

Raise a `SyntaxError` for `async` with and `async` for statements outside of `async` functions.

Fix a bug that causes `PathFinder` to appear twice on `sys.meta_path`. Patch by Pablo Galindo Salgado.

Fixed clang `ubsan` (undefined behavior sanitizer) warnings in `dictobject.c` by adjusting how the internal struct `_dictkeyobject` shared keys structure is declared.

Fix potential memory leak in `normalizestring()`.

Change dict growth function from `round_up_to_power_2(used*2+hashtable_size/2)` to `round_up_to_power_2(used*3)`. Previously, dict is shrunk only when `used == 0`. Now dict has more chance to be shrunk.

Improved error messages in 'async with' when `__aenter__()` or `__aexit__()` return non-awaitable object.

Fix `ma_version_tag` in dict implementation is uninitialized when copying from key-sharing dict.

Fix `ctypes.util.find_library` regression on macOS.

Fixed crash in the `get()` method of the `mod:`dbm.ndbm`` database object when it is called with a single argument.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 88); [backlink](#)

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Fix multiprocessing regression on newer glibcs

Fix quoting of the `Comment` attribute of `:class:`http.cookies.SimpleCookie``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 107); [backlink](#)

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Upgrade bundled version of pip to 10.0.1.

Fixed a crash in the `mod:`parser`` module when converting an ST object to a tree of tuples or lists with `line_info=False` and `col_info=True`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 126); [backlink](#)

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`lib2to3` now recognizes `rf'...'` strings.

Ensure line-endings are respected when using `lib2to3`.

Have `:func:`importlib.resources.contents`` and `:meth:`importlib.abc.ResourceReader.contents`` return an `:term:`iterable`` instead of an `:term:`iterator``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 154); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 154); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 154); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 154); [backlink](#)

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Fix display of `<module>` call in the html produced by `cgibb.html()`. Patch by StÃ©phane Blondon.

Fixed regression when running pydoc with the `:option:'-m'` switch. (The regression was introduced in 3.7.0b3 by the resolution of [issue:33053](#)) This fix also changed pydoc to add `os.getcwd()` to `:data:'sys.path'` when necessary, rather than adding `". "`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 175); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 175); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 175); [backlink](#)

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Delete entries of `None` in `:data:'sys.path_importer_cache'` when `:meth:'importlib.machinery.invalidate_caches'` is called.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 187); [backlink](#)

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System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 187); [backlink](#)

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Deprecate looking up non-Enum objects in Enum classes and Enum members (will raise `:exc:'TypeError'` in 3.8+).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 197); [backlink](#)

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`random.Random.choice()` now raises `IndexError` for empty sequences consistently even when called from subclasses without a `getrandbits()` implementation.

Update `difflib.mdifff()` for [PEP 479](#). Convert an uncaught `StopIteration` in a generator into a return-statement.

End framing at the end of C implementation of `:func:'pickle.Pickler.dump'`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 228); [backlink](#)

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Improved error handling and fixed a reference leak in `:func:'os.posix_spawn()'`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 237); [backlink](#)

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In dataclasses, `Field.__set_name__` now looks up the `__set_name__` special method on the class, not the instance, of the default value.

Raise `RuntimeError` when `executor.submit` is called during interpreter shutdown.

Fix output of cover files for `trace` module command-line tool. Previously emitted cover files only when `--missing` option was used. Patch by Michael Selik.

Add Korean language switcher for <https://docs.python.org/3/>

Clarify that the `__path__` attribute on modules cannot be just any value.

Modernize documentation for writing C extension types.

Deprecate `Py_UNICODE` usage in `c-api/arg` document. `Py_UNICODE` related APIs are deprecated since Python 3.3, but it is missed in the document.

Add a note about `curses.addch` and `curses.addstr` exception behavior when writing outside a window, or pad.

Update documentation related with `dict` order.

Fix `test_embed.test_pre_initialization_sys_options()` when the interpreter is built with `--enable-shared`.

Enable the verbose build for extension modules, when GNU make is passed macros on the command line.

Update `config.guess` and `config.sub` files.

Add new triplets for mips r6 and riscv variants (used in extension suffixes).

By default, modules configured in *Modules/Setup* are no longer built with `-DPy_BUILD_CORE`. Instead, modules that specifically need that preprocessor definition include it in their individual entries.

The embedding tests can once again be built with clang 6.0

Update Windows installer to use OpenSSL 1.1.0h.

Update macOS installer build to use OpenSSL 1.1.0h.

Update word/identifier definition from `ascii` to `unicode`. In text and entry boxes, this affects selection by double-click, movement left/right by control-left/right, and deletion left/right by control-BACKSPACE/DEL.

IDLE: consistently color invalid string prefixes. A `'u'` string prefix cannot be paired with either `'r'` or `'f'`. Consistently color as much of the prefix, starting at the right, as is valid. Revise and extend colorizer test.

`program`pygettext.py`` now recognizes only literal strings as docstrings and translatable strings, and rejects bytes literals and f-string expressions.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.7.0b4.rst, line 434); [backlink](#)

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Fixed handling directories as arguments in the `pygettext` script. Based on patch by Oleg Krasnikov.

Fix `pystackv` and `pystack gdbinit` macros.

Fix 2to3 for using with `--add-suffix` option but without `--output-dir` option for relative path to files in current directory.