

Python Module Index

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—

<code>__future__</code>	<i>Future statement definitions</i>
<code>__main__</code>	<i>The environment where the top-level script is run.</i>
<code>_dummy_thread</code>	<i>Drop-in replacement for the <code>_thread</code> module.</i>
<code>_thread</code>	<i>Low-level threading API.</i>

a

<code>abc</code>	<i>Abstract base classes according to :pep:`3119`.</i>
<code>aifc</code>	<i>Read and write audio files in AIFF or AIFC format.</i>
<code>argparse</code>	<i>Command-line option and argument parsing library.</i>
<code>array</code>	<i>Space efficient arrays of uniformly typed numeric values.</i>
<code>ast</code>	<i>Abstract Syntax Tree classes and manipulation.</i>
<code>asynchat</code>	<i>Support for asynchronous command/response protocols.</i>
<code>asyncio</code>	<i>Asynchronous I/O.</i>
<code>asyncore</code>	<i>A base class for developing asynchronous socket handling services.</i>
<code>atexit</code>	<i>Register and execute cleanup functions.</i>
<code>audioop</code>	<i>Manipulate raw audio data.</i>

b

<code>base64</code>	<i>RFC 3548: Base16, Base32, Base64 Data Encodings; Base85 and Ascii85</i>
<code>bdb</code>	<i>Debugger framework.</i>
<code>binascii</code>	<i>Tools for converting between binary and various ASCII-encoded binary representations.</i>
<code>binhex</code>	<i>Encode and decode files in binhex4 format.</i>
<code>bisect</code>	<i>Array bisection algorithms for binary searching.</i>
<code>builtins</code>	<i>The module that provides the built-in namespace.</i>
<code>bz2</code>	<i>Interfaces for bzip2 compression and decompression.</i>

c

<code>calendar</code>	<i>Functions for working with calendars, including some emulation of the Unix <code>cal</code> program.</i>
<code>cgi</code>	<i>Helpers for running Python scripts via the Common Gateway Interface.</i>
<code>cgitb</code>	<i>Configurable traceback handler for CGI scripts.</i>

<code>chunk</code>	<i>Module to read IFF chunks.</i>
<code>cmath</code>	<i>Mathematical functions for complex numbers.</i>
<code>cmd</code>	<i>Build line-oriented command interpreters.</i>
<code>code</code>	<i>Facilities to implement read-eval-print loops.</i>
<code>codecs</code>	<i>Encode and decode data and streams.</i>
<code>codeop</code>	<i>Compile (possibly incomplete) Python code.</i>
<code>collections</code>	<i>Container datatypes</i>
<code>colorsys</code>	<i>Conversion functions between RGB and other color systems.</i>
<code>compileall</code>	<i>Tools for byte-compiling all Python source files in a directory tree.</i>
<code>concurrent</code>	
<code>configparser</code>	<i>Configuration file parser.</i>
<code>contextlib</code>	<i>Utilities for with-statement contexts.</i>
<code>contextvars</code>	<i>Context Variables</i>
<code>copy</code>	<i>Shallow and deep copy operations.</i>
<code>copyreg</code>	<i>Register pickle support functions.</i>
<code>cProfile</code>	
<code>crypt (Unix)</code>	<i>The crypt() function used to check Unix passwords.</i>
<code>csv</code>	<i>Write and read tabular data to and from delimited files.</i>
<code>ctypes</code>	<i>A foreign function library for Python.</i>
<code>curses (Unix)</code>	<i>An interface to the curses library, providing portable terminal handling.</i>

d

<code>dataclasses</code>	<i>Generate special methods on user-defined classes.</i>
<code>datetime</code>	<i>Basic date and time types.</i>
<code>dbm</code>	<i>Interfaces to various Unix "database" formats.</i>
<code>decimal</code>	<i>Implementation of the General Decimal Arithmetic Specification.</i>
<code>difflib</code>	<i>Helpers for computing differences between objects.</i>
<code>dis</code>	<i>Disassembler for Python bytecode.</i>
<code>distutils</code>	<i>Support for building and installing Python modules into an existing Python installation.</i>
<code>doctest</code>	<i>Test pieces of code within docstrings.</i>
<code>dummy_threading</code>	<i>Drop-in replacement for the threading module.</i>

e

<code>email</code>	<i>Package supporting the parsing, manipulating, and generating email messages.</i>
<code>encodings</code>	
<code>ensurepip</code>	<i>Bootstrapping the "pip" installer into an existing Python installation or virtual environment.</i>
<code>enum</code>	<i>Implementation of an enumeration class.</i>

errno*Standard errno system symbols.***f**

<code>faulthandler</code>	<i>Dump the Python traceback.</i>
<code>fcntl</code> (Unix)	<i>The <code>fcntl()</code> and <code>ioctl()</code> system calls.</i>
<code>filecmp</code>	<i>Compare files efficiently.</i>
<code>fileinput</code>	<i>Loop over standard input or a list of files.</i>
<code>fnmatch</code>	<i>Unix shell style filename pattern matching.</i>
<code>formatter</code>	Deprecated: <i>Generic output formatter and device interface.</i>
<code>fractions</code>	<i>Rational numbers.</i>
<code>ftplib</code>	<i>FTP protocol client (requires sockets).</i>
<code>functools</code>	<i>Higher-order functions and operations on callable objects.</i>

g

<code>gc</code>	<i>Interface to the cycle-detecting garbage collector.</i>
<code>getopt</code>	<i>Portable parser for command line options; support both short and long option names.</i>
<code>getpass</code>	<i>Portable reading of passwords and retrieval of the <code>userid</code>.</i>
<code>gettext</code>	<i>Multilingual internationalization services.</i>
<code>glob</code>	<i>Unix shell style pathname pattern expansion.</i>
<code>grp</code> (Unix)	<i>The group database (<code>getgrnam()</code> and friends).</i>
<code>gzip</code>	<i>Interfaces for gzip compression and decompression using file objects.</i>

h

<code>hashlib</code>	<i>Secure hash and message digest algorithms.</i>
<code>heapq</code>	<i>Heap queue algorithm (a.k.a. priority queue).</i>
<code>hmac</code>	<i>Keyed-Hashing for Message Authentication (HMAC) implementation</i>
<code>html</code>	<i>Helpers for manipulating HTML.</i>
<code>http</code>	<i>HTTP status codes and messages</i>

i

<code>imaplib</code>	<i>IMAP4 protocol client (requires sockets).</i>
<code>imghdr</code>	<i>Determine the type of image contained in a file or byte stream.</i>
<code>imp</code>	Deprecated: <i>Access the implementation of the <code>import</code> statement.</i>
<code>importlib</code>	<i>The implementation of the import machinery.</i>
<code>inspect</code>	<i>Extract information and source code from live objects.</i>
<code>io</code>	<i>Core tools for working with streams.</i>
<code>ipaddress</code>	<i>IPv4/IPv6 manipulation library.</i>
<code>itertools</code>	<i>Functions creating iterators for efficient looping.</i>

j	
json	<i>Encode and decode the JSON format.</i>
k	
keyword	<i>Test whether a string is a keyword in Python.</i>
l	
lib2to3	<i>The 2to3 library</i>
linecache	<i>Provides random access to individual lines from text files.</i>
locale	<i>Internationalization services.</i>
logging	<i>Flexible event logging system for applications.</i>
lzma	<i>A Python wrapper for the liblzma compression library.</i>
m	
mailbox	<i>Manipulate mailboxes in various formats</i>
mailcap	<i>Mailcap file handling.</i>
marshal	<i>Convert Python objects to streams of bytes and back (with different constraints).</i>
math	<i>Mathematical functions (sin() etc.).</i>
mimetypes	<i>Mapping of filename extensions to MIME types.</i>
mmap	<i>Interface to memory-mapped files for Unix and Windows.</i>
modulefinder	<i>Find modules used by a script.</i>
msilib (Windows)	<i>Creation of Microsoft Installer files, and CAB files.</i>
msvcrt (Windows)	<i>Miscellaneous useful routines from the MS VC++ runtime.</i>
multiprocessing	<i>Process-based parallelism.</i>
n	
netrc	<i>Loading of .netrc files.</i>
nis (Unix)	<i>Interface to Sun's NIS (Yellow Pages) library.</i>
nnplib	<i>NNTP protocol client (requires sockets).</i>
numbers	<i>Numeric abstract base classes (Complex, Real, Integral, etc.).</i>
o	
operator	<i>Functions corresponding to the standard operators.</i>
optparse	Deprecated: <i>Command-line option parsing library.</i>
os	<i>Miscellaneous operating system interfaces.</i>
ossaudiodev (Linux, FreeBSD)	<i>Access to OSS-compatible audio devices.</i>
p	

<code>parser</code>	<i>Access parse trees for Python source code.</i>
<code>pathlib</code>	<i>Object-oriented filesystem paths</i>
<code>pdb</code>	<i>The Python debugger for interactive interpreters.</i>
<code>pickle</code>	<i>Convert Python objects to streams of bytes and back.</i>
<code>pickletools</code>	<i>Contains extensive comments about the pickle protocols and pickle-machine opcodes, as well as some useful functions.</i>
<code>pipes (Unix)</code>	<i>A Python interface to Unix shell pipelines.</i>
<code>pkgutil</code>	<i>Utilities for the import system.</i>
<code>platform</code>	<i>Retrieves as much platform identifying data as possible.</i>
<code>plistlib</code>	<i>Generate and parse Mac OS X plist files.</i>
<code>poplib</code>	<i>POP3 protocol client (requires sockets).</i>
<code>posix (Unix)</code>	<i>The most common POSIX system calls (normally used via module os).</i>
<code>pprint</code>	<i>Data pretty printer.</i>
<code>profile</code>	<i>Python source profiler.</i>
<code>pstats</code>	<i>Statistics object for use with the profiler.</i>
<code>pty (Linux)</code>	<i>Pseudo-Terminal Handling for Linux.</i>
<code>pwd (Unix)</code>	<i>The password database (getpwnam()) and friends).</i>
<code>py_compile</code>	<i>Generate byte-code files from Python source files.</i>
<code>pyclbr</code>	<i>Supports information extraction for a Python module browser.</i>
<code>pydoc</code>	<i>Documentation generator and online help system.</i>

q

<code>queue</code>	<i>A synchronized queue class.</i>
<code>quopri</code>	<i>Encode and decode files using the MIME quoted-printable encoding.</i>

r

<code>random</code>	<i>Generate pseudo-random numbers with various common distributions.</i>
<code>re</code>	<i>Regular expression operations.</i>
<code>readline (Unix)</code>	<i>GNU readline support for Python.</i>
<code>reprlib</code>	<i>Alternate repr() implementation with size limits.</i>
<code>resource (Unix)</code>	<i>An interface to provide resource usage information on the current process.</i>
<code>rlcompleter</code>	<i>Python identifier completion, suitable for the GNU readline library.</i>
<code>runpy</code>	<i>Locate and run Python modules without importing them first.</i>

s

<code>sched</code>	<i>General purpose event scheduler.</i>
<code>secrets</code>	<i>Generate secure random numbers for managing secrets.</i>
<code>select</code>	<i>Wait for I/O completion on multiple streams.</i>
<code>selectors</code>	<i>High-level I/O multiplexing.</i>

<code>shelve</code>	<i>Python object persistence.</i>
<code>shlex</code>	<i>Simple lexical analysis for Unix shell-like languages.</i>
<code>shutil</code>	<i>High-level file operations, including copying.</i>
<code>signal</code>	<i>Set handlers for asynchronous events.</i>
<code>site</code>	<i>Module responsible for site-specific configuration.</i>
<code>smtpd</code>	<i>A SMTP server implementation in Python.</i>
<code>smtpplib</code>	<i>SMTP protocol client (requires sockets).</i>
<code>sndhdr</code>	<i>Determine type of a sound file.</i>
<code>socket</code>	<i>Low-level networking interface.</i>
<code>socketserver</code>	<i>A framework for network servers.</i>
<code>spwd (Unix)</code>	<i>The shadow password database (getspnam() and friends).</i>
<code>sqlite3</code>	<i>A DB-API 2.0 implementation using SQLite 3.x.</i>
<code>ssl</code>	<i>TLS/SSL wrapper for socket objects</i>
<code>stat</code>	<i>Utilities for interpreting the results of os.stat(), os.lstat() and os.fstat().</i>
<code>statistics</code>	<i>Mathematical statistics functions</i>
<code>string</code>	<i>Common string operations.</i>
<code>stringprep</code>	<i>String preparation, as per RFC 3453</i>
<code>struct</code>	<i>Interpret bytes as packed binary data.</i>
<code>subprocess</code>	<i>Subprocess management.</i>
<code>sunau</code>	<i>Provide an interface to the Sun AU sound format.</i>
<code>symbol</code>	<i>Constants representing internal nodes of the parse tree.</i>
<code>symtable</code>	<i>Interface to the compiler's internal symbol tables.</i>
<code>sys</code>	<i>Access system-specific parameters and functions.</i>
<code>sysconfig</code>	<i>Python's configuration information</i>
<code>syslog (Unix)</code>	<i>An interface to the Unix syslog library routines.</i>

t

<code>tabnanny</code>	<i>Tool for detecting white space related problems in Python source files in a directory tree.</i>
<code>tarfile</code>	<i>Read and write tar-format archive files.</i>
<code>telnetlib</code>	<i>Telnet client class.</i>
<code>tempfile</code>	<i>Generate temporary files and directories.</i>
<code>termios (Unix)</code>	<i>POSIX style tty control.</i>
<code>test</code>	<i>Regression tests package containing the testing suite for Python.</i>
<code>textwrap</code>	<i>Text wrapping and filling</i>
<code>threading</code>	<i>Thread-based parallelism.</i>
<code>time</code>	<i>Time access and conversions.</i>
<code>timeit</code>	<i>Measure the execution time of small code snippets.</i>
<code>tkinter</code>	<i>Interface to Tcl/Tk for graphical user interfaces</i>

<code>token</code>	<i>Constants representing terminal nodes of the parse tree.</i>
<code>tokenize</code>	<i>Lexical scanner for Python source code.</i>
<code>trace</code>	<i>Trace or track Python statement execution.</i>
<code>traceback</code>	<i>Print or retrieve a stack traceback.</i>
<code>tracemalloc</code>	<i>Trace memory allocations.</i>
<code>tty (Unix)</code>	<i>Utility functions that perform common terminal control operations.</i>
<code>turtle</code>	<i>An educational framework for simple graphics applications</i>
<code>turtledemo</code>	<i>A viewer for example turtle scripts</i>
<code>types</code>	<i>Names for built-in types.</i>
<code>typing</code>	<i>Support for type hints (see :pep:`484`).</i>
u	
<code>unicodedata</code>	<i>Access the Unicode Database.</i>
<code>unittest</code>	<i>Unit testing framework for Python.</i>
<code>urllib</code>	
<code>uu</code>	<i>Encode and decode files in uuencode format.</i>
<code>uuid</code>	<i>UUID objects (universally unique identifiers) according to RFC 4122</i>
v	
<code>venv</code>	<i>Creation of virtual environments.</i>
w	
<code>warnings</code>	<i>Issue warning messages and control their disposition.</i>
<code>wave</code>	<i>Provide an interface to the WAV sound format.</i>
<code>weakref</code>	<i>Support for weak references and weak dictionaries.</i>
<code>webbrowser</code>	<i>Easy-to-use controller for Web browsers.</i>
<code>winreg (Windows)</code>	<i>Routines and objects for manipulating the Windows registry.</i>
<code>winsound (Windows)</code>	<i>Access to the sound-playing machinery for Windows.</i>
<code>wsgiref</code>	<i>WSGI Utilities and Reference Implementation.</i>
x	
<code>xdrllib</code>	<i>Encoders and decoders for the External Data Representation (XDR).</i>
<code>xml</code>	<i>Package containing XML processing modules</i>
<code>xmlrpc</code>	
z	
<code>zipapp</code>	<i>Manage executable Python zip archives</i>
<code>zipfile</code>	<i>Read and write ZIP-format archive files.</i>
<code>zipimport</code>	<i>Support for importing Python modules from ZIP archives.</i>

`zlib`

Low-level interface to compression and decompression routines compatible with gzip.