Mathematics

As a general purpose programming language, Python is frequently used to solve mathematical problems. It includes built-in types for managing integer and floating point numbers, which are suitable for the basic math that might appear in an average application. The standard library includes modules for more advanced needs.

Python’s built-in floating point numbers use the underlying `double` representation. They are sufficiently precise for most programs with mathematical requirements, but when more accurate representations of non-integer values are needed the `decimal` and `fractions` modules will be useful. Arithmetic with decimal and fractional values retains precision, but is not as fast as the native `float`.

The `random` module includes a uniform distribution pseudorandom number generator, as well as functions for simulating many common non-uniform distributions.

The `math` module contains fast implementations of advanced mathematical functions such as logarithms and trigonometric functions. The full complement of IEEE functions usually found in the native platform C libraries is available through the module.

calendar — Work with Dates

decimal — Fixed and Floating Point Math

This page was last updated 2016-12-18.

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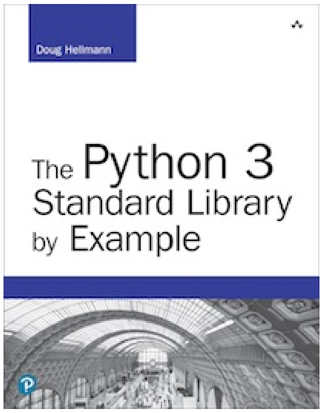

The output from all the example programs from PyMOTW-3 has been generated with Python 3.7.1, unless otherwise noted. Some of the features described here may not be available in earlier versions of Python.

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