

# Visualization of Python program

python 3

python

visualization

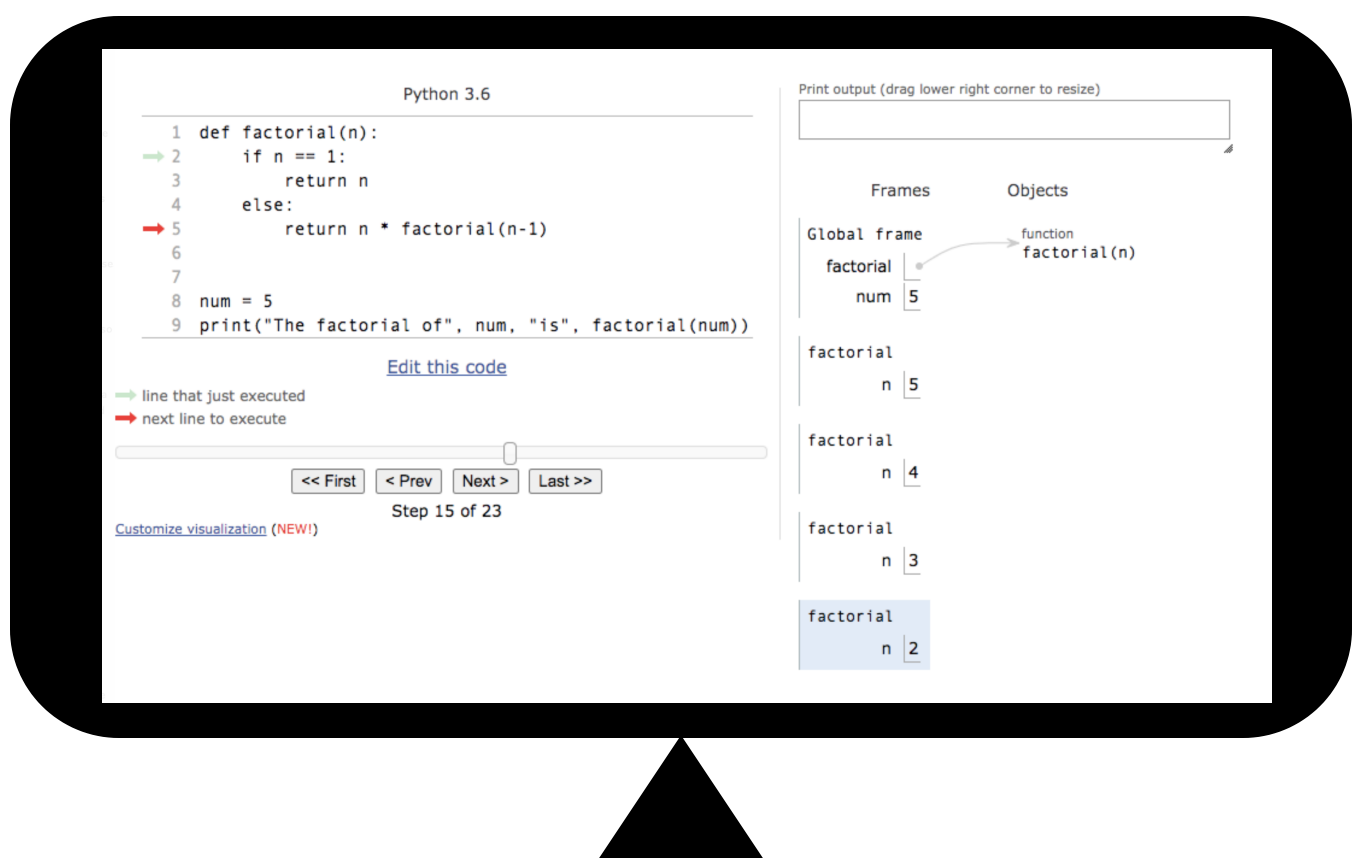
communitycreator

Making the connection between the text of a program and what it does is the key to learning to program. A new Python-based tool makes this much easier that shows you the program's inner working as it runs.

*When you first learn to program, you to have to master the art of seeing what your program does to the contents of the variables you have declared.*

## Online python tutor

The **Online Python Tutor** is a huge help in seeing what a program does. *You can type a Python program straight into a browser and run it at once.* As you step through it, an illustration shows what is stored in each location and the variables that reference the location. It handles all sorts of difficult cases including **recursion**. You can view it in a step by step order or you can drag a slider.



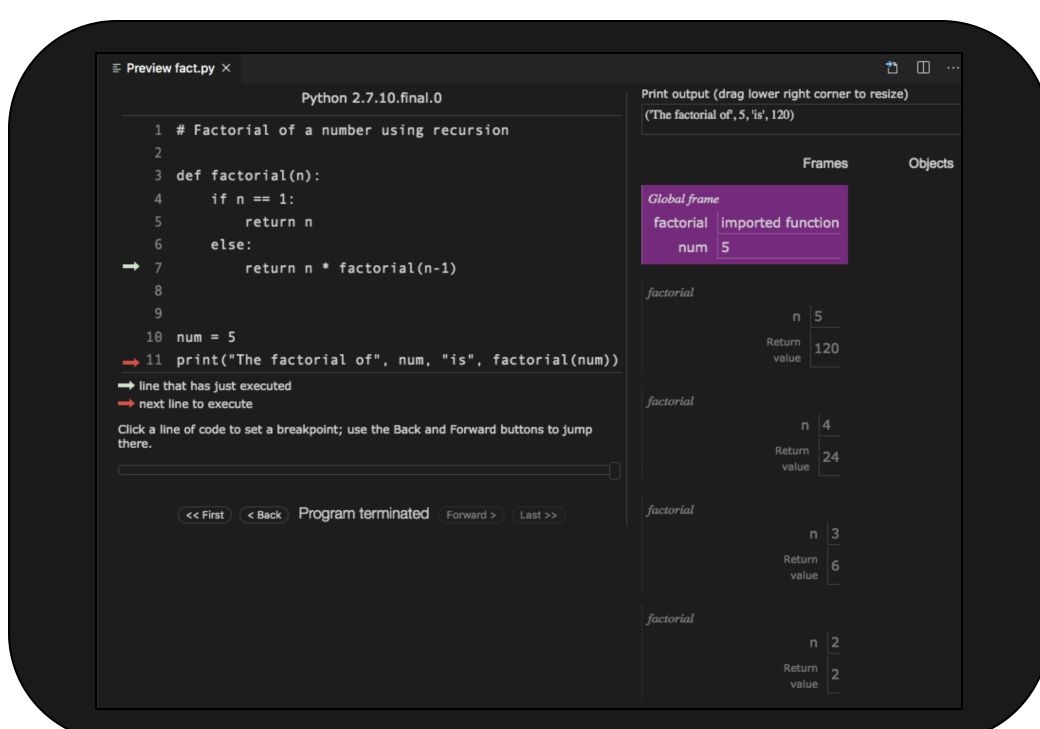
Factorial using Recursion - Python Tutor

## Visual studio code

Visualization of python code can also be done in **Visual Studio Code**.

You need to install **VS Code** and **Python** to work.

Write the code in VS Code and save with an extension as *filename.py* and then right-click to open preview.



Visual code

In comparison with visual studio, Python Tutor has a feature to get **live help** from volunteers. This feature helps programmers to get help online if they get stuck up in a program code.

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