NumPy’s module structure

NumPy has a large number of submodules. Most regular usage of NumPy requires only the main namespace and a smaller set of submodules. The rest either either special-purpose or niche namespaces.

Main namespaces

Regular/recommended user-facing namespaces for general use:

- numpy
- numpy.exceptions
- numpy.fft
- numpy.linalg
- numpy.polynomial
- numpy.random
- numpy.strings
- numpy.testing
- numpy.typing

Special-purpose namespaces

- numpy.ctypeslib - interacting with NumPy objects with `ctypes`
- numpy.dtypes - dtype classes (typically not used directly by end users)
- numpy.emath - mathematical functions with automatic domain
- numpy.lib - utilities & functionality which do not fit the main namespace
- numpy.rec - record arrays (largely superseded by dataframe libraries)
- numpy.version - small module with more detailed version info

Back to top

Legacy namespaces

Prefer not to use these namespaces for new code. There are better alternatives and/or this code is deprecated or isn't reliable.

- numpy.char - legacy string functionality, only for fixed-width strings
- numpy.distutils (deprecated) - build system support
- numpy.f2py - Fortran binding generation (usually used from the command line only)
- numpy.ma - masked arrays (not very reliable, needs an overhaul)
- numpy.matlib (pending deprecation) - functions supporting `matrix` instances

Created using Sphinx 7.2.6.

Built with the PyData Sphinx Theme 0.16.0.