APIs

Programming Languages

Every programming language has a **Standard Library**

The Standard Library is the baseline, plain version of the language. It has all of the builtin functions you are allowed to use.

APIs

A lot of times, the Standard Library isn’t enough. We want to do something special, and we want some added tools on top of the standard ones to help us do this special task.

This is where APIs come in.

What is an API?

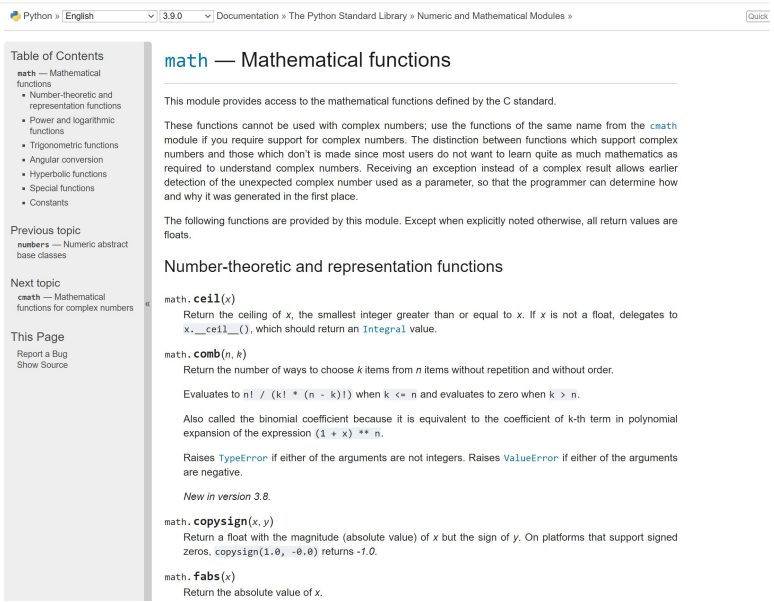
An Application Programming Interface, or API, is a set of tools for building programs.

“A good API makes it easier to develop a program by providing all the building blocks, which are then put together by the programmer”

https://en.wikipedia.org/wiki/Application_programming_interface

Documentation

Documentation is an important part of an API. It provides information to show programmers how to use it.



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math — Mathematical functions

This module provides access to the mathematical functions defined by the C standard.

These functions cannot be used with complex numbers; use the functions of the same name from the cmath module if you require support for complex numbers. The distinction between functions which support complex numbers and those which don't is made since most users do not want to learn quite as much mathematics as required to understand complex numbers. Receiving an exception instead of a complex result allows earlier detection of the unexpected complex number used as a parameter, so that the programmer can determine how and why it was generated in the first place.

The following functions are provided by this module. Except when explicitly noted otherwise, all return values are floats.

Number-theoretic and representation functions

math.**ceil**(*x*)
Return the ceiling of *x*, the smallest integer greater than or equal to *x*. If *x* is not a float, delegates to `x.__ceil__()`, which should return an `Integral` value.

math.**comb**(*n*, *k*)
Return the number of ways to choose *k* items from *n* items without repetition and without order.

Evaluates to `n! / (k! * (n - k)!)` when `k <= n` and evaluates to zero when `k > n`.

Also called the binomial coefficient because it is equivalent to the coefficient of k-th term in polynomial expansion of the expression `(1 + x) ** n`.

Raises `TypeError` if either of the arguments are not integers. Raises `ValueError` if either of the arguments are negative.

New in version 3.8.

math.**copysign**(*x*, *y*)
Return a float with the magnitude (absolute value) of *x* but the sign of *y*. On platforms that support signed zeros, `copysign(1.0, -0.0)` returns *-1.0*.

math.**fabs**(*x*)
Return the absolute value of *x*.

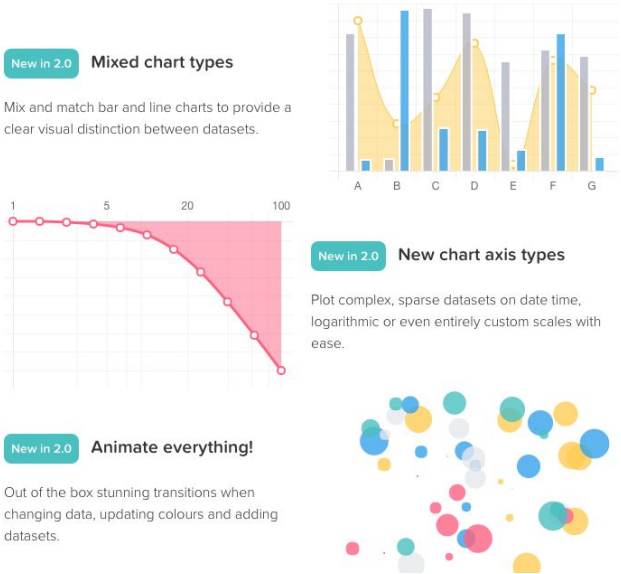
Other APIs

Companies like Twitter, Facebook, and Spotify provide an API for other programs to interact with their site and their data

This is why you can “connect” apps to Facebook, or tweet from a different website!

Chart.js: API for charts!

Allows you to create **`Chart`** variables, just like you would create **`Circle`** or **`Rectangle`** variables



Spotify API (HTML)

Allows you to add a Spotify music player on your own web pages!