

Introduction to NumPy and Pandas



Introduction to NumPy

NumPy

- Numerical Python.
- It is a python library.
- Has functions for working with array and perform mathematical and logical operators on array.

Array

Array is collection of same type of data

Types of Array

One dimensional array- Printed as a row

Two dimensional array- Printed as matrix

Multidimensional array- Printed as a list of matrix

Indexing Array

One Dimensional Array

- The first value is 0
- Use square bracket to call your data

Two Dimensional Array

- Retrieve an element using 2 indices

Functions of NumPy

Manipulation Functions

- Slicing
- ndim
- Shape of array
- Reshape
- Concatenate
- Length of array

Arithmetic Functions

- Addition
- Subtraction
- Multiplication
- Division
- Power
- Mod

Statistical Functions

- Mean
- Median
- Mode
- Standard deviation
- variance



Introduction to Pandas

Pandas

- ❑ Pandas is a python library used to analyse data which allows us to operate with large dataset.
- ❑ It provides us with functions for cleaning, exploration and manipulation and data analysis tasks.
- ❑ Pandas is built on the top of NumPy.
- ❑ Works better for large dataset
- ❑ Provide powerful tools like Series and Dataframe



Pandas Series

Series

- ❖ Series is one dimensional array that is capable of storing various type of data.
- ❖ Can convert list, tuple, dictionary into series.
- ❖ Series cannot contain multiple columns
- ❖ Index- Row labels of series

Thank you