NumPy data types: ndarray

Generic multidimensional array object, for homogeneous data – all elements should be of the **same type.**

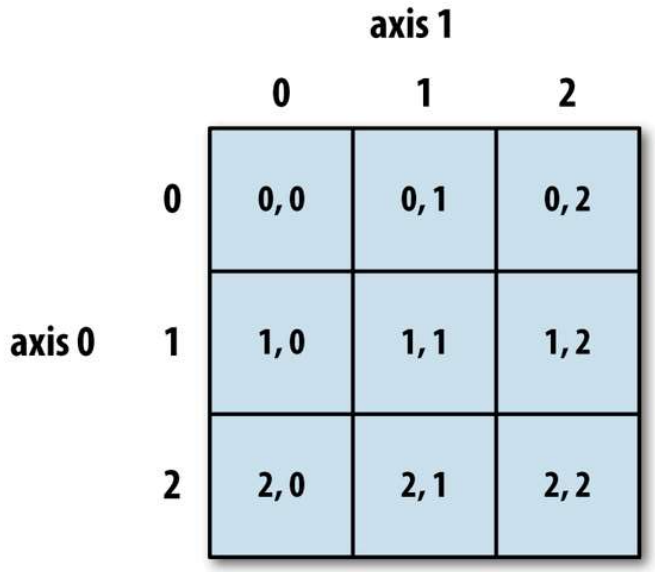

Figure 4-1. Indexing elements in a NumPy array

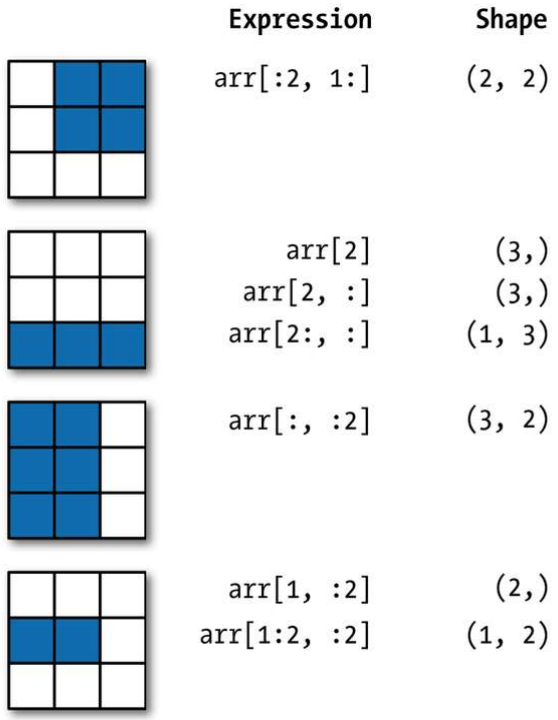

Figure 4-2. Two-dimensional array slicing

Source: Python for Data Analysis by Wes McKinney

Functions and Methods Overview

Here is a list of some useful NumPy functions and methods names ordered in categories. See Routines for the full list.

Array Creation

`arange`, `array`, `copy`, `empty`, `empty_like`, `eye`, `fromfile`, `fromfunction`, `identity`, `linspace`, `logspace`, `mgrid`, `ogrid`, `ones`, `ones_like`, `r`, `zeros`, `zeros_like`

Conversions

`ndarray.astype`, `atleast_1d`, `atleast_2d`, `atleast_3d`, `mat`

Manipulations

`array_split`, `column_stack`, `concatenate`, `diagonal`, `dsplit`, `dstack`, `hsplit`, `hstack`, `ndarray.item`, `newaxis`, `ravel`, `repeat`, `reshape`, `resize`, `squeeze`, `swapaxes`, `take`, `transpose`, `vsplit`, `vstack`

Questions

`all`, `any`, `nonzero`, `where`

Ordering

`argmax`, `argmin`, `argsort`, `max`, `min`, `ptp`, `searchsorted`, `sort`

Operations

`choose`, `compress`, `cumprod`, `cumsum`, `inner`, `ndarray.fill`, `imag`, `prod`, `put`, `putmask`, `real`, `sum`

Basic Statistics

`cov`, `mean`, `std`, `var`

Basic Linear Algebra

`cross`, `dot`, `outer`, `linalg.svd`, `vdot`