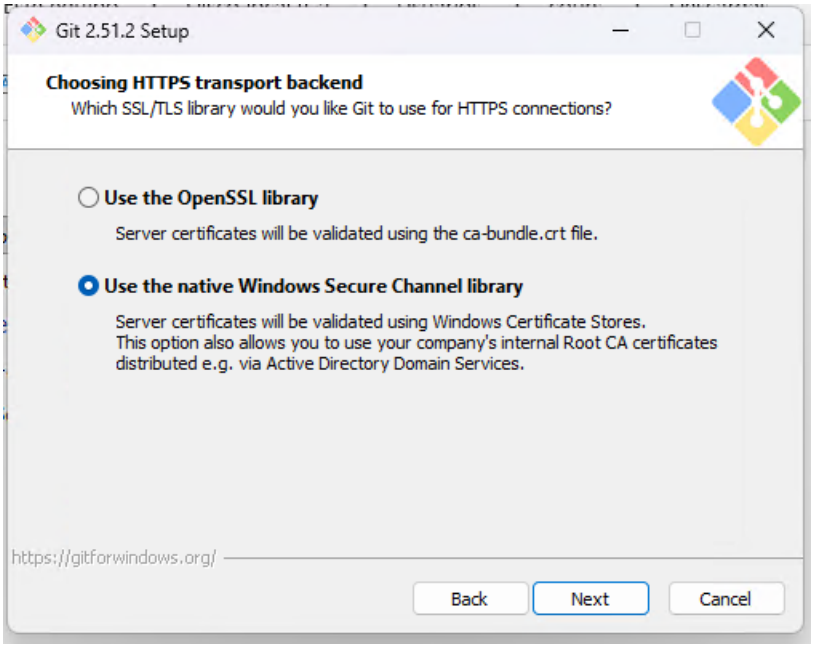

Git 2.51.2 Setup
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Setup will create the program's shortcuts in the following Start Menu folder.
To continue, click Next. If you would like to select a different folder, click Browse.
Git
Browse...
Don't create a Start Menu folder
https://gitforwindows.org/
Back
Next
Cancel

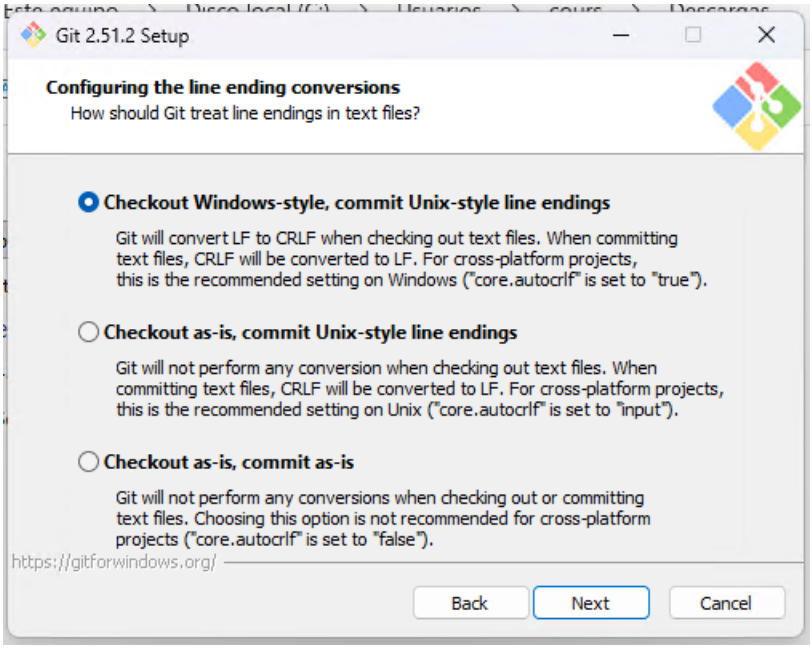

Git 2.51.2 Setup
Choosing the default editor used by Git
Which editor would you like Git to use?
Use Visual Studio Code as Git's default editor
Visual Studio Code is an Open Source, lightweight and powerful editor running as a desktop application. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages (such as C++, C#, Java, Python, PHP, Go) and runtimes (such as .NET and Unity).
(WARNING!) This will be installed only for this user.
Use this option to let Git use Visual Studio Code as its default editor.
https://gitforwindows.org/
Back
Next
Cancel

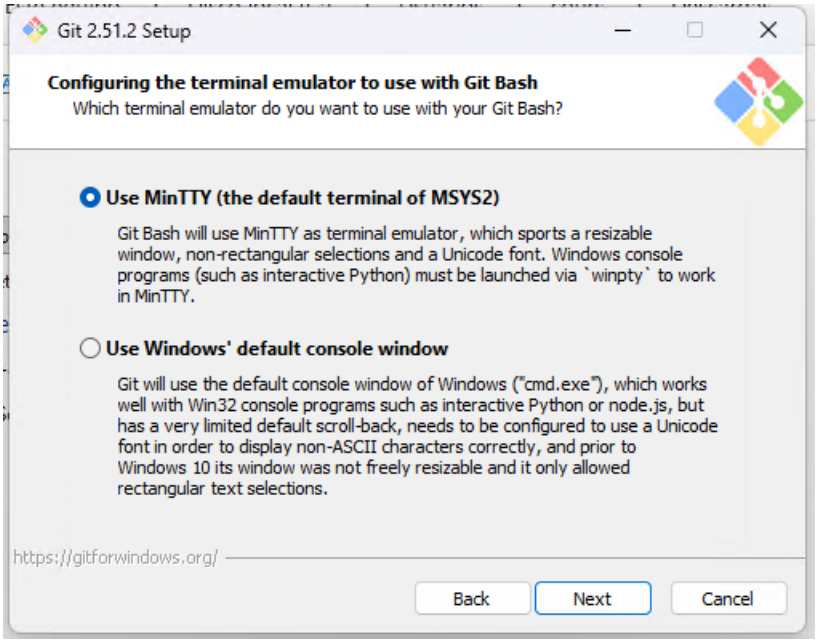

Git 2.51.2 Setup
Adjusting the name of the initial branch in new repositories
What would you like Git to name the initial branch after "git init"?
Let Git decide
Let Git use its default branch name (currently: "master") for the initial branch in newly created repositories.
Override the default branch name for new repositories
NEW! Many teams already renamed their default branches; common choices are "main", "trunk" and "development". Specify the name "git init" should use for the initial branch:
main
This setting does not affect existing repositories.
https://gitforwindows.org/
Back
Next
Cancel

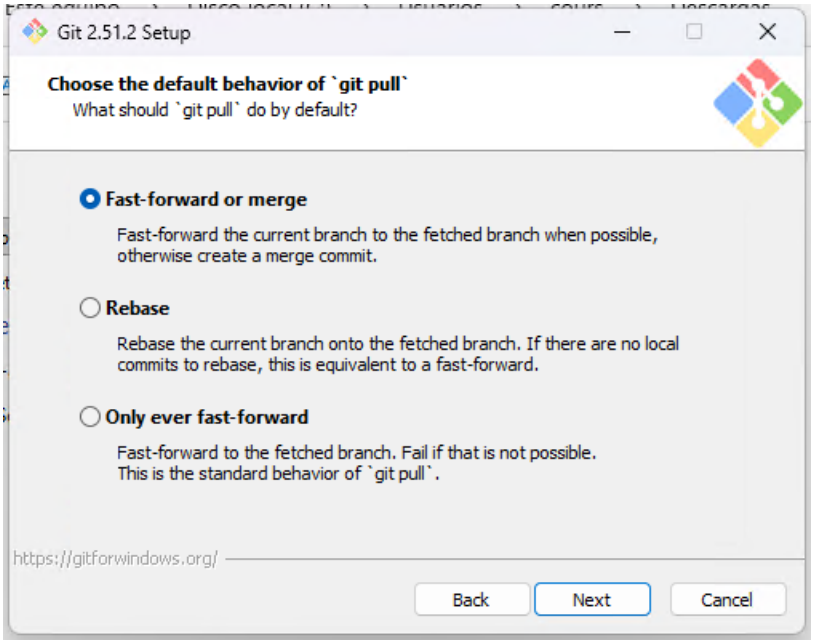

Git 2.51.2 Setup
Adjusting your PATH environment
How would you like to use Git from the command line?
Use Git from Git Bash only
This is the most cautious choice as your PATH will not be modified at all. You will only be able to use the Git command line tools from Git Bash.
Git from the command line and also from 3rd-party software
(Recommended) This option adds only some minimal Git wrappers to your PATH to avoid cluttering your environment with optional Unix tools. You will be able to use Git from Git Bash, the Command Prompt and the Windows PowerShell as well as any third-party software looking for Git in PATH.
Use Git and optional Unix tools from the Command Prompt
Both Git and the optional Unix tools will be added to your PATH.
Warning: This will override Windows tools like "find" and "sort". Only use this option if you understand the implications.
https://gitforwindows.org/
Back
Next
Cancel

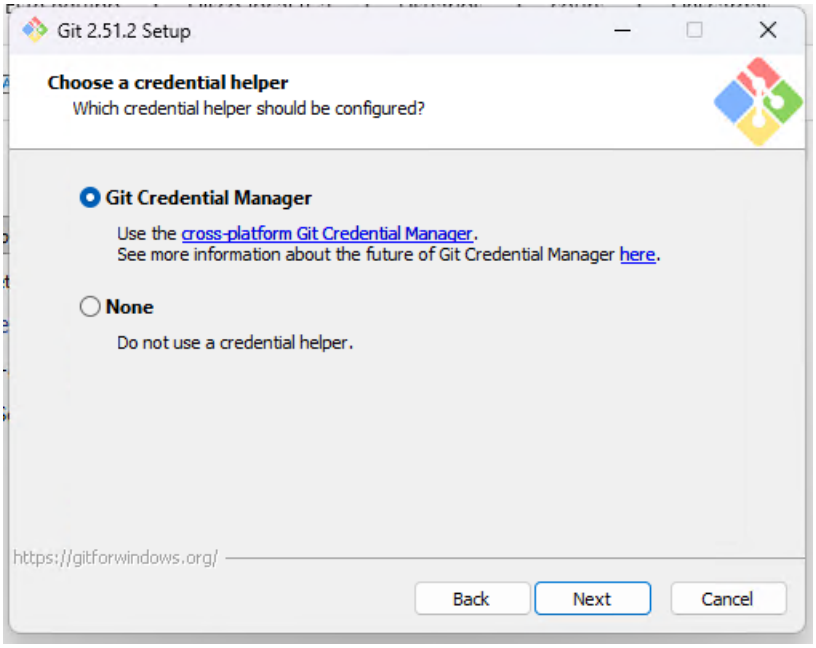

Git 2.51.2 Setup
Choosing the SSH executable
Which Secure Shell client program would you like Git to use?
Use bundled OpenSSH
This uses ssh.exe that comes with Git.
Use external OpenSSH
NEW! This uses an external ssh.exe. Git will not install its own OpenSSH (and related) binaries but use them as found on the PATH.
https://gitforwindows.org/
Back
Next
Cancel

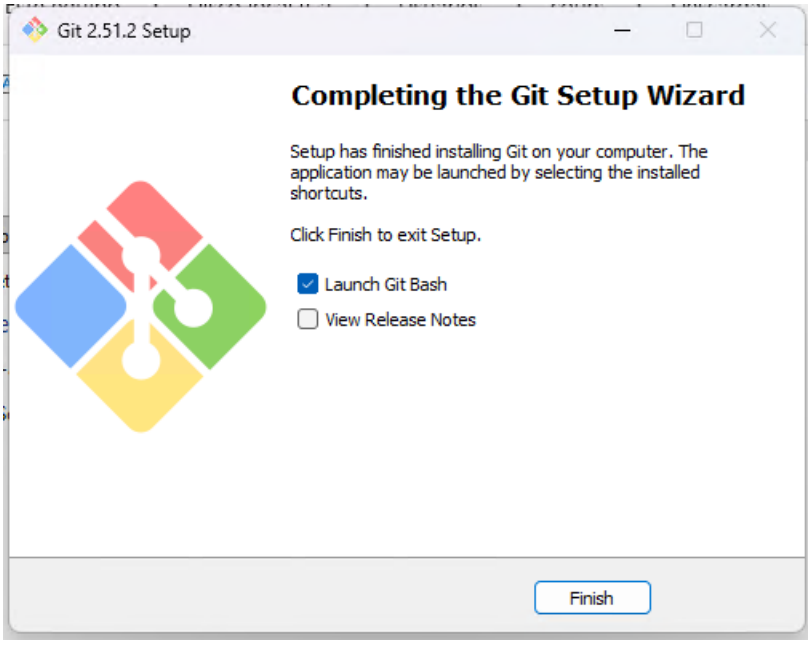

Git 2.51.2 Setup
Choosing HTTPS transport backend
Which SSL/TLS library would you like Git to use for HTTPS connections?
Use the OpenSSL library
Server certificates will be validated using the ca-bundle.crt file.
Use the native Windows Secure Channel library
Server certificates will be validated using Windows Certificate Stores.
This option also allows you to use your company's internal Root CA certificates
distributed e.g. via Active Directory Domain Services.
https://gitforwindows.org/
Back
Next
Cancel

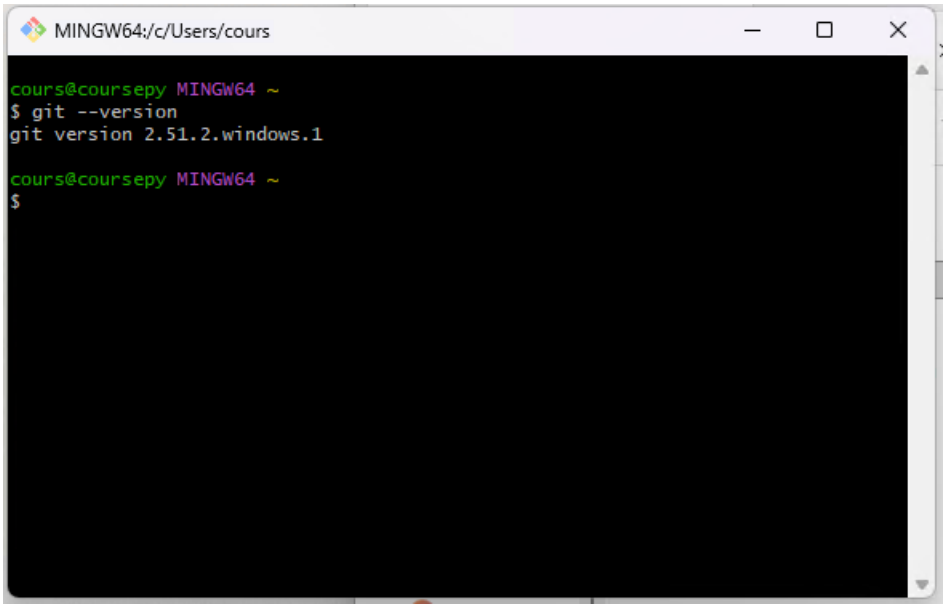

Git 2.51.2 Setup
Configuring the line ending conversions
How should Git treat line endings in text files?
Checkout Windows-style, commit Unix-style line endings
Git will convert LF to CRLF when checking out text files. When committing
text files, CRLF will be converted to LF. For cross-platform projects,
this is the recommended setting on Windows ("core.autocrlf" is set to "true").
Checkout as-is, commit Unix-style line endings
Git will not perform any conversion when checking out text files. When
committing text files, CRLF will be converted to LF. For cross-platform projects,
this is the recommended setting on Unix ("core.autocrlf" is set to "input").
Checkout as-is, commit as-is
Git will not perform any conversions when checking out or committing
text files. Choosing this option is not recommended for cross-platform
projects ("core.autocrlf" is set to "false").
https://gitforwindows.org/
Back
Next
Cancel


Git 2.51.2 Setup
Configuring the terminal emulator to use with Git Bash
Which terminal emulator do you want to use with your Git Bash?
Use MinTTY (the default terminal of MSYS2)
Git Bash will use MinTTY as terminal emulator, which sports a resizable window, non-rectangular selections and a Unicode font. Windows console programs (such as interactive Python) must be launched via `winpty` to work in MinTTY.
Use Windows' default console window
Git will use the default console window of Windows ("cmd.exe"), which works well with Win32 console programs such as interactive Python or node.js, but has a very limited default scroll-back, needs to be configured to use a Unicode font in order to display non-ASCII characters correctly, and prior to Windows 10 its window was not freely resizable and it only allowed rectangular text selections.
https://gitforwindows.org/
Back
Next
Cancel


Git 2.51.2 Setup
Choose the default behavior of `git pull`
What should `git pull` do by default?
Fast-forward or merge
Fast-forward the current branch to the fetched branch when possible, otherwise create a merge commit.
Rebase
Rebase the current branch onto the fetched branch. If there are no local commits to rebase, this is equivalent to a fast-forward.
Only ever fast-forward
Fast-forward to the fetched branch. Fail if that is not possible. This is the standard behavior of `git pull`.
https://gitforwindows.org/
Back
Next
Cancel


Git 2.51.2 Setup
Choose a credential helper
Which credential helper should be configured?
Git Credential Manager
Use the cross-platform Git Credential Manager.
See more information about the future of Git Credential Manager here.
None
Do not use a credential helper.
https://gitforwindows.org/
Back
Next
Cancel


Git 2.51.2 Setup
Completing the Git Setup Wizard
Setup has finished installing Git on your computer. The application may be launched by selecting the installed shortcuts.
Click Finish to exit Setup.
Launch Git Bash
View Release Notes
Finish

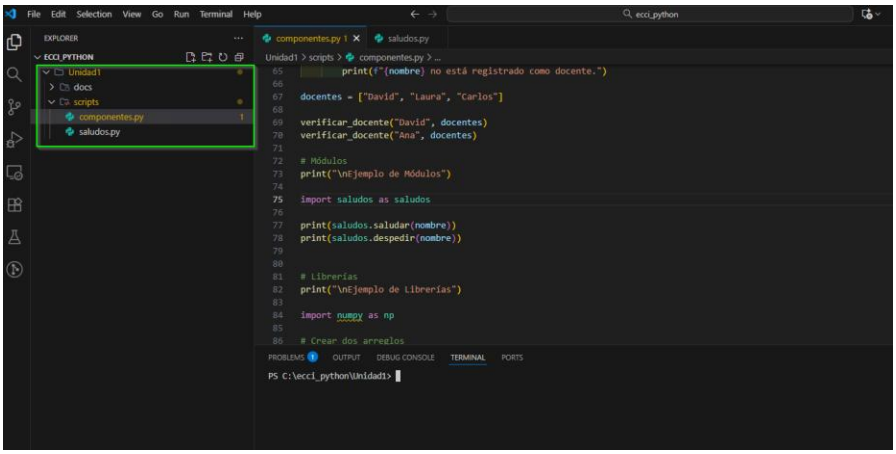



Nota: el siguiente es un curso que les puede ayudar a profundizar más en este tema.

Aprende Git y GitHub - Curso desde cero

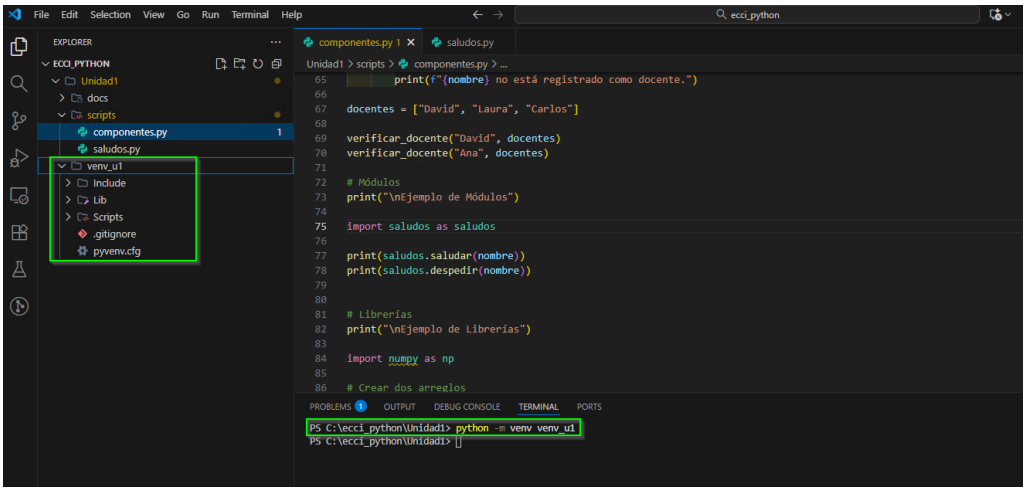
## Ambiente Virtual

### Antes de habilitar el ambiente virtual

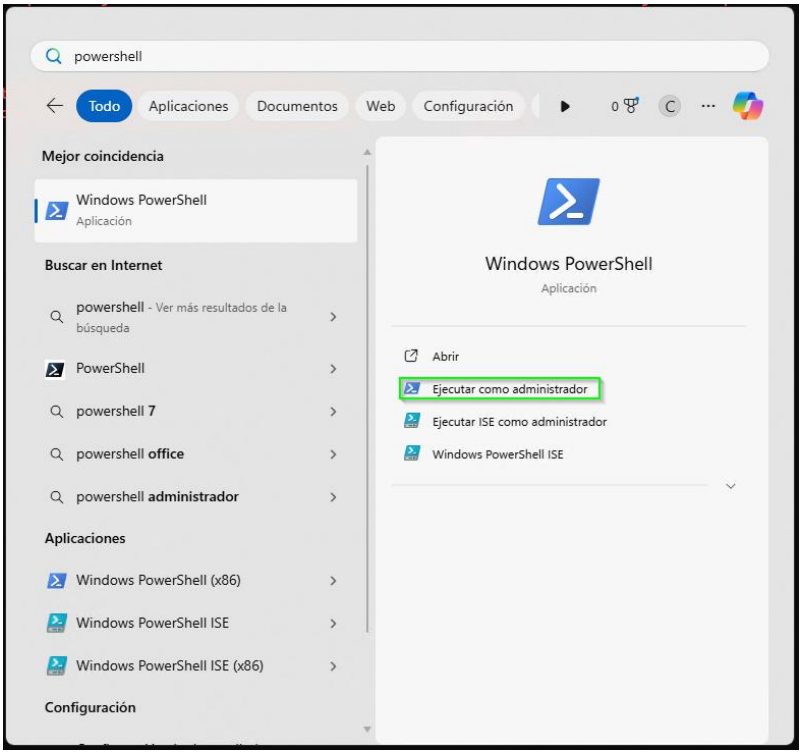


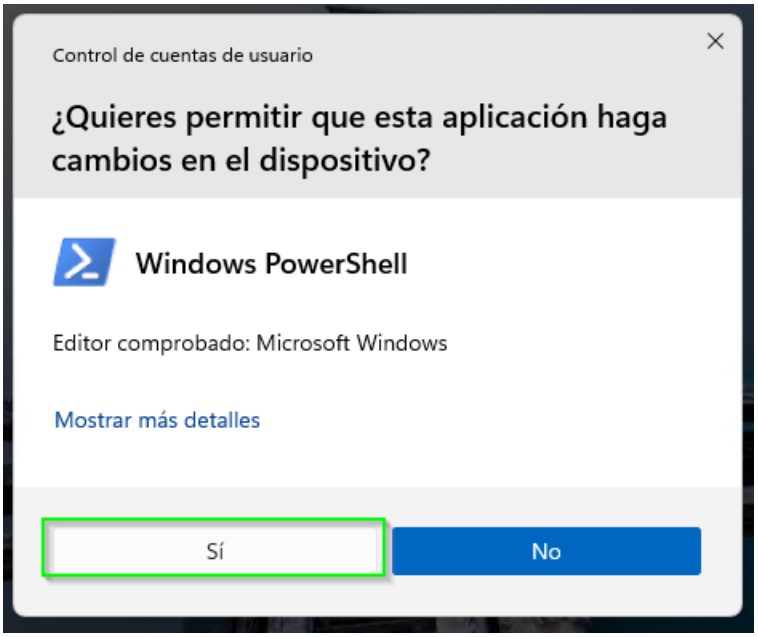

### Después de habilitar el ambiente virtual

python -m venv venv_u1

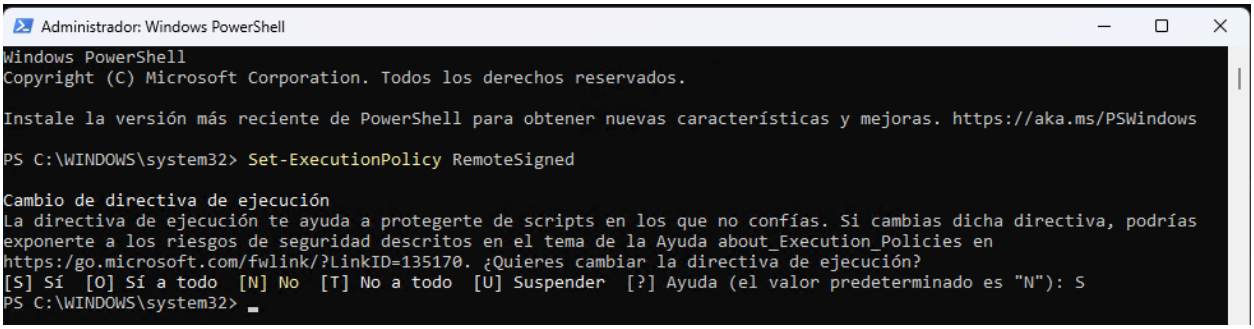



## Nota: Ejecutar desde la consola de PowerShell como Administrador



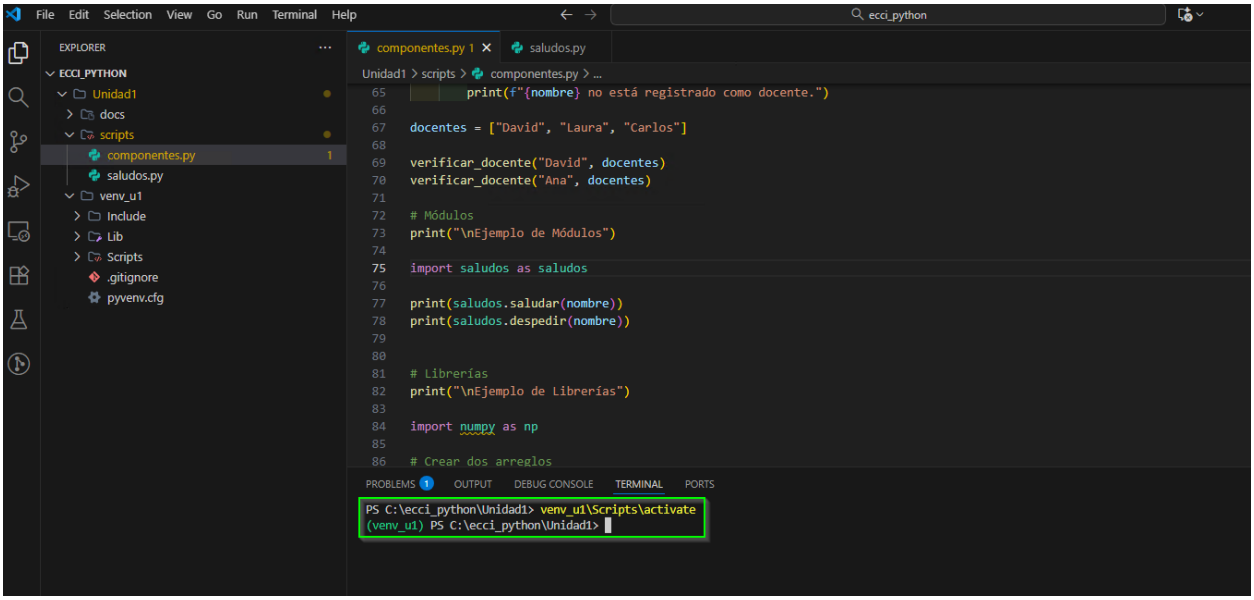



**el comando Set-ExecutionPolicy RemoteSigned**



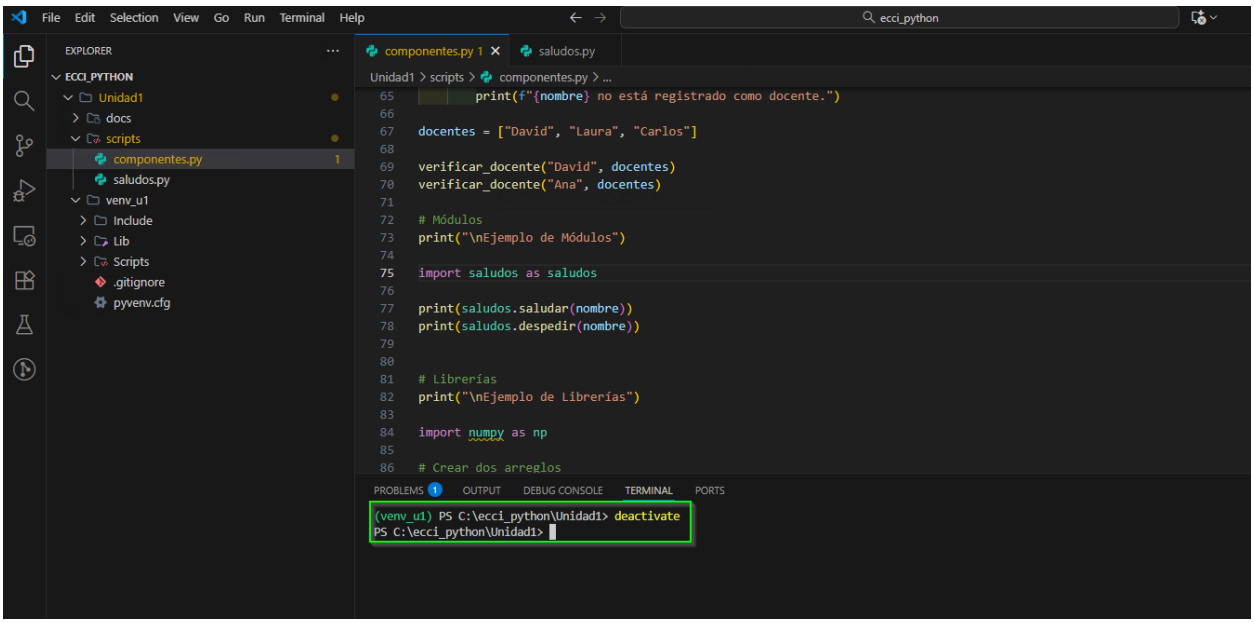

## Activar el ambiente

venv_u1\Scripts\activate




## Desactivar el ambiente

deactivate



## Ejercicios

1. Instalación y configuración del entorno de desarrollo

python --versión

print(“Hola, entorno de desarrollo configurado correctamente.”)

2. Comprensión de la sintaxis, indentación y tipos de datos básicos

nombre = input(“Ingrese el nombre del estudiante: “)

edad = int(input(“Ingrese la edad del estudiante: “))

if edad >= 18:

    print(“Bienvenido,”, nombre, “- Eres mayor de edad y puedes acceder a los cursos universitarios.”)

else:

    print(“Bienvenido,”, nombre, “- Eres menor de edad, tu registro será validado por el sistema académico.”)

**Nota**

**Cuando utilicen librerías hacer su instalación previa, ejemplo en el caso de NumPy se debe ejecutar el comando:**

**pip install numpy**