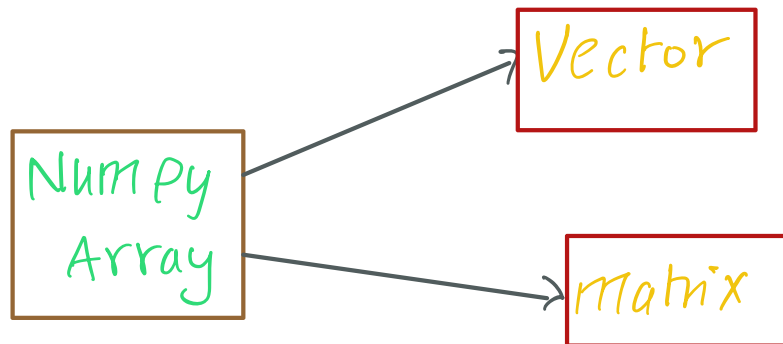


Numpy :- Linear algebra library. Most of Pydata eco system depend's on numpy.

numpy ↑ fast.



Vector is 1D  
Array

Matrix is  
2D Array.  
(it can have 1 row  
 & 1 column)

They both can be called as  
Arrays

[List] → [Array]  
numpy

numpy will help in conversion of list → Array

Example  
of  
vector

array [1, 2, 3, 4]

↳ for vector we just  
have 1 square bracket

Example  
of  
Matrix

array  $\begin{bmatrix} [1, 2, 3] \\ [1, 2, 3] \\ [2, 1, 3] \end{bmatrix}$   
for matrix we have 2  
Square bracket's

arrange function ( )

arrange ( start, stop, step )  
index start from 0      upto value      jumping from 1 value to other

Zeros function ( )

1D Array  $\rightarrow \{ \text{zeros ( } \uparrow \text{ )}$  mention the number of zero's you want to print

$\text{zeros (a, b)}$   
↓      ↪ columns  
rows      }  $\leftarrow$  2D Array

One's function ( ) :- This is similar to zero but this

1D Array  $\{ \text{ones ( } \uparrow \text{ )}$  mention the number of ones      print's one only

`ones(a, b)` } 2D array of ones  
↓    ↪ Column  
row's

`eye function()`:-

This gives us identity matrix

`eye(3)` = `array([[1 0 0], [0 1 0], [0 0 1]])` } we get ones diagonally

`rand()`:-

for random number's of Array we use this.

→ This is standard Normal (or) Gaussian distribution.

→ The range is unbounded.

`randn()`:-

for random number's b/w

0 - 1.

→ This is uniform distribution

→ The range is b/w 0 - 1

`rand int()`

This return the random integer  
from **Low** to high value.

`rand int ( )`

↑ we specify the max  
value until which this  
can print.

Eg if we specify 10.

It can print any thing upto 10.

`rand int (a, b)`

↓ ↗ Highest Value  
Lowest  
value

for some specific range:-

`rand int ( start, stop, Required )`  
↑

**D type:-**

We use  
this to know  
the type  
of array

Here you specify the  
number of integer that  
you want to print

— Pillamgolla  
Akhil