Data analysis and

9 Numpy, Pandas and Seaborn modplatlib

### **Python Lists vs Numpy Arrays**

Creating Numpy arrays, Comparison with Python lists. Arithmetic ranges. Perform indexing, slicing and masking.

#### Shallow vs Deep Copy, **Splitting & Stacking**

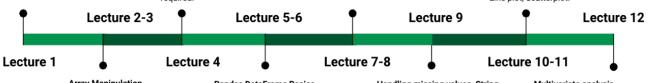
Learn the difference between shallow and deep copy, how to split arrays or stack them as required.

#### Grouping, Melting, Pivoting, Binning Data

Group the data, perform aggregations. Change the layout of the data by melting or pivoting operations. Bin numerical data into categorical groups/buckets.

#### Intro to Matplotlib & Seaborn, Uni/Bi - variate analysis

plt.plot(), Anatomy of Matplotlib, Uni/Bi variate plots. Bar plot, Countplot, Boxplot, Histogram, Line plot, Scatterplot.



#### Array Manipulation, 2D Numpy Arrays

2D Numpy arrays, Array manipulation, Transposing & Reversal. Perform statistical operations. Broadcasting.

#### **Pandas DataFrame Basics**

Create a DataFrame, obtain shape, data types, unique entries. Indexing, Masking, Sorting values. Handling duplicate rows. Concatenate & Merge two dataframes.

#### Handling missing values, String & Datetime type values.

None vs NaN, find and treat missing values - Data Imputation. Manipulate string and datetime data.

#### Multivariate analysis and Correlation

Create plots for multiple features - Jointplot, Pairplot. Colormaps, Correlation matrix & heatmap.

AV Part 2 Probability

DAV Part3 Hypathesis testing

Agenda

- D What and Why: Wumpy
- Dies and Stype
- 5 Type Conversions
- 9 Indexing and Slicing
- ONPS Use-Care

List Vs Array

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Ex: [], a, 3, ey ]

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str list

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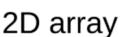
List 13 [0, 1, 2, 3]

3 by 1 3 by 1 5 by 1 5

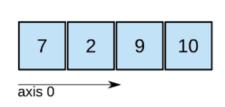
Dey 26 26 26 [1,2,3,4] B Contigous block De Same datatype of themosy \* Namba Gesda 5 C is used for implementing

D Manipulate 3 create and process Hesal

All the concepts of List Such as 2 bicind judokind out worker (20m1) en are same in enmpy de rest

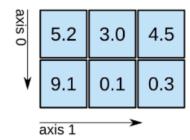


### 1D array

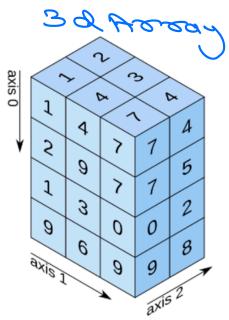


shape: (4,)

# 2D array



shape: (2, 3)

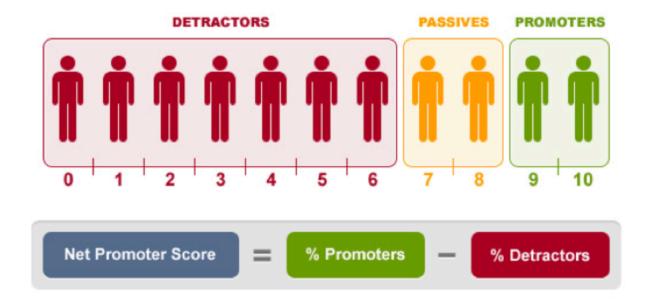


shape: (4, 3, 2)

549 Doesd : 31.



How likely is it that you would recommend [company X] to a friend or colleague? 0 1 2 3 4 5 6 7 8 9 10 Not at all likely Extremely likely



## 294 : state : NPS

Detractors: Respondents with a score of 0-6 Passive: Respondents with a score of 7-8 Promoters: Respondents with a score of 9-10.