

AAE1001 - Introduction to Artificial Intelligence and Data Analytics in Aerospace and Aviation Engineering

Week 9 – Software Installation and Setup (MAC)

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Mr Penghui XU and Mr Zekun ZHANG

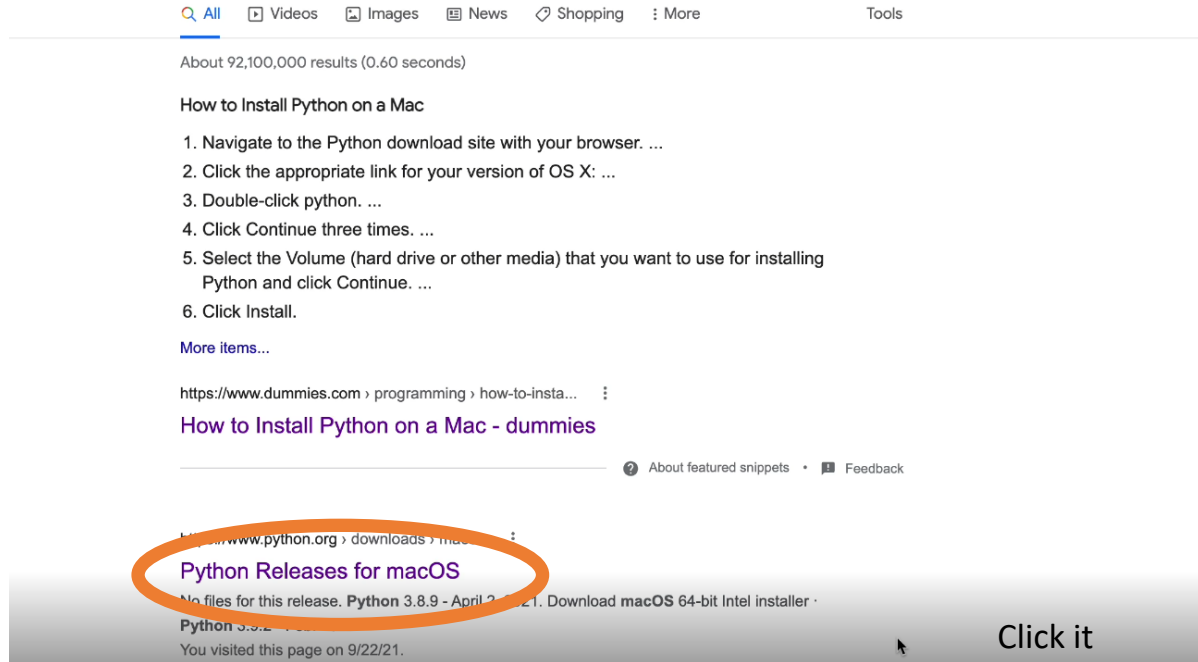
Software Installation and setup Guide

MAC

Python Installation

Tutorial Video:

https://www.youtube.com/watch?v=p-joFbfB57c&ab_channel=POLYUIPNL



The screenshot shows a Google search interface with the query 'All' selected. The search results show 'About 92,100,000 results (0.60 seconds)'. The first result is titled 'How to Install Python on a Mac' and lists six steps: 1. Navigate to the Python download site with your browser. ..., 2. Click the appropriate link for your version of OS X: ..., 3. Double-click python. ..., 4. Click Continue three times. ..., 5. Select the Volume (hard drive or other media) that you want to use for installing Python and click Continue. ..., 6. Click Install. Below the steps is a link 'More items...'. The URL bar shows 'https://www.dummies.com > programming > how-to-insta...'. The title of the result is 'How to Install Python on a Mac - dummies'. Below the title is a link to 'https://www.python.org > downloads > mac...'. The main content of the result is 'Python Releases for macOS'. Below this is the text 'No files for this release. Python 3.8.9 - April 2021. Download macOS 64-bit Intel installer'. At the bottom of the result is the text 'You visited this page on 9/22/21.' and a button labeled 'Click it'.

Tools

About 92,100,000 results (0.60 seconds)

How to Install Python on a Mac

1. Navigate to the Python download site with your browser. ...
2. Click the appropriate link for your version of OS X: ...
3. Double-click python. ...
4. Click Continue three times. ...
5. Select the Volume (hard drive or other media) that you want to use for installing Python and click Continue. ...
6. Click Install.

[More items...](#)

<https://www.dummies.com > programming > how-to-insta...>

How to Install Python on a Mac - dummies

About featured snippets • Feedback

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

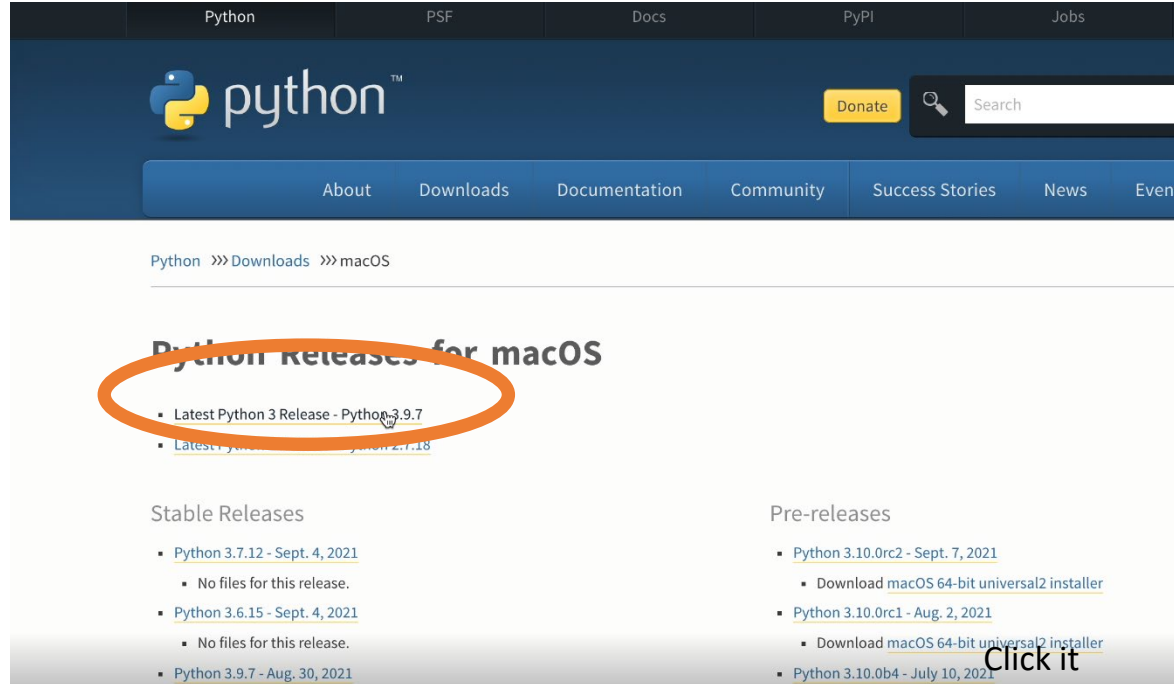
Python Releases for macOS

No files for this release. Python 3.8.9 - April 2021. Download macOS 64-bit Intel installer

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Python Installation



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python Releases for macOS

- [Latest Python 3 Release - Python 3.9.7](#)
- [Latest Python 2 Release - Python 2.7.18](#)

Stable Releases

- [Python 3.7.12 - Sept. 4, 2021](#)
 - No files for this release.
- [Python 3.6.15 - Sept. 4, 2021](#)
 - No files for this release.
- [Python 3.9.7 - Aug. 30, 2021](#)

Pre-releases

- [Python 3.10.0rc2 - Sept. 7, 2021](#)
 - [Download macOS 64-bit universal2 installer](#)
- [Python 3.10.0rc1 - Aug. 2, 2021](#)
 - [Download macOS 64-bit universal2 installer](#)
- [Python 3.10.0b4 - July 10, 2021](#)

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Python Installation

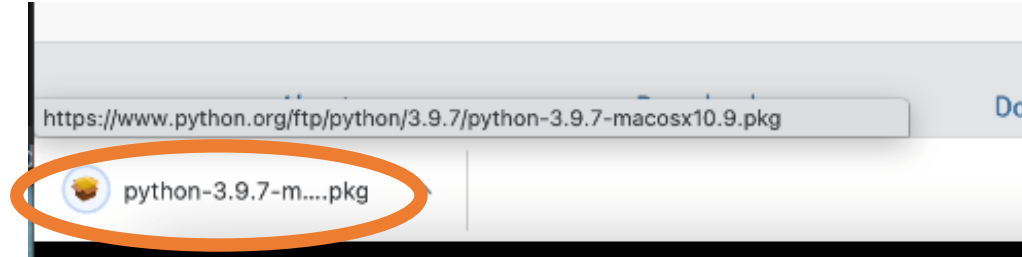
[Full Changelog](#)

Files

Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		5f463f30b1fdb545f156583630318b3	25755357	SIG
XZ compressed source tarball	Source release		fddb060b483bc01850a3f412eea1d954	19123232	SIG
macOS 64-bit Intel installer	macOS	for macOS 10.9 and later	ce8c2f885f26b09536857610644260d4	30038206	SIG
macOS 64-bit universal2 installer	macOS	for macOS 10.9 and later, including macOS 11 Big Sur on Apple Silicon (experimental)	825067610b16b03ec814630df1b65193	38144099	SIG
Windows embeddable package (32-bit)	Windows		6d12e3e0f942830de8466a83d30a45fb	7652688	SIG
Windows embeddable package (64-bit)	Windows		67e19ff32b3ef62a40bccd50e33b0f53	8473919	SIG
Windows help file	Windows		b92a78506ccf258d5ad0d98c341fc5d1	9263789	SIG
Windows installer (32-bit)	Windows		0d949bdfdbd0c8c66107a980a95efd85	27811736	SIG
Windows installer (64-bit)	Windows	Recommended	cc3eabc1f9d6c703d1d2a4e7c041bc1d	28895456	SIG

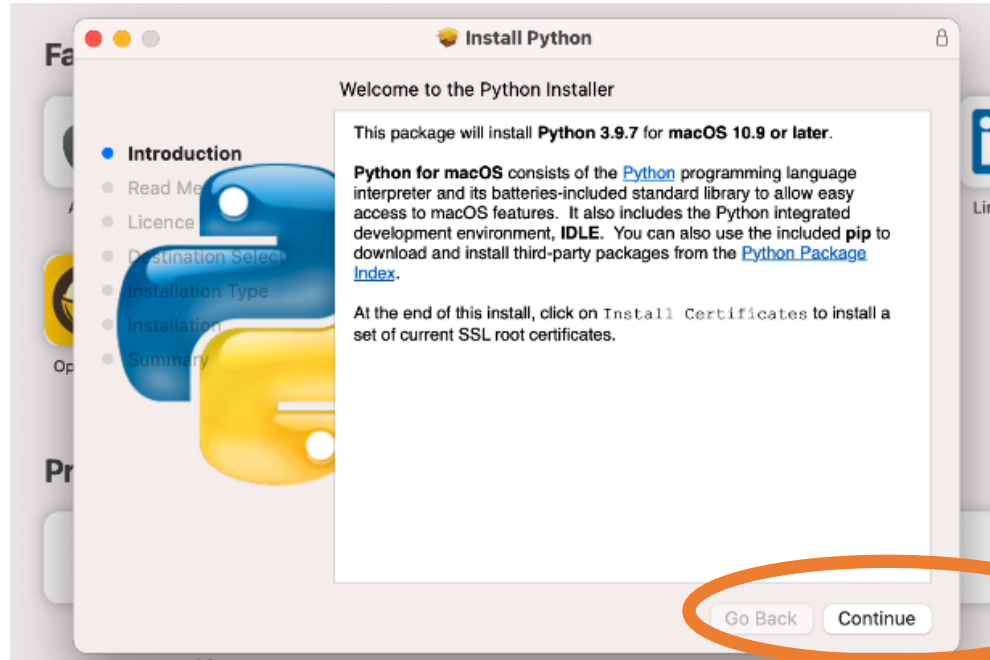
Click it

Python Installation



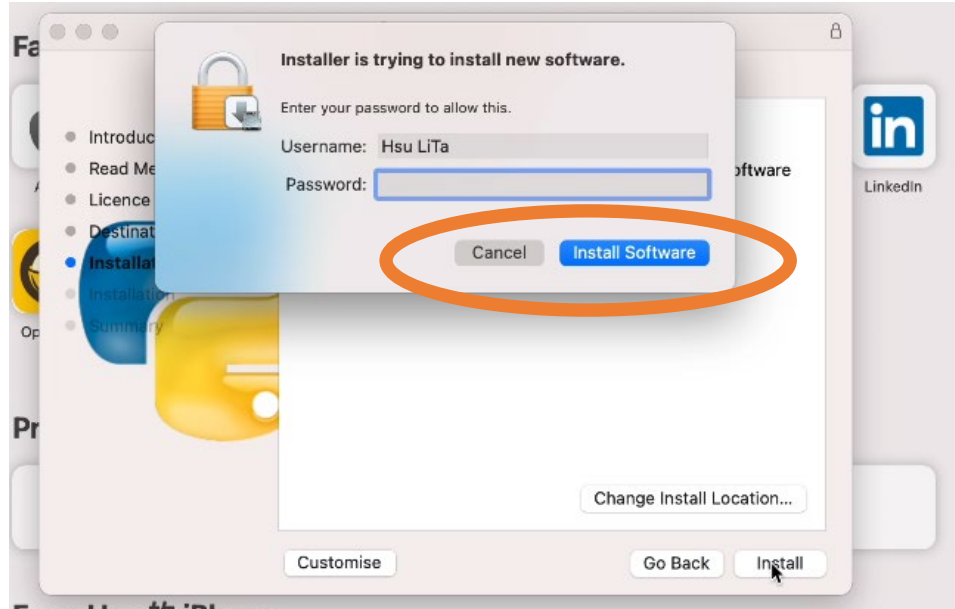
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Python Installation



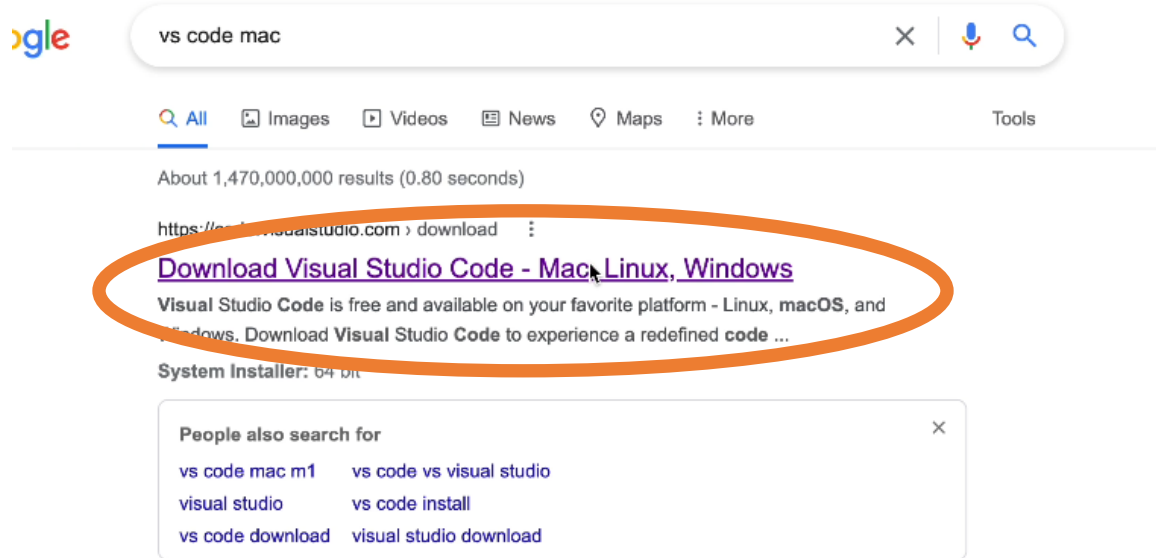
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Python Installation



Click it

Visual Studio Code Installation

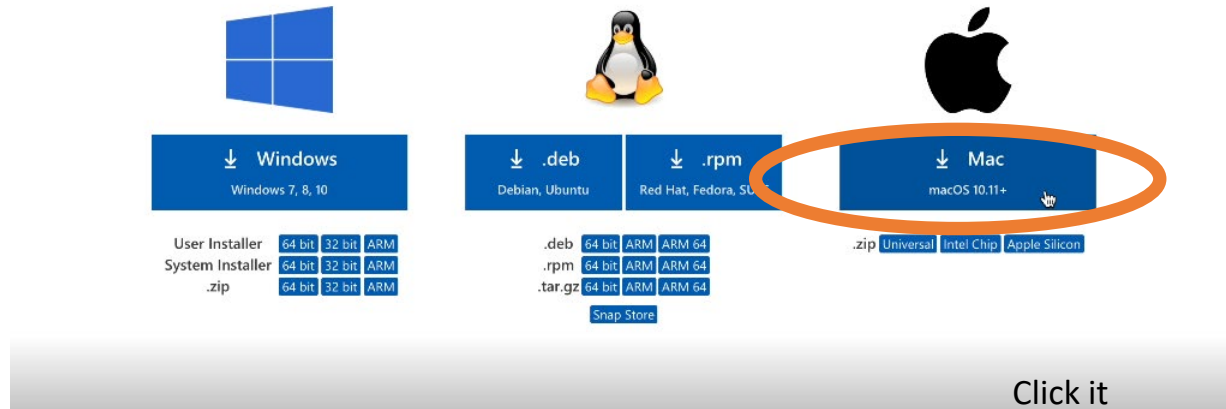


Click it

Visual Studio Code Installation

Download Visual Studio Code

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



The image shows the Visual Studio Code download page. It features three main sections for different operating systems: Windows, Linux, and Mac. The Mac section is highlighted with an orange circle. Below each operating system section, there are links to various installers and package formats. A 'Click it' button is located at the bottom right of the page.

Windows
Windows 7, 8, 10

- User Installer: 64 bit, 32 bit, ARM
- System Installer: 64 bit, 32 bit, ARM
- .zip: 64 bit, 32 bit, ARM

Linux

- .deb**: Debian, Ubuntu
- .rpm**: Red Hat, Fedora, SUSE
- .deb: 64 bit, ARM, ARM 64
- .rpm: 64 bit, ARM, ARM 64
- .tar.gz: 64 bit, ARM, ARM 64
- Snap Store

Mac
macOS 10.11+

- .zip: Universal, Intel Chip, Apple Silicon

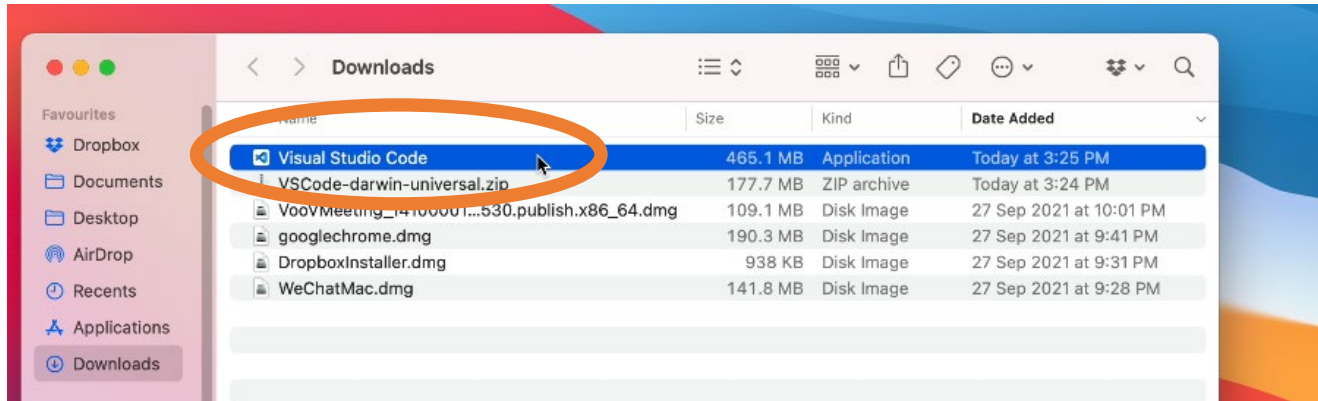
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Visual Studio Code Installation



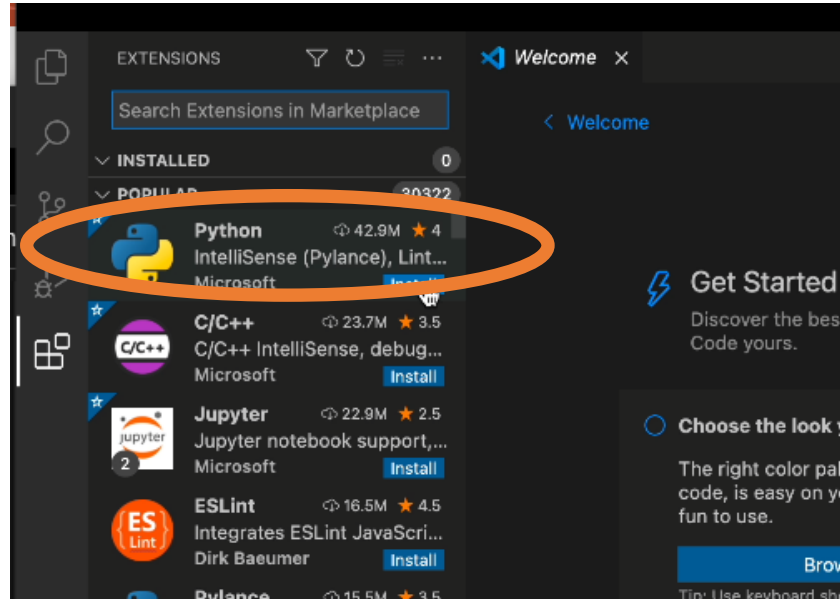
Click it

Visual Studio Code Installation



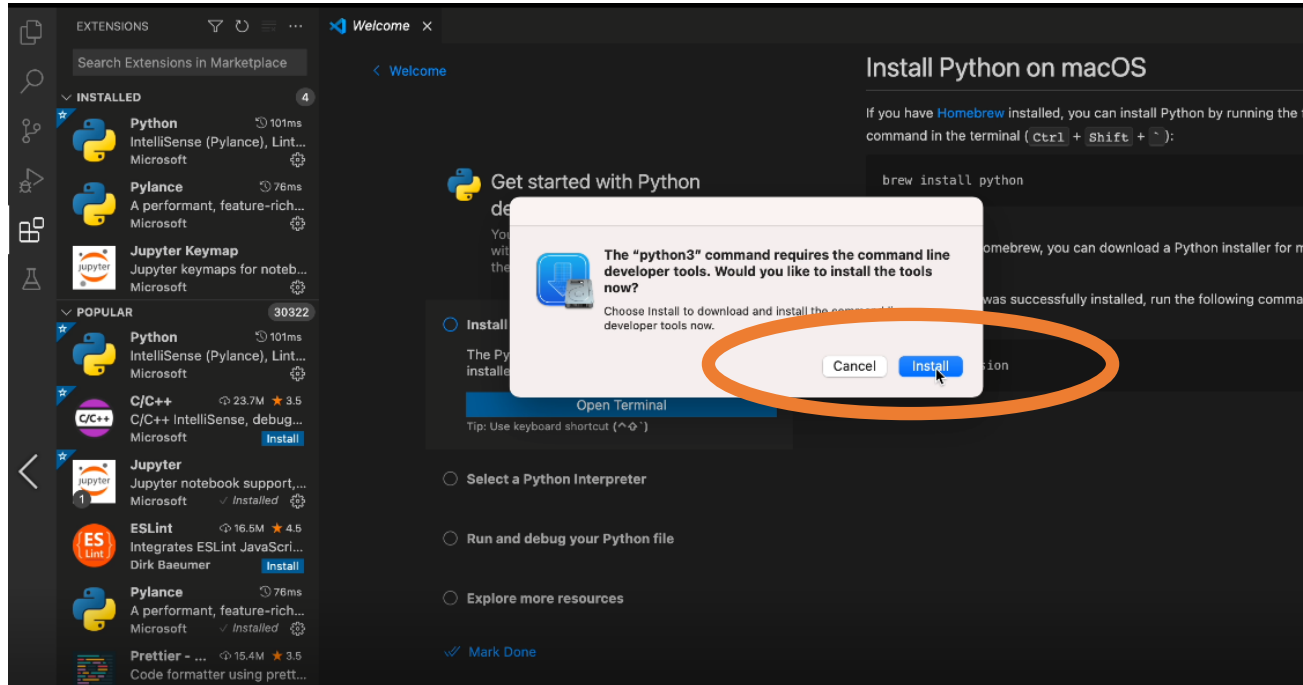
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Visual Studio Code Installation



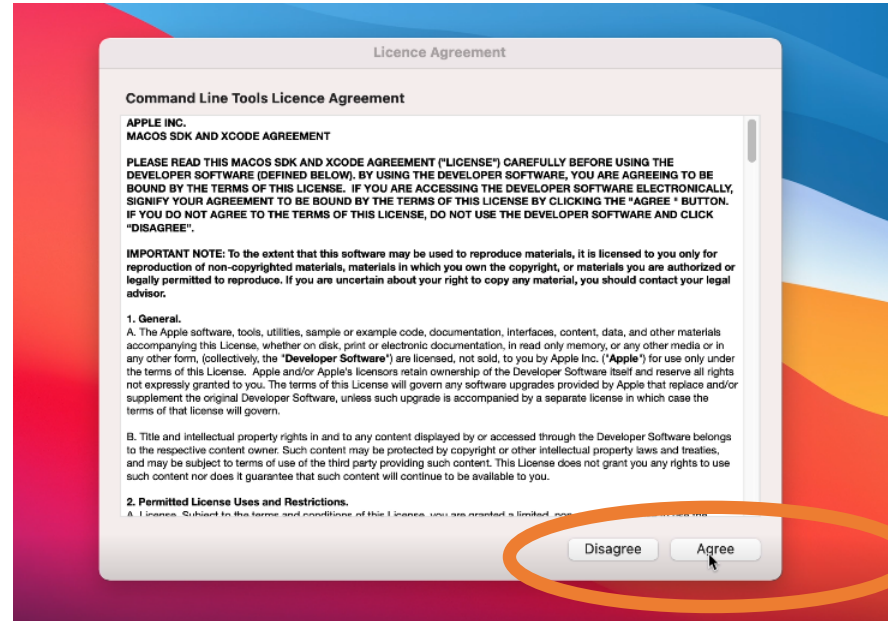
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Visual Studio Code Installation

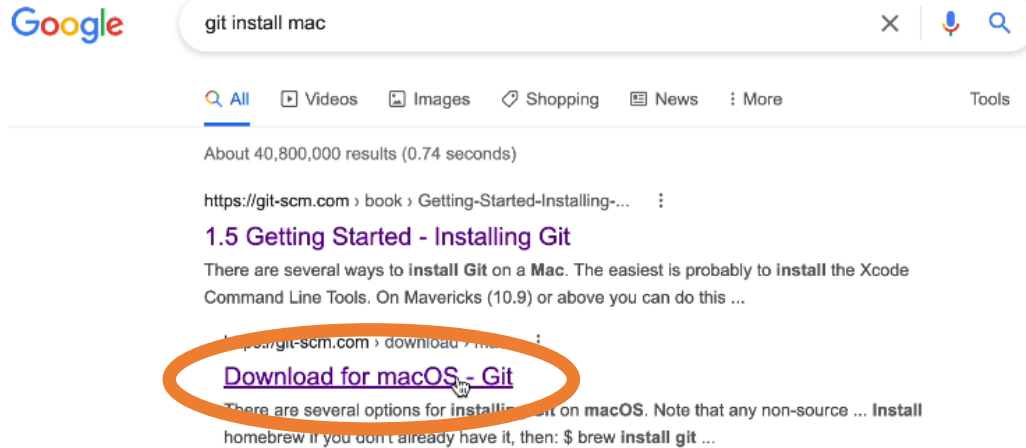


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Visual Studio Code Installation

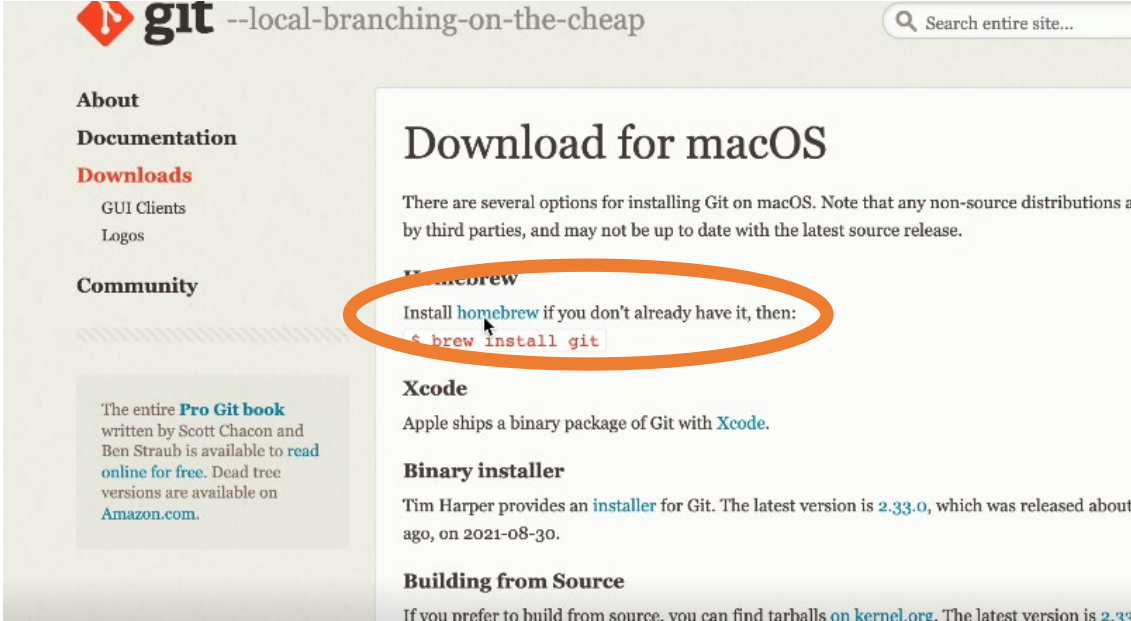


Git Installation



Click it

Git Installation



git --local-branching-on-the-cheap

Search entire site...

About

Documentation

Downloads

- GUI Clients
- Logos

Community

The entire **Pro Git book** written by Scott Chacon and Ben Straub is available to [read online for free](#). Dead tree versions are available on [Amazon.com](#).

Download for macOS

There are several options for installing Git on macOS. Note that any non-source distributions are by third parties, and may not be up to date with the latest source release.

Homebrew

Install [homebrew](#) if you don't already have it, then:

```
$ brew install git
```

Xcode

Apple ships a binary package of Git with [Xcode](#).

Binary installer

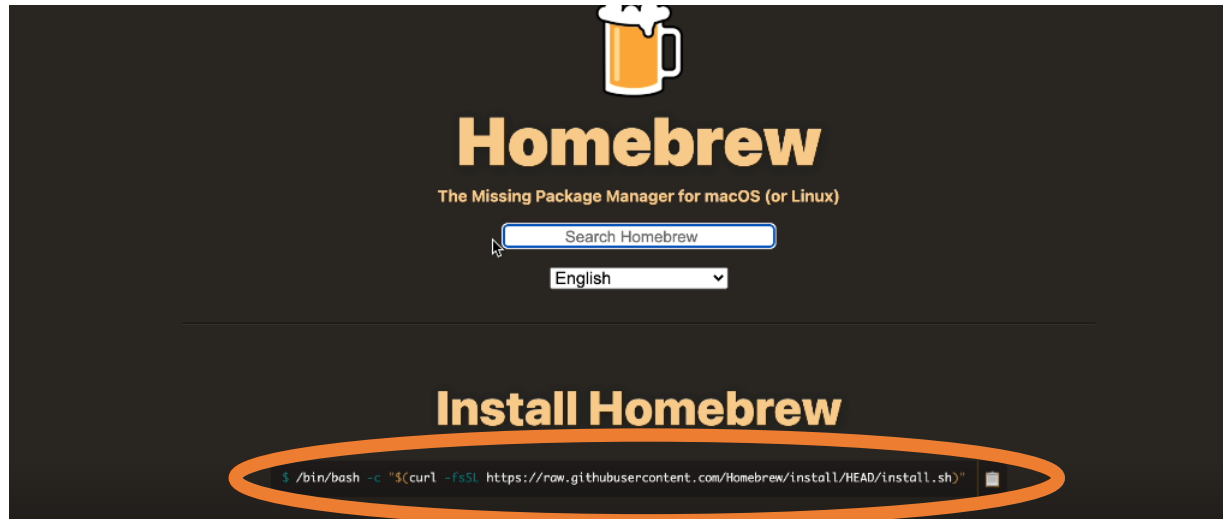
Tim Harper provides an [installer](#) for Git. The latest version is [2.33.0](#), which was released about ago, on 2021-08-30.

Building from Source

If you prefer to build from source, you can find tarballs [on kernel.org](#). The latest version is [2.33](#).

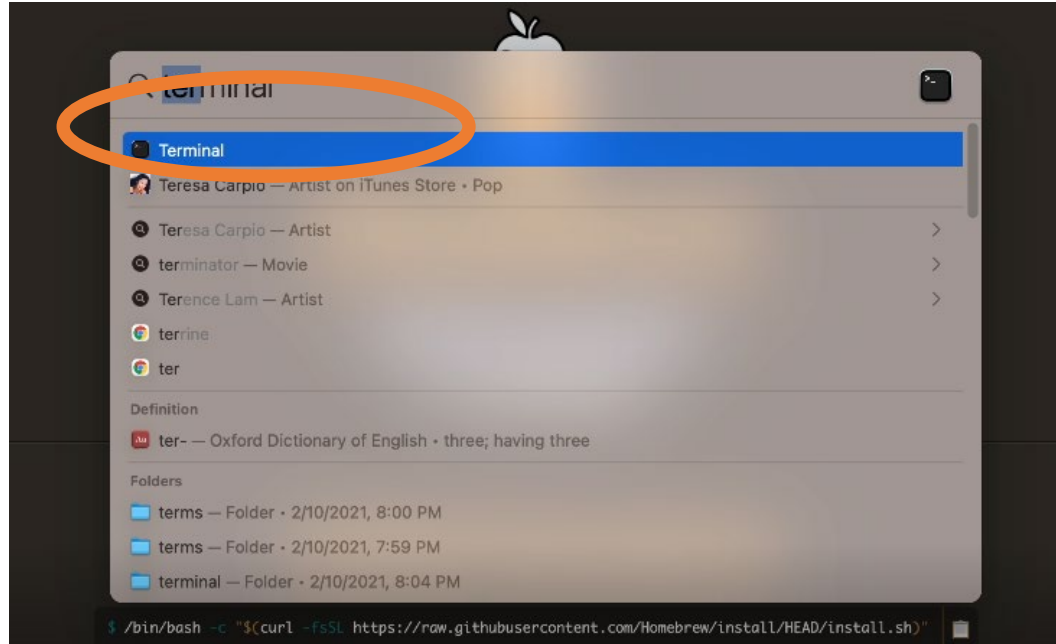
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Git Installation



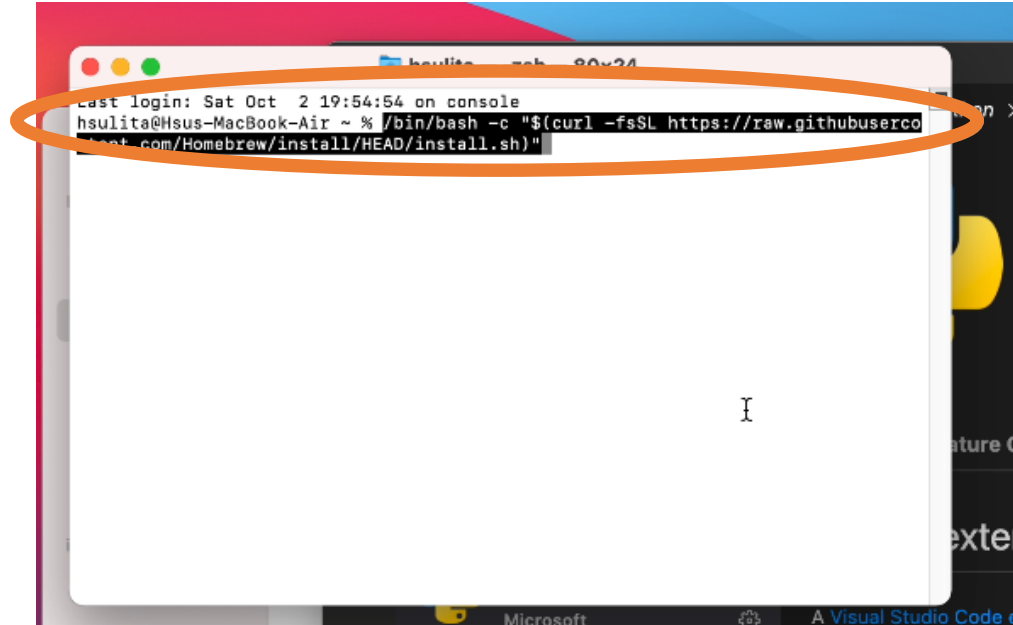
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Git Installation



Click it

Git Installation

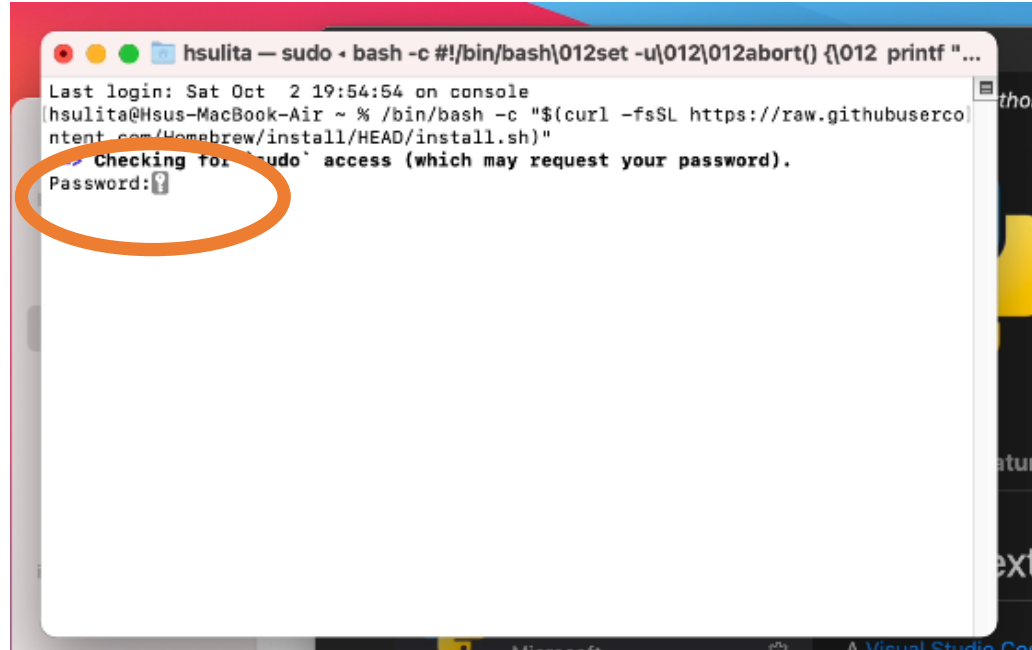


A screenshot of a macOS terminal window. The window title is "hsulita - ssh - 80x24". The terminal shows the following text: "Last login: Sat Oct 2 19:54:54 on console", "hsulita@Hsus-MacBook-Air ~ %", and a command being entered: `/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`. The command line is highlighted with an orange oval. The terminal is open over a background image of a Microsoft Surface laptop.

```
Last login: Sat Oct 2 19:54:54 on console
hsulita@Hsus-MacBook-Air ~ % /bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Paste the command

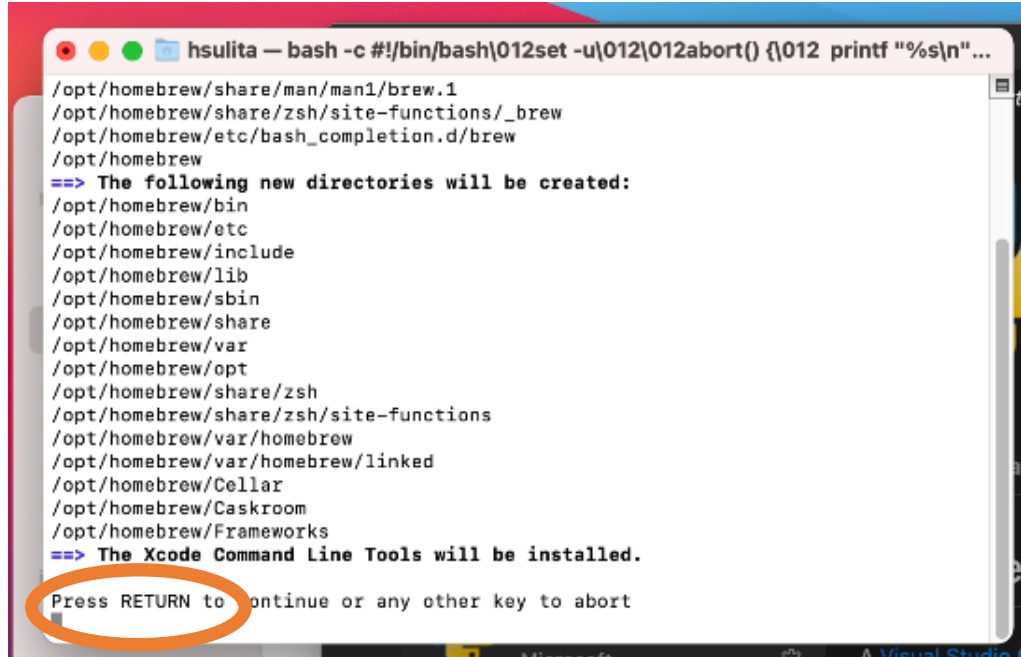
Git Installation



```
hsulita — sudo - bash -c #!/bin/bash\012set -u\012\012abort() {\012 printf "...
Last login: Sat Oct  2 19:54:54 on console
hsulita@Hsus-MacBook-Air ~ % /bin/bash -c "${curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh}"
Checking for `sudo` access (which may request your password).
Password:
```

Enter your password

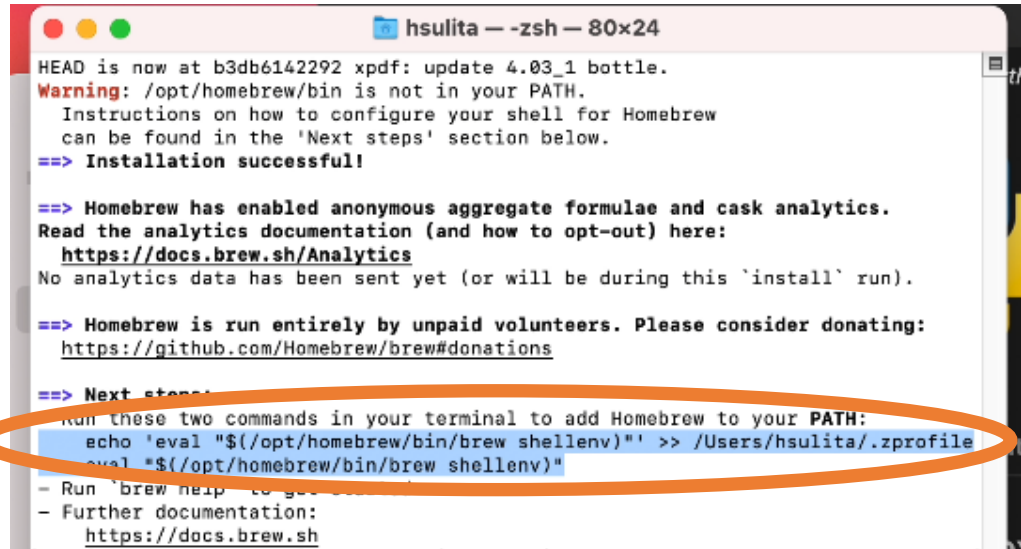
Git Installation

A screenshot of a terminal window titled 'hsulita — bash -c #!/bin/bash\012set -u\012\012abort() {\012 printf "%s\n"...'. The terminal shows the output of the Homebrew installation script. It lists the following new directories to be created: /opt/homebrew/bin, /opt/homebrew/etc, /opt/homebrew/include, /opt/homebrew/lib, /opt/homebrew/sbin, /opt/homebrew/share, /opt/homebrew/var, /opt/homebrew/opt, /opt/homebrew/share/zsh, /opt/homebrew/share/zsh/site-functions, /opt/homebrew/var/homebrew, /opt/homebrew/var/homebrew/linked, /opt/homebrew/Cellar, /opt/homebrew/Caskroom, and /opt/homebrew/Frameworks. Below this, it states 'The Xcode Command Line Tools will be installed.' and prompts the user to 'Press RETURN to continue or any other key to abort'. The word 'RETURN' is circled in orange.

```
hsulita — bash -c #!/bin/bash\012set -u\012\012abort() {\012 printf "%s\n"...  
  
/opt/homebrew/share/man/man1/brew.1  
/opt/homebrew/share/zsh/site-functions/_brew  
/opt/homebrew/etc/bash_completion.d/brew  
/opt/homebrew  
==> The following new directories will be created:  
/opt/homebrew/bin  
/opt/homebrew/etc  
/opt/homebrew/include  
/opt/homebrew/lib  
/opt/homebrew/sbin  
/opt/homebrew/share  
/opt/homebrew/var  
/opt/homebrew/opt  
/opt/homebrew/share/zsh  
/opt/homebrew/share/zsh/site-functions  
/opt/homebrew/var/homebrew  
/opt/homebrew/var/homebrew/linked  
/opt/homebrew/Cellar  
/opt/homebrew/Caskroom  
/opt/homebrew/Frameworks  
==> The Xcode Command Line Tools will be installed.  
Press RETURN to continue or any other key to abort
```

Press RETURN

Git Installation



```
hsulita — -zsh — 80x24
HEAD is now at b3db6142292 xpdf: update 4.03_1 bottle.
Warning: /opt/homebrew/bin is not in your PATH.
Instructions on how to configure your shell for Homebrew
can be found in the 'Next steps' section below.
==> Installation successful!

==> Homebrew has enabled anonymous aggregate formulae and cask analytics.
Read the analytics documentation (and how to opt-out) here:
https://docs.brew.sh/Analytics
No analytics data has been sent yet (or will be during this `install` run).

==> Homebrew is run entirely by unpaid volunteers. Please consider donating:
https://github.com/Homebrew/brew#donations

==> Next steps:
Run these two commands in your terminal to add Homebrew to your PATH:
echo 'eval "$(/opt/homebrew/bin/brew shellenv)"' >> /Users/hsulita/.zprofile
eval "$(/opt/homebrew/bin/brew shellenv)"
- Run 'brew help' to get started
- Further documentation:
https://docs.brew.sh
```

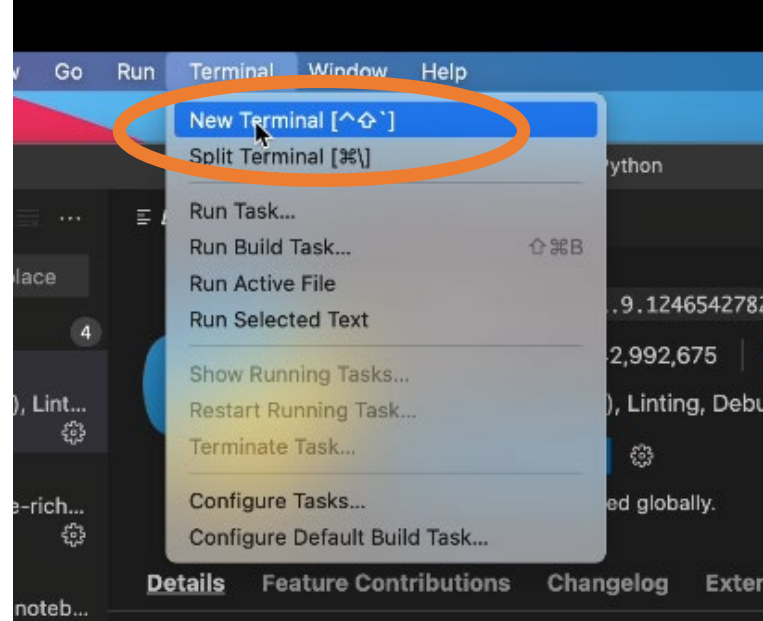
Copy this command

Git Installation

```
hsulita@Hsus-MacBook-Air ~ % echo 'eval "$(/opt/homebrew/bin/brew shellenv)"'
' >> /Users/hsulita/.zprofile
[ eval "$(/opt/homebrew/bin/brew shellenv)"
hsulita@Hsus-MacBook-Air ~ % brew install git
```

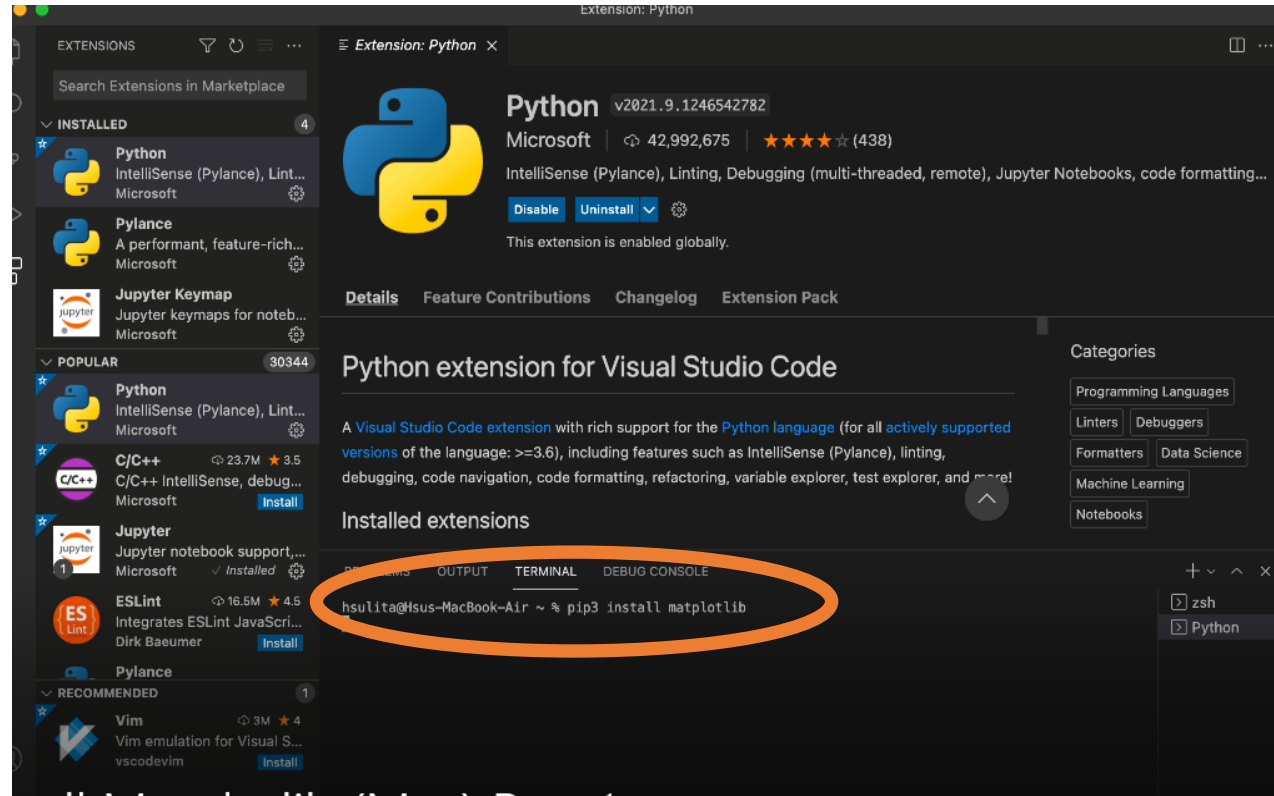
Type the command

Matplotlib Installation



Click it

Matplotlib Installation



Type the command

Matplotlib Installation

```
Collecting six
  Downloading six-1.16.0-py2.py3-none-any.whl (11 kB)
Installing collected packages: six, python-dateutil, pyparsing, pillow, numpy, kiwisolver, cyclar, mat
plotlib
Successfully installed cyclar-0.10.0 kiwisolver-1.3.2 matplotlib-3.4.3 numpy-1.21.2 pillow-8.3.2 pypar
sing-2.4.3 python-dateutil-2.8.2 six-1.16.0
WARNING: You are using pip version 21.2.3; however, version 21.2.4 is available.
You should consider upgrading via the '/Library/Frameworks/Python.framework/Versions/3.9/bin/python3.9
-m pip install --upgrade pip' command.
hsutit@agnus:~$
```

You may encounter this problem

Matplotlib Installation

```
WARNING: You are using pip version 21.2.3; however, version 21.2.4 is available.  
You should consider upgrading via the '/Library/Frameworks/Python.framework/Versions/3.9/bin  
/python3.9 -m pip install --upgrade pip' command.  
hsulita@Hsus-MacBook-Air: ~ %
```

Copy this command

Matplotlib Installation

```
Successfully installed cycler-0.10.0 kiwisolver-1.3.2 matplotlib-3.4.3 numpy-1.21.2 pillow-8
.3.2 pyparsing-2.4.7 python-dateutil-2.8.2 six-1.16.0
WARNING: You are using pip version 21.2.3; however, version 21.2.4 is available.
You should consider upgrading via the '/Library/Frameworks/Python.framework/Versions/3.9/bin
/python3.9 -m pip install --upgrade pip' command.
hsulita@Hsus-MacBook-Air ~ % pip install --upgrade pip
zsh: command not found: pip
hsulita@Hsus-MacBook-Air ~ % pip3 install --upgrade pip3
ERROR: Could not find a version that satisfies the requirement pip3 (from versions: none)
ERROR: No matching distribution found for pip3
WARNING: You are using pip version 21.2.3; however, version 21.2.4 is available.
You should consider upgrading via the '/Library/Frameworks/Python.framework/Versions/3.9/bin
/python3.9 -m pip install --upgrade pip' command.
hsulita@Hsus-MacBook-Air ~ % /Library/Frameworks/Python.framework/Versions/3.9/bin/python3.9
-m pip install --upgrade pip
```

Paste the command

Matplotlib Installation

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE

hsulita@Hsus-MacBook-Air ~ % /Library/Frameworks/Python.framework/Versions/3.9/bin/python3.9
-m pip install --upgrade pip
Requirement already satisfied: pip in /Library/Frameworks/Python.framework/Versions/3.9/lib/
python3.9/site-packages (21.2.3)
Collecting pip
  Downloading pip-21.2.4-py3-none-any.whl (1.6 MB)
  |████████████████████| 1.6 MB 5.6 MB/s
Installing collected packages: pip
  Attempting uninstall: pip
    Found existing installation: pip 21.2.3
    Uninstalling pip-21.2.3:
      Successfully uninstalled pip-21.2.3
  Successfully installed pip-21.2.4
hsulita@Hsus-MacBook-Air ~ % pip3 install matplotlib
```

Type the command