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NumPy:

NumPy is a general-purpose array-processing package. It provides a high-performance multidimensional array object and tools for working with these arrays. It is the fundamental package for scientific computing with Python. It is open-source software.

Features of NumPy
NumPy has various features including these important ones:

- A powerful N-dimensional array object
- Sophisticated (broadcasting) functions
- Tools for integrating C/C++ and Fortran code
- Useful linear algebra, Fourier transform, and random number capabilities

Install Python NumPy
Numpy can be installed for Mac and Linux users via the following pip command:

pip install numpy

Arrays in NumPy
It is a table of elements (usually numbers), all of the same type, indexed by a tuple of positive integers.
In NumPy, dimensions are called axes. The number of axes is rank.

Example:

```
import numpy as np

# Creating array object
arr = np.array( [[ 1, 2, 3],
                 [ 4, 2, 5]] )

# Printing type of arr object
print("Array is of type: ", type(arr))

# Printing array dimensions (axes)
print("No. of dimensions: ", arr.ndim)

# Printing shape of array
print("Shape of array: ", arr.shape)

# Printing size (total number of elements) of array
print("Size of array: ", arr.size)

# Printing type of elements in array
print("Array stores elements of type: ", arr.dtype)
```

Output:

```
Array is of type:  <class 'numpy.ndarray'>
```

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No. of dimensions: 2
Shape of array: (2, 3)
Size of array: 6
Array stores elements of type: int64

Pros of using NumPy:

- NumPy provides efficient and scalable data storage and better data management for mathematical calculations
- The NumPy array contains a variety of functions, methods, and variables that make computing matrices simpler.

Cons of using NumPy:

- "Nan" is an acronym for "not a number" intended to deal with the issue of missing values. Although NumPy supports "nan" Python's lack of cross-platform compatibility makes it challenging for users. As a result, we may run into issues while comparing values within the Python interpreter.

- When data is stored in contiguous memory addresses, insertion and deletion process becomes expensive since shifting.