NUMPY (ZIBRARY)

What is Numpy? LyNumby is a Python library used for working with LIT also has functione for working in domain of linear algebra, fourier bounform, and matrices. IsnumPy was created in 2005 by Travis Oliphand. It is on open source project and you can use it 1> Numpy stands for Numerical Python. why we use Numpy? bIn Python we have lists that seeme the purpose of averages of but strey are slow to process. I Numpy aims to provide an away object that is up to 50% faster their braditional Python lists. 15 The array object in Numpy is called indorray. it provides a lot of supporting functions that make working with mdassay very easy. 1) Arongs are very frequently used in data science, where speed and viesources are very impertant why is Niron Py faster than list? Drumpy arrays are stoned at one continuous place in memory unlika lists, so processes con acress and manipulate them very efficiently.

in computer science.

In this is the min reason why Nampy is faster than lists. Also it is optimized to work with latest (PC) architectures.

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O-D arrays, or scalars, are the elements in m array. Each value in on array is a O-Darray. import numpy as mp Strang Dimensional Army being (asse)
asse = sib. assent (A5) An array that has O-D arrays as uts elements is 1-D Arrays An array that we I-Darray. These are called uni-dimensional or I-Darrays. the most common and basic arrays. impost numpy as mp

([[1,2,3,4,5]]) Low of (ass) An array that has I-D arrays as its elements is called a2-D array. These are often used to represent matrix or 2 nd order leasons Numpy has a whole sub-module declicated dowards material operations called numpy mot print (arm) (EE 1,2,3], [4,5,6]) An armay that has 2-D arrays (matrices) as its elements ies called 3-Darray. These are often used de represent a 300 order tensor. ass= np. assay([[[[1,2,3],[4,5,6]],[[1,2,3],[4,5,6]]] Output [[[123] C456]] [C/2 3] [486]]

Num by Arrays provides the ndin alto, but that returns an integer that tells is how many dimensions the array here.

Higher Dimensional Arrays

An array com have any number of vinnensions.

When the array is created, you can define

when number of dimensions by using the

namin argument.