# Windows: Installing Python, Octave, and Symbolic

1. See this video: https://www.youtube.com/watch?v=qKCz8aa54KQ <mark>Instead of using the links in the video description, use the following:</mark>
   a. Python: https://www.python.org/downloads/
   b. Octave: https://octave.org/download

# ⊞ Microsoft Windows

> **Note:** All installers below bundle several **Octave packages** so they don't have to be installed separately. After installation Read more.

- Windows-64 (recommended)
  - octave-9.4.0-w64-installer.exe (~ 380 MB) [signature]
  - octave-9.4.0-w64.7z (~ 375 MB) [signature]
  - octave-9.4.0-w64.zip (~ 660 MB) [signature]

- Windows-64 (64-bit linear algebra for large data)

  Unless your computer has more than ~32GB of memory **and** you need to solve linear algebra problems with arrays containing more than ~2 billion the recommended Windows-64 version above.

  - octave-9.4.0-w64-64-installer.exe (~ 380 MB) [signature]
  - octave-9.4.0-w64-64.7z (~ 375 MB) [signature]
  - octave-9.4.0-w64-64.zip (~ 660 MB) [signature]

The **32-bit Windows binaries** formerly distributed by the Octave project are no longer supported. The download link has installers are still available from the FTP mirrors. Patches for known issues are still welcome. An alternative source for 32-MSYS2.

   c. Symbolic package: https://octave.sourceforge.io/symbolic/

# symbolic

## Octave Symbolic Package using SymPy

| Latest package release | |
|---|---|
| Version | 3.2.1 |
| Date | 2024-05-15 |
| Author | Colin B. Macdonald <cbm@m.fsf.org> |
| Maintainer | Colin B. Macdonald <cbm@m.fsf.org> |
| License | ⓖ GPL-3.0-or-later |
| Group | 🏘 Community packages |

$$x + 5 = 7$$
$$\Leftrightarrow x = 2$$

⬇ download        ▦ NEWS        ▤ function reference

**Description**

# MAC: Installing Python, Octave, and Symbolic

1. Open the terminal and update homebrew: <span style="color:red">brew update</span>
2. Install python: <span style="color:red">brew install python</span>
   a. To validate the installation: <span style="color:red">python3 --version</span>
3. Next, install Octave: <span style="color:red">brew install octave</span>
   a. To validate the installation, run it: <span style="color:red">octave --version</span>
4. To install and enable *symbolic* package, follow these steps:
   a. From the terminal, create a new python3 virtual environment:
      <span style="color:red">python3 -m venv myvenv</span>
   b. Activate the virtual environment: <span style="color:red">source ./venv/bin/activate</span>
   c. Install sympy: <span style="color:red">pip3 install sympy</span>
5. To verify the installation:
   a. From the terminal, run octave: <span style="color:red">octave --gui</span>
   b. In the command line, set the path to your python venv:
      <span style="color:red">setenv("PYTHON", <"PATH-TO-PYTHON-VENV"/bin/python>);</span>
      replace <"PATH-TO-PYTHON-VENV"> with the correct path to venv. For
      example: <span style="color:red">setenv("PYTHON", "./venv/bin/python");</span>
   c. Next, run the following commands in Octave:
      <span style="color:red">pkg load symbolic</span>
      <span style="color:red">syms x</span>
   d. If no error occurs, then your installation is successful.

# Ubuntu: Octave, and Symbolic

1. Most Linux systems come Python installed by default.
2. Update the package system: <span style="color:red">sudo apt update</span>
3. Install pip3: <span style="color:red">sudo apt install python3 python3-pip</span>
4. Install Octave: <span style="color:red">sudo apt install octave</span>
5. Install SymPy: <span style="color:red">pip3 install sympy</span>
6. To verify the installation:
   a. From the terminal, run octave: <span style="color:red">octave --gui</span>
   b. Next, run the following commands in Octave:
      <span style="color:red">pkg load symbolic</span>
      <span style="color:red">syms x</span>
   c. If no error occurs, then your installation is successful.
7. If there is error, follow these steps:

a. From the terminal, create a new python3 virtual environment:
   python3 -m venv myvenv
b. Activate the virtual environment: source ./venv/bin/activate
c. Install sympy: pip3 install sympy
d. In the command line, set the path to your python venv:
   setenv("PYTHON", <"PATH-TO-PYTHON-VENV"/bin/python>);
   replace <"PATH-TO-PYTHON-VENV"> with the correct path to venv. For
   example: setenv("PYTHON", "./venv/bin/python");

# Notes

**Feel free to edit any of these files or the previous instructions to fit into your system.**

**If you run into any problems, please consider Googling the solution or using AI to help you to setup the environment.**

**Please reach out to me anytime to assist you with the installation.**

**HAPPY CODING <3**