

A Basic Introduction to Python

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A discrete-event simulation can be realized both in Matlab and Python. Unlike Matlab which is specifically designed for scientific computation, Python is a general purpose programming language. However, Python still has a lot of advantages. To learn how to program in Python and construct a simulation program, we list a few useful resources.

1. Basic Python: <https://www.python.org/about/gettingstarted/>
Python 2.7 will no longer be updated and Python 3.x will continue its development.
2. Anaconda: <https://anaconda.org/>
Instead of the raw version Python, we recommend using Anaconda. It encompasses all the aspects for using Python as a scientific programming language, from package management to Python version control.
3. Spyder: <https://pythonhosted.org/spyder/>
It can be installed and updated through the interface in Anaconda. It offers a Matlab-like interface.
4. A few important packages
 - (a) Numpy: <https://docs.scipy.org/doc/numpy/user/quickstart.html>
It includes Matlab-like scientific calculation functions.
 - (b) Matplotlib: <https://matplotlib.org/tutorials/index.html>
It includes Matlab-like plotting functions.
 - (c) Scipy: <https://www.scipy.org/>
It includes numpy and other scientific computation packages, such as random number generators.
5. Lynda:
<https://www.lynda.com/>
<https://www.lib.ncsu.edu/services/digital-media-production/lynda>
If you are a registered NCSU student, you should have access to Lynda through university library. It offers amazing classes for students with different levels of coding proficiency.