

[Skip to main content](#)

[__Back to top](#)

[__ `Ctrl` + `K`](#)

[[!\[conda 25.1.2.dev29 documentation -](#)

[Home\]\(../../../../../_static/conda_logo_full.svg\) \]\(../../../../../index.html\)](#)

* [\[Conda\]\(https://docs.conda.io/projects/conda/\)](#)

* [\[Conda-build\]\(https://docs.conda.io/projects/conda-build\)](#)

* [\[Miniconda\]\(https://docs.anaconda.com/free/miniconda/\)](#)

* [\[conda.org\]\(https://conda.org\)](#)

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* [\[Conda-build\]\(https://docs.conda.io/projects/conda-build\)](#)

* [\[Miniconda\]\(https://docs.anaconda.com/free/miniconda/\)](#)

* [\[conda.org\]\(https://conda.org\)](#)

* [\[__ GitHub\]\(https://github.com/conda/conda "GitHub"\)](#)

* [\[!\[Element\]\(../../../../../_static/element_logo.svg\)\]\(http://bit.ly/conda-chat-room "Element"\)](#)

* [\[__ Discourse\]\(https://conda.discourse.group/ "Discourse"\)](#)

Navigation

- * [User guide](../././././user-guide/index.html) __
- * [Getting started with conda](../././././user-guide/getting-started.html)
- * [Installing conda](../././././user-guide/install/index.html) __
 - * [Installing on Windows](../././././user-guide/install/windows.html)
 - * [Installing on macOS](../././././user-guide/install/macos.html)
 - * [Installing on Linux](../././././user-guide/install/linux.html)
 - * [RPM and Debian Repositories for Miniconda](../././././user-guide/install/rpm-debian.html)
- * [Tasks](../././././user-guide/tasks/index.html) __
 - * [Managing conda](../././././user-guide/tasks/manage-conda.html)
 - * [Managing environments](../././././user-guide/tasks/manage-environments.html)
 - * [Managing channels](../././././user-guide/tasks/manage-channels.html)
 - * [Managing packages](../././././user-guide/tasks/manage-pkgs.html)
 - * [Managing Python](../././././user-guide/tasks/manage-python.html)
 - * [Managing virtual packages](../././././user-guide/tasks/manage-virtual.html)
 - * [Creating custom channels](../././././user-guide/tasks/create-custom-channels.html)
 - * [Creating projects](../././././user-guide/tasks/creating-projects.html)
 - * [Viewing command-line help](../././././user-guide/tasks/view-command-line-help.html)
- * [Configuration](../././././user-guide/configuration/index.html) __
 - * [Using the .condarc conda configuration file](../././././user-guide/configuration/use-condarc.html)
 - * [Settings](../././././user-guide/configuration/settings.html)
 - * [Administering a multi-user conda installation](../././././user-guide/configuration/admin-multi-user-install.html)
 - * [Mirroring channels](../././././user-guide/configuration/mirroring.html)
 - * [Disabling SSL verification](../././././user-guide/configuration/disable-ssl-verification.html)

- * [Using non-standard certificates](../../../../../user-guide/configuration/non-standard-certs.html)
- * [Using Custom Locations for Environment and Package Cache](../../../../../user-guide/configuration/custom-env-and-pkg-locations.html)
- * [Improving interoperability with pip](../../../../../user-guide/configuration/pip-interoperability.html)
- * [Using the free channel](../../../../../user-guide/configuration/free-channel.html)
- * [Concepts](../../../../../user-guide/concepts/index.html) __
- * [Commands](../../../../../user-guide/concepts/conda-commands.html)
- * [Packages](../../../../../user-guide/concepts/packages.html)
- * [Package specification](../../../../../user-guide/concepts/pkg-specs.html)
- * [Package search and install specifications](../../../../../user-guide/concepts/pkg-search.html)
- * [Channels](../../../../../user-guide/concepts/channels.html)
- * [Environments](../../../../../user-guide/concepts/environments.html)
- * [Installing with conda](../../../../../user-guide/concepts/installing-with-conda.html)
- * [Performance](../../../../../user-guide/concepts/conda-performance.html)
- * [Conda for data scientists](../../../../../user-guide/concepts/data-science.html)
- * [Plugins](../../../../../user-guide/concepts/conda-plugins.html)
- * [Troubleshooting](../../../../../user-guide/troubleshooting.html)
- * [Cheatsheet](../../../../../user-guide/cheatsheet.html)
- * [Configuration](../../../../../configuration.html)
- * [Commands](../../../../../commands/index.html) __
- * [``conda clean``](../../../../../commands/clean.html)
- * [``conda compare``](../../../../../commands/compare.html)
- * [``conda config``](../../../../../commands/config.html)
- * [``conda create``](../../../../../commands/create.html)
- * [``conda doctor``](../../../../../commands/doctor.html)
- * [``conda env``](../../../../../commands/env/index.html) __
- * [``conda env config``](../../../../../commands/env/config/index.html) __

- * [`conda env config vars`](../.../commands/env/config/vars/index.html) __
- * [`conda env config vars list`](../.../commands/env/config/vars/list.html)
- * [`conda env config vars set`](../.../commands/env/config/vars/set.html)
- * [`conda env config vars unset`](../.../commands/env/config/vars/unset.html)
- * [`conda env create`](../.../commands/env/create.html)
- * [`conda env export`](../.../commands/env/export.html)
- * [`conda env list`](../.../commands/env/list.html)
- * [`conda env remove`](../.../commands/env/remove.html)
- * [`conda env update`](../.../commands/env/update.html)
- * [`conda info`](../.../commands/info.html)
- * [`conda init`](../.../commands/init.html)
- * [`conda install`](../.../commands/install.html)
- * [`conda list`](../.../commands/list.html)
- * [`conda notices`](../.../commands/notices.html)
- * [`conda package`](../.../commands/package.html)
- * [`conda remove`](../.../commands/remove.html)
- * [`conda rename`](../.../commands/rename.html)
- * [`conda run`](../.../commands/run.html)
- * [`conda search`](../.../commands/search.html)
- * [`conda update`](../.../commands/update.html)
- * [Release notes](../.../release-notes.html)
- * [Glossary](../.../glossary.html)
- * [Developer guide](../.../index.html) __
- * [Architecture](../.../architecture.html)
- * [Contributing to conda](../.../contributing.html)
- * [Development Environment](../.../development-environment.html)
- * [Deep dives](../.../deep-dives/index.html) __

- * [`conda install``](../../deep-dives/install.html)
- * [`conda init`` and `conda activate``](../../deep-dives/activation.html)
- * [`conda config`` and context](../../deep-dives/context.html)
- * [Solvers](../../deep-dives/solvers.html)
- * [Logging](../../deep-dives/logging.html)
- * [Writing Tests](../../writing-tests/index.html) __
- * [Integration Tests](../../writing-tests/integration-tests.html)
- * [Deprecations](../../deprecations.html)
- * [Releasing](../../releasing.html)
- * [Plugins](../../plugins/index.html) __
 - * [Auth Handlers](../../plugins/auth_handlers.html)
 - * [Health Checks](../../plugins/health_checks.html)
 - * [Request Headers](../../plugins/request_headers.html)
 - * [Post-commands](../../plugins/post_commands.html)
 - * [Pre-commands](../../plugins/pre_commands.html)
 - * [Reporter Backends](../../plugins/reporter_backends.html)
 - * [Settings](../../plugins/settings.html)
 - * [Solvers](../../plugins/solvers.html)
 - * [Subcommands](../../plugins/subcommands.html)
 - * [Virtual Packages](../../plugins/virtual_packages.html)
- * [Specifications](../../specs/index.html) __
 - * [Technical specification: solver state](../../specs/solver-state.html)
- * [API](../../api.html) __
 - * [`conda``](../index.html) __
 - * [`__main__``](../__main__/index.html)
 - * [`_vendor``](../_vendor/index.html) __
 - * [`frozendict``](../_vendor/frozendict/index.html)

- * [`_version``](../_version/index.html)
- * [`activate``](../activate/index.html)
- * [`api``](../api/index.html)
- * [`auxlib``](../index.html) ____
- * ``collection``
- * [`compat``](../compat/index.html)
- * [`decorators``](../decorators/index.html)
- * [`entity``](../entity/index.html)
- * [`exceptions``](../exceptions/index.html)
- * [`ish``](../ish/index.html)
- * [`logz``](../logz/index.html)
- * [`type_coercion``](../type_coercion/index.html)
- * [`base``](../base/index.html) ____
- * [`constants``](../base/constants/index.html)
- * [`context``](../base/context/index.html)
- * [`cli``](../cli/index.html) ____
- * [`actions``](../cli/actions/index.html)
- * [`common``](../cli/common/index.html)
- * [`conda_argparse``](../cli/conda_argparse/index.html)
- * [`find_commands``](../cli/find_commands/index.html)
- * [`helpers``](../cli/helpers/index.html)
- * [`install``](../cli/install/index.html)
- * [`main``](../cli/main/index.html)
- * [`main_clean``](../cli/main_clean/index.html)
- * [`main_commands``](../cli/main_commands/index.html)
- * [`main_compare``](../cli/main_compare/index.html)
- * [`main_config``](../cli/main_config/index.html)

- * [main_create](../../cli/main_create/index.html)
- * [main_env](../../cli/main_env/index.html)
- * [main_env_config](../../cli/main_env_config/index.html)
- * [main_env_create](../../cli/main_env_create/index.html)
- * [main_env_export](../../cli/main_env_export/index.html)
- * [main_env_list](../../cli/main_env_list/index.html)
- * [main_env_remove](../../cli/main_env_remove/index.html)
- * [main_env_update](../../cli/main_env_update/index.html)
- * [main_env_vars](../../cli/main_env_vars/index.html)
- * [main_export](../../cli/main_export/index.html)
- * [main_info](../../cli/main_info/index.html)
- * [main_init](../../cli/main_init/index.html)
- * [main_install](../../cli/main_install/index.html)
- * [main_list](../../cli/main_list/index.html)
- * [main_mock_activate](../../cli/main_mock_activate/index.html)
- * [main_mock_deactivate](../../cli/main_mock_deactivate/index.html)
- * [main_notices](../../cli/main_notices/index.html)
- * [main_package](../../cli/main_package/index.html)
- * [main_pip](../../cli/main_pip/index.html)
- * [main_remove](../../cli/main_remove/index.html)
- * [main_rename](../../cli/main_rename/index.html)
- * [main_run](../../cli/main_run/index.html)
- * [main_search](../../cli/main_search/index.html)
- * [main_update](../../cli/main_update/index.html)
- * [python_api](../../cli/python_api/index.html)
- * [common](../../common/index.html) __
- * [_logic](../../common/_logic/index.html)

- * [`_os``](../common/_os/index.html) __
- * [`linux``](../common/_os/linux/index.html)
- * [`osx``](../common/_os/osx/index.html)
- * [`unix``](../common/_os/unix/index.html)
- * [`windows``](../common/_os/windows/index.html)
- * [`compat``](../common/compat/index.html)
- * [`configuration``](../common/configuration/index.html)
- * [`constants``](../common/constants/index.html)
- * [`disk``](../common/disk/index.html)
- * [`io``](../common/io/index.html)
- * [`iterators``](../common/iterators/index.html)
- * [`logic``](../common/logic/index.html)
- * [`path``](../common/path/index.html) __
- * [`_cygpath``](../common/path/_cygpath/index.html)
- * [`directories``](../common/path/directories/index.html)
- * [`python``](../common/path/python/index.html)
- * [`windows``](../common/path/windows/index.html)
- * [`pkg_formats``](../common/pkg_formats/index.html) __
- * [`python``](../common/pkg_formats/python/index.html)
- * [`serialize``](../common/serialize/index.html)
- * [`signals``](../common/signals/index.html)
- * [`toposort``](../common/toposort/index.html)
- * [`url``](../common/url/index.html)
- * [`core``](../core/index.html) __
- * [`envs_manager``](../core/envs_manager/index.html)
- * [`index``](../core/index/index.html)
- * [`initialize``](../core/initialize/index.html)

- * [`link``](../../core/link/index.html)
- * [`package_cache_data``](../../core/package_cache_data/index.html)
- * [`path_actions``](../../core/path_actions/index.html)
- * [`portability``](../../core/portability/index.html)
- * [`prefix_data``](../../core/prefix_data/index.html)
- * [`solve``](../../core/solve/index.html)
- * [`subdir_data``](../../core/subdir_data/index.html)
- * [`deprecations``](../../deprecations/index.html)
- * [`env``](../../env/index.html) ____
- * [`env``](../../env/env/index.html)
- * [`installers``](../../env/installers/index.html) ____
- * [`base``](../../env/installers/base/index.html)
- * [`conda``](../../env/installers/conda/index.html)
- * [`pip``](../../env/installers/pip/index.html)
- * [`pip_util``](../../env/pip_util/index.html)
- * [`specs``](../../env/specs/index.html) ____
- * [`binstar``](../../env/specs/binstar/index.html)
- * [`requirements``](../../env/specs/requirements/index.html)
- * [`yaml_file``](../../env/specs/yaml_file/index.html)
- * [`exception_handler``](../../exception_handler/index.html)
- * [`exceptions``](../../exceptions/index.html)
- * [`exports``](../../exports/index.html)
- * [`gateways``](../../gateways/index.html) ____
- * [`anaconda_client``](../../gateways/anaconda_client/index.html)
- * [`connection``](../../gateways/connection/index.html) ____
- * [`adapters``](../../gateways/connection/adapters/index.html) ____
- * [`ftp``](../../gateways/connection/adapters/ftp/index.html)

- * [`http`](../../gateways/connection/adapters/http/index.html)
- * [`localfs`](../../gateways/connection/adapters/localfs/index.html)
- * [`s3`](../../gateways/connection/adapters/s3/index.html)
- * [`download`](../../gateways/connection/download/index.html)
- * [`session`](../../gateways/connection/session/index.html)
- * [`disk`](../../gateways/disk/index.html) __
- * [`create`](../../gateways/disk/create/index.html)
- * [`delete`](../../gateways/disk/delete/index.html)
- * [`link`](../../gateways/disk/link/index.html)
- * [`lock`](../../gateways/disk/lock/index.html)
- * [`permissions`](../../gateways/disk/permissions/index.html)
- * [`read`](../../gateways/disk/read/index.html)
- * [`test`](../../gateways/disk/test/index.html)
- * [`update`](../../gateways/disk/update/index.html)
- * [`logging`](../../gateways/logging/index.html)
- * [`repodata`](../../gateways/repodata/index.html) __
- * [`jlap`](../../gateways/repodata/jlap/index.html) __
- * [`core`](../../gateways/repodata/jlap/core/index.html)
- * [`fetch`](../../gateways/repodata/jlap/fetch/index.html)
- * [`interface`](../../gateways/repodata/jlap/interface/index.html)
- * [`lock`](../../gateways/repodata/lock/index.html)
- * [`subprocess`](../../gateways/subprocess/index.html)
- * [`history`](../../history/index.html)
- * [`instructions`](../../instructions/index.html)
- * [`misc`](../../misc/index.html)
- * [`models`](../../models/index.html) __
- * [`channel`](../../models/channel/index.html)

- * [dist`](../../models/dist/index.html)
- * [enums`](../../models/enums/index.html)
- * [leased_path_entry`](../../models/leased_path_entry/index.html)
- * [match_spec`](../../models/match_spec/index.html)
- * [package_info`](../../models/package_info/index.html)
- * [prefix_graph`](../../models/prefix_graph/index.html)
- * [records`](../../models/records/index.html)
- * [version`](../../models/version/index.html)
- * [notices`](../../notices/index.html) __
- * [cache`](../../notices/cache/index.html)
- * [core`](../../notices/core/index.html)
- * [fetch`](../../notices/fetch/index.html)
- * [types`](../../notices/types/index.html)
- * [views`](../../notices/views/index.html)
- * [plan`](../../plan/index.html)
- * [plugins`](../../plugins/index.html) __
- * [hookspec`](../../plugins/hookspec/index.html)
- * [manager`](../../plugins/manager/index.html)
- * [post_solves`](../../plugins/post_solves/index.html) __
 - * [signature_verification`](../../plugins/post_solves/signature_verification/index.html)
- * [reporter_backends`](../../plugins/reporter_backends/index.html) __
 - * [console`](../../plugins/reporter_backends/console/index.html)
 - * [json`](../../plugins/reporter_backends/json/index.html)
- * [solvers`](../../plugins/solvers/index.html)
- * [subcommands`](../../plugins/subcommands/index.html) __
 - * [doctor`](../../plugins/subcommands/doctor/index.html) __
 - * [health_checks`](../../plugins/subcommands/doctor/health_checks/index.html)

- * [`types`](../../plugins/types/index.html)
- * [`virtual_packages`](../../plugins/virtual_packages/index.html) __
 - * [` archspec`](../../plugins/virtual_packages/archspec/index.html)
 - * [`conda`](../../plugins/virtual_packages/conda/index.html)
 - * [`cuda`](../../plugins/virtual_packages/cuda/index.html)
 - * [`freebsd`](../../plugins/virtual_packages/freebsd/index.html)
 - * [`linux`](../../plugins/virtual_packages/linux/index.html)
 - * [`osx`](../../plugins/virtual_packages/osx/index.html)
 - * [`windows`](../../plugins/virtual_packages/windows/index.html)
- * [`reporters`](../../reporters/index.html)
- * [`resolve`](../../resolve/index.html)
- * [`testing`](../../testing/index.html) __
 - * [`cases`](../../testing/cases/index.html)
 - * [`fixtures`](../../testing/fixtures/index.html)
 - * [`gateways`](../../testing/gateways/index.html) __
 - * [` fixtures`](../../testing/gateways/fixtures/index.html)
 - * [`helpers`](../../testing/helpers/index.html)
 - * [`integration`](../../testing/integration/index.html)
 - * [`notices`](../../testing/notices/index.html) __
 - * [` fixtures`](../../testing/notices/fixtures/index.html)
 - * [`helpers`](../../testing/notices/helpers/index.html)
 - * [`solver_helpers`](../../testing/solver_helpers/index.html)
- * [`trust`](../../trust/index.html) __
 - * [` constants`](../../trust/constants/index.html)
 - * [`signature_verification`](../../trust/signature_verification/index.html)
- * [`utils`](../../utils/index.html)
- * [`conda_env`](../../conda_env/index.html) __

[* \[`cli` \]\(../../conda_env/cli/index.html\)](#)

[* \[`installers` \]\(../../conda_env/installers/index.html\)](#)

[* \[____ \]\(../../index.html\)](#)

[* \[Developer guide\]\(../../index.html\)](#)

[* ____](#)

[* \[`auxlib` \]\(../index.html\)](#)

[*](#)

`collection`#

Common collection classes.

Classes#

`AttrDict` | Sub-classes dict, and further allows attribute-like access to dictionary items.

---|---

Functions#

`make_immutable`(value) |

---|---

`first`(seq[, key, default, apply]) | Give the first value that satisfies the key test.

`last`(seq[, key, default, apply]) |

make_immutable(_value_)#

```
_class _AttrDict(_* args_, _** kwargs_)#
```

Bases: [`dict`](<https://docs.python.org/3/library/stdtypes.html#dict>) (in Python v3.13\)

Sub-classes `dict`, and further allows attribute-like access to dictionary items.

Examples

```
>>> d = AttrDict({'a': 1})
>>> d.a, d['a'], d.get('a')
(1, 1, 1)
>>> d.b = 2
>>> d.b, d['b']
(2, 2)
```

Initialize self. See `help(type(self))` for accurate signature.

```
first(_seq_ , _key =bool_, _default =None_, _apply =lambda x: ..._)#
```

Give the first value that satisfies the key test.

Parameters:

* **seq** (_iterable_)

* **key** (_callable_) -- test for each element of iterable

* **default** \-- returned when all elements fail test

* **apply** (_callable_) -- applied to element before return, but not to default value

Returns: first element in seq that passes key, mutated with optional apply

Examples

```
>>> first([0, False, None, [], (), 42])
```

```
42
```

```
>>> first([0, False, None, [], ()]) is None
```

```
True
```

```
>>> first([0, False, None, [], ()], default='ohai')
'ohai'
>>> import re
>>> m = first(re.match(regex, 'abc') for regex in ['b.*', 'a(.*)'])
>>> m.group(1)
'bc'
```

The optional key argument specifies a one-argument predicate function like that used for `filter()`. The key argument, if supplied, must be in keyword form. For example: `>>> first([1, 1, 3, 4, 5], key=lambda x: x % 2 == 0) 4`

```
last(_seq_ , _key =bool_, _default =None_, _apply =lambda x: ..._)#
```

__On this page

* Classes

* Functions

* ``make_immutable()``

* ``AttrDict``

* ``first()``

* ``last()``

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