**NumPy**

NumPy’s main object is the homogeneous multidimensional array. 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.

* 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

**Pandas**

pandas is an open source, BSD-licensed library providing high-performance, easy-to-use data structures and data analysis tools for the Python programming language.

* Library built on top of Python
* Open Source
* BSD-licensed library providing
* high-performance
* Data analysis tools for the Python programming language
* Excel inside Python

Before Panda Existing

Munging & Preparation

R

Back to Python

After that Pandas come with high-performance

Munging & Preparation

Pandas

Back to Python

Why Pandas more faster than List in python ?

* Series, Data Frame and Panel Data type
* I/O tools, between in memory <-> csv, excel, SQL
* Handling missing data
* Reshaping data
* slicing, fancy indexing, and subsetting
* size mutability
* High performance merging and joining
* optimized for performance
* Hierarchical axis indexing
* Time series