

# Numpy & Pandas Masterclass < 23 April >

Python : programming

↳ Numpy<sup>✓</sup> , Pandas  
                    \        /  
                    libraries

: data analysis

↓  
to insights

↓  
to improve

Real world datasets

NPS : Net Promoter Score

How likely are you to recommend ?

from  
1 - 10 ] ✓

1-6 : detractors

7:8 : neutral

9-10 : promoters.

NPS : 
$$\frac{\# \text{ promoters} - \# \text{ detractors}}{\text{total folks who surveyed}}$$

IDE : Integrated development environment.

Software

→ jupyter

→ spyder

→ pycharm

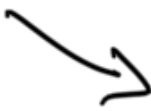
online platform

→ kaggle ✓

→ google colab ✓

• py

NUM PY



numerical

[ 1 2 3 4 5 ]

\*

3

it makes large  
scale computation  
much easier.

list of salaries

[ 20K, 30K, 40K, 50K... ]

[ 20K, 30K, 40K ] + 5000



Salary

$$\begin{bmatrix} 1 \\ 2 \\ 3 \\ \vdots \end{bmatrix} + \begin{matrix} \text{commission} \\ \begin{bmatrix} 4 \\ 5 \\ 6 \\ \vdots \end{bmatrix} \end{matrix} = \begin{bmatrix} \text{total} \\ \text{employee} \end{bmatrix}$$

↓      ↓

$$\rightarrow \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$$

→ [ 3 4 ]

indexing  
m1 → [ 20 , 22 , 23 , 26 , 28 ]  
          0       1       2       3       4

m1[2] → 23

NPS

100 →

perm - det

$$\frac{0 - 100}{\quad} = -1$$

Total: 92

100

1000 10

Bad  $\rightarrow -100 - 0$

74

1 - 50 : decent

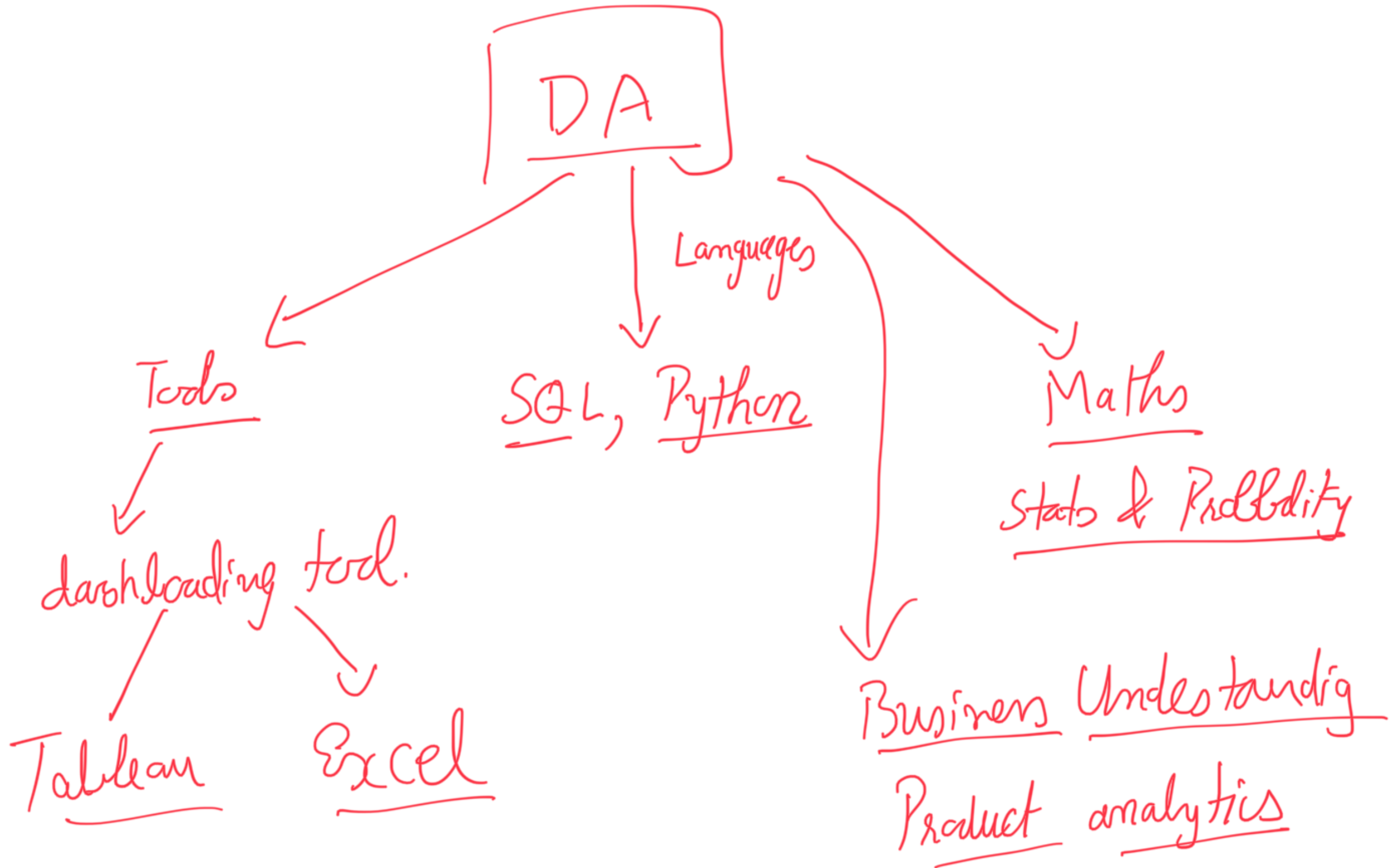
50 + NPS ✓

NPS : 97

PANDAS  
↓  
for heterogeneous  
data

NUMPY  
↓  
same data type

Python



$[ [1, 2], [3, 4] ]$

$\uparrow$   $\uparrow$

1-d