

Fix undefined behavior in `Objects/genericaliasobject.c`.

Fix the column offsets for f-strings `:mod:`ast`` nodes surrounded by parentheses and for nodes that spawn multiple lines. Patch by Pablo Galindo.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 16); [backlink](#)

Unknown interpreted text role "mod".

Fix regression where a single parenthesized starred expression was a valid assignment target.

Improve the error message for failed writes/deletes to property objects. When possible, the attribute name is now shown. Patch provided by Yuri Karabas.

Make the type attribute lookup cache per-interpreter. Patch by Victor Stinner.

Jumps to jumps are not eliminated when it would break PEP 626.

Make sure that the `f_lasti` and `f_lineno` attributes of a frame are set correctly when an exception is raised or re-raised. Required for PEP 626.

The coding cookie (ex: `# coding: latin1`) is now ignored in the command passed to the `:option:`-c`` command line option. Patch by Victor Stinner.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 77); [backlink](#)

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Improve error location in expressions that contain assignments. Patch by Pablo Galindo and Lysandros Nikolaou.

Remove jump commands made redundant by the deletion of unreachable bytecode blocks

Make the `:mod:`atexit`` module state per-interpreter. It is now safe have more than one `:mod:`atexit`` module instance. Patch by Dong-hee Na and Victor Stinner.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 107); [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] 3.10.0a4.rst, line 107); [backlink](#)

Unknown interpreted text role "mod".

Fix encoding name when running a `.pyc` file on Windows: `:c:func:`PyRun_SimpleFileExFlags()`` now uses the correct encoding to decode the filename.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 118); [backlink](#)

Unknown interpreted text role "c:func".

The `__args__` of the parameterized generics for `:data:`typing.Callable`` and `:class:`collections.abc.Callable`` are now consistent. The `__args__` for `:class:`collections.abc.Callable`` are now flattened while `:data:`typing.Callable``'s have not changed. To allow this change, `:class:`types.GenericAlias`` can now be subclassed and `collections.abc.Callable`'s `__class_getitem__` will now return a subclass of `types.GenericAlias`. Tests for typing were also updated to not subclass things like `Callable[...]` as that is not a valid base class. Finally, both `Callable`s no longer validate their `argtypes`, in `Callable[[argtypes], resulttype]` to prepare for PEP 612. Patch by Ken Jin.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 129); [backlink](#)

Unknown interpreted text role "data".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 129); [backlink](#)

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 129); [backlink](#)

Unknown interpreted text role "class".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 129); [backlink](#)

Unknown interpreted text role "data".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 129); [backlink](#)

Unknown interpreted text role "class".

Convert `functools` module to use `:c:func:`PyType_FromModuleAndSpec``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 148); [backlink](#)

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Convert `:mod:`array`` to use heap types, and establish module state for these.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 157); [backlink](#)

Unknown interpreted text role "mod".

Fix `_random.Random()` seeding.

Port the `:mod:`pyexpat`` extension module to multi-phase initialization ([PEP 489](#)).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 176); [backlink](#)

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Make the Unicode dictionary of interned strings compatible with subinterpreters. Patch by Victor Stinner.

Make `:c:func:`_PyUnicode_FromId`` function compatible with subinterpreters. Each interpreter now has an array of identifier objects (interned strings decoded from UTF-8). Patch by Victor Stinner.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 196); [backlink](#)

Unknown interpreted text role "c:func".

Handle empty string in variable executable in `platform.libc_ver()`

`randrange()` now raises a `TypeError` when `step` is specified without a `stop` argument. Formerly, it silently ignored the `step` argument.

Fixed equality comparison of `:class:`tkinter.Variable`` and `:class:`tkinter.font.Font``. Objects which belong to different Tcl interpreters are now always different, even if they have the same name.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 226); [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] 3.10.0a4.rst, line 226); [backlink](#)

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Configure LMTP Unix-domain socket to use socket global default timeout when a timeout is not explicitly provided.

Allow / character in username, password fields on `_PROXY` envvars.

`:func:typing.get_args` and `:func:typing.get_origin` now support [PEP 604](#) union types and [PEP 612](#) additions to `Callable`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 256); [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] 3.10.0a4.rst, line 256); [backlink](#)

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`:mod:subprocess` *extra_groups* is now correctly passed into `setgroups()` system call.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 266); [backlink](#)

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`EnumMeta.__prepare__` now accepts `**kwargs` to properly support `__init_subclass__`

Add optional weights to `statistics.harmonic_mean()`.

When simple query dialogs (`:mod:tkinter.simpledialog`), message boxes (`:mod:tkinter.messagebox`) or color choose dialog (`:mod:tkinter.colorchooser`) are created without arguments *master* and *parent*, and the default root window is not yet created, and `:func:~tkinter.NoDefaultRoot` was not called, a new temporal hidden root window will be created automatically. It will not be set as the default root window and will be destroyed right after closing the dialog window. It will help to use these simple dialog windows in programs which do not need other GUI.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 295); [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] 3.10.0a4.rst, line 295); [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] 3.10.0a4.rst, line 295); [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] 3.10.0a4.rst, line 295); [backlink](#)

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Optimized `:meth:collections.deque.remove`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 312); [backlink](#)

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Added a root parameter to `:func:tkinter.font.nametofont`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 321); [backlink](#)

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`mod:`tkinter`` supports now widgets with boolean value `False`.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 330); [backlink](#)

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Fixed range checks for color and pair numbers in `mod:`curses``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 339); [backlink](#)

Unknown interpreted text role "mod".

Improved placing of simple query windows in Tkinter (such as `func:`tkinter.simpledialog.askinteger``). They are now centered at the center of the parent window if it is specified and shown, otherwise at the center of the screen.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 348); [backlink](#)

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Argparse help no longer uses the confusing phrase, "optional arguments". It uses "options" instead.

Port the `mod:`_thread`` extension module to the multiphase initialization API (PEP 489) and convert its static types to heap types.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 370); [backlink](#)

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Fix crash in `func:`tracemalloc.Traceback.__repr__`` (regressed in Python 3.9).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 380); [backlink](#)

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`mod:`tkinter`` functions and constructors which need a default root window raise now `exc:`RuntimeError`` with descriptive message instead of obscure `exc:`AttributeError`` or `exc:`NameError`` if it is not created yet or cannot be created automatically.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 390); [backlink](#)

Unknown interpreted text role "mod".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 390); [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] 3.10.0a4.rst, line 390); [backlink](#)

Unknown interpreted text role "exc".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 390); [backlink](#)

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`func:`atexit._run_exitfuncs`` now logs callback exceptions using `data:`sys.unraisablehook``, rather than logging them directly into `data:`sys.stderr`` and raise the last exception.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 402); [backlink](#)

Unknown interpreted text role "func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 402); [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] 3.10.0a4.rst, line 402); [backlink](#)

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`logging.disable` will now validate the types and value of its parameter. It also now accepts strings representing the levels (as does `logging.setLevel`) instead of only the numerical values.

At Python exit, if a callback registered with `:func:`atexit.register`` fails, its exception is now logged. Previously, only some exceptions were logged, and the last exception was always silently ignored.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 424); [backlink](#)

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Fixed `lib2to3.pgen2` to be able to parse PEP-570 positional only argument syntax.

In `importlib.metadata`: - `EntryPoint` objects now expose a `.dist` object referencing the `Distribution` when constructed from a `Distribution`. - Add support for package discovery under package normalization rules. - The object returned by `metadata()` now has a formally-defined protocol called `PackageMetadata` with declared support for the `.get_all()` method. - Synced with `importlib_metadata` 3.3.

A check is added against misspellings of `autospect`, `auto_spec` and `set_spec` being passed as arguments to `patch`, `patch.object` and `create_autospec`.

[tarfile] update nested exception raising to use `from None` or `from e`

`AttributeError` for suspected misspellings of assertions on mocks are now pointing out that the cause are misspelled assertions and also what to do if the misspelling is actually an intended attribute name. The `unittest.mock` document is also updated to reflect the current set of recognised misspellings.

Implemented [PEP 612](#): added `ParamSpec` and `Concatenate` to `:mod:`typing``. Patch by Ken Jin.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 491); [backlink](#)

Unknown interpreted text role "mod".

`StrEnum` fix `_generate_next_value_` to return a str

Define `THREAD_STACK_SIZE` for VxWorks.

[Enum] `_EnumDict.update()` is now supported

`Enum` private names do not become members / do not generate errors -- they remain normal attributes

`Enum`: call `__init_subclass__` after members have been added

`:func:`ast.literal_eval`` adds line number information (if available) in error message for malformed nodes.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 547); [backlink](#)

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`:func:`random.sample`` no longer warns on a sequence which is also a set.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 557); [backlink](#)

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`:func:`posixpath.expanduser`` returns the input `path` unchanged if user home directory is `None` on VxWorks.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 566); [backlink](#)

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Fix subprocess.check_output(..., input=None) behavior when text=True to be consistent with that of the documentation and universal_newlines=True.

Fixed discrepancy between `:mod:`traceback`` and the interpreter in formatting of SyntaxError with lineno not set (`:mod:`traceback`` was changed to match interpreter).

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 586); [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] 3.10.0a4.rst, line 586); [backlink](#)

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Raise `:exc:`OverflowError`` instead of silent truncation in `:meth:`socket.ntohs`` and `:meth:`socket.htons``. Silent truncation was deprecated in Python 3.7. Patch by Erlend E. Aasland

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 597); [backlink](#)

Unknown interpreted text role "exc".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 597); [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] 3.10.0a4.rst, line 597); [backlink](#)

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Harmonized `:func:`random.randrange`` argument handling to match `:func:`range``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 608); [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] 3.10.0a4.rst, line 608); [backlink](#)

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- The integer test and conversion in `randrange()` now uses `:func:`operator.index``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 610); [backlink](#)

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- Non-integer arguments to `randrange()` are deprecated.
- The `ValueError` is deprecated in favor of a `TypeError`.
- It now runs a little faster than before.

(Contributed by Raymond Hettinger and Serhiy Storchaka.)

Restore compatibility for `uname_result` around `deepcopy` and `_replace`.

zipfile.Path.joinpath now accepts arbitrary arguments, same as pathlib.Path.joinpath.

Port the `_csv` module to the multi-phase initialization API (PEP 489).

`:class:`typing.TypedDict`` types created using the alternative call-style syntax now correctly respect the `total` keyword argument when setting their `__required_keys__` and `__optional_keys__` class attributes.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 653); [backlink](#)

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Add `globals` and `locals` parameters to the `:func:`inspect.signature`` and `:meth:`inspect.Signature.from_callable``.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 664); [backlink](#)

Unknown interpreted text role "func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 664); [backlink](#)

Unknown interpreted text role "meth".

fix `format()` behavior for `IntFlag`

Ensure `asyncio.wait_for` waits for task completion

Fixed bug where `:mod:`zipimporter`` sometimes reports an incorrect cause of import errors.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 692); [backlink](#)

Unknown interpreted text role "mod".

Fix `site` and `sysconfig` modules for VxWorks RTOS which has no home directories.

Add `:func:`os.set_blocking()`` support for VxWorks RTOS.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 712); [backlink](#)

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Lowered `:class:`tkinter.ttk.LabeledScale`` dummy widget to prevent hiding part of the content label.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 721); [backlink](#)

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Fixed memory leak in `socketserver.ThreadingMixIn` introduced in Python 3.7.

Fix initialization race condition in `:func:`a85encode`` and `:func:`b85encode`` in `:mod:`base64``. Patch by Brandon Stansbury.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 741); [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] 3.10.0a4.rst, line 741); [backlink](#)

Unknown interpreted text role "func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 741); [backlink](#)

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Add documentation for the `:class:'multiprocessing.pool.ThreadPool'` class.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 751); [backlink](#)

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Prominently feature listings from the glossary in documentation search results. Patch by Ammar Askar.

Update test_ntplib to use official group name of news.aioe.org for testing. Patch by Dong-hee Na.

Skip some asyncio tests on VxWorks.

Enhance `test_select.test_select()`: it now takes 500 milliseconds rather than 10 seconds. Use Python rather than a shell to make the test more portable.

Skip some tests in `_test_all_chown_common()` on VxWorks.

Fix bytecode helper `assertNotInBytecode`.

Add more attribute checking in `test_posix.py`

Disable `os.popen` and impacted tests on VxWorks

Port `test_ssl` and `test_uuid` to VxWorks RTOS.

Fix `__builtin__` available check on older compilers. Patch by Joshua Root.

Added `--disable-test-modules` option to the `configure` script: don't build nor install test modules. Patch by Xavier de Gaye, Thomas Petazzoni and Peixing Xin.

Now all platforms use a value for the "EXT_SUFFIX" build variable derived from SOABI (for instance in freeBSD, "EXT_SUFFIX" is now "cpython-310d.so" instead of ".so"). Previously only Linux, Mac and VxWorks were using a value for "EXT_SUFFIX" that included "SOABI".

Fix implicit function declarations in `configure` which could have resulted in incorrect configuration checks. Patch contributed by Joshua Root.

Enable `libpython3.so` for VxWorks.

Add fish shell support to macOS installer.

Update macOS installer build to use Tcl/Tk 8.6.11 (rc2, expected to be final release).

Update macOS installer build to use OpenSSL 1.1.1i.

Update macOS installer to use SQLite 3.34.0.

Fixed Python 3 compatibility issue with `gdb/libpython.py` handling of attribute dictionaries.

Fix `freeze.py` tool to use the proper config and library directories. Patch by Victor Stinner.

Export the `:c:func:'Py_FrozenMain'` function: fix a Python 3.9.0 regression. Python 3.9 uses `-fvisibility=hidden` and the function was not exported explicitly and so not exported.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 952); [backlink](#)

Unknown interpreted text role "c:func".

Remove the private `:c:func:'_Py_fopen'` function which is no longer needed. Use `:c:func:'_Py_wfopen'` or `:c:func:'_Py_fopen_obj'` instead. Patch by Victor Stinner.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 963); [backlink](#)

Unknown interpreted text role "c:func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 963); [backlink](#)

Unknown interpreted text role "c:func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 963); [backlink](#)

Unknown interpreted text role "c:func".

Port `.mod:'resource'` extension module to module state

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Misc\NEWS.d\ [cpython-main] [Misc] [NEWS.d] 3.10.0a4.rst, line 974); [backlink](#)

Unknown interpreted text role "mod".

Update the `xxlimited` module to be a better example of how to use the limited C API.

Fix an alignment build warning/error in function `PyVectorcall_Function()`. Patch by Andreas Schneider, Antoine Pitrou and Petr Viktorin.