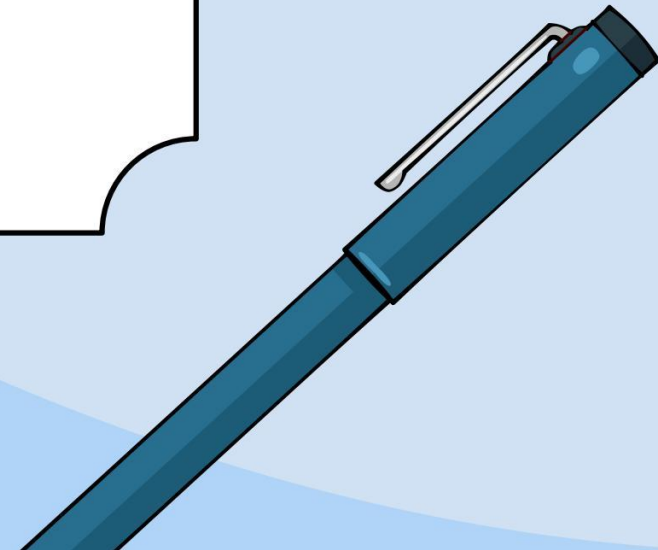




پایتون

(Pandas)

محمد دهقانی



What is Pandas?

- **Pandas is a Python library used for working with data sets.**
- **It has functions for analyzing, cleaning, exploring, and manipulating data.**
- **The name "Pandas" has a reference to both "Panel Data", and "Python Data Analysis" and was created by Wes McKinney in 2008.**

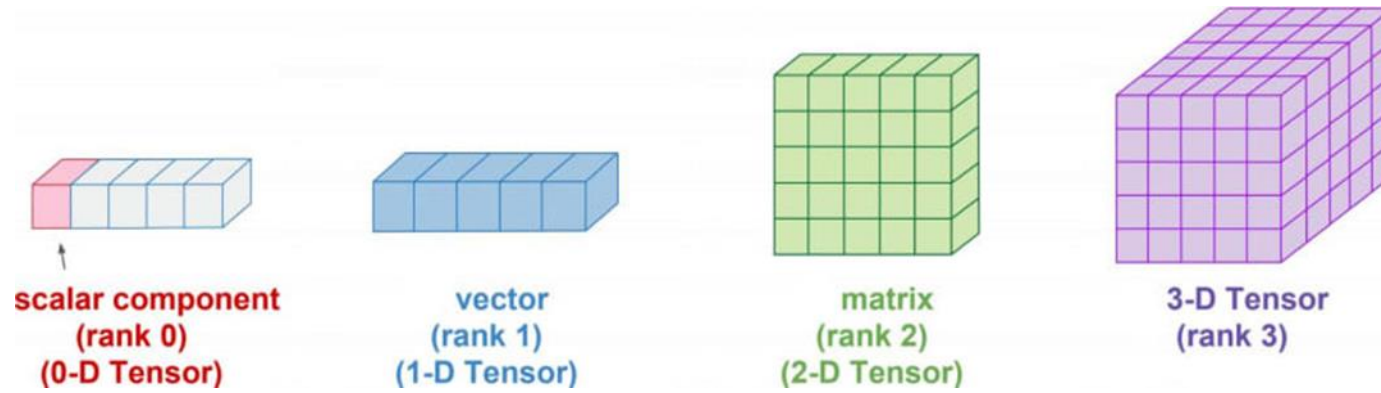
Pandas!

- **Calculate statistics and answer questions about the data, like**
 - **What's the average, median, max, or min of each column?**
 - **Does column A correlate with column B?**
 - **What does the distribution of data in column C look like?**

Pandas!

- **Visualize the data with help from Matplotlib. Plot bars, lines, histograms, bubbles, and more.**
- **Store the cleaned, transformed data back into a CSV, other file or database**

Pandas!



Pandas!

Scalar

1

Vector

$\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$ or $\begin{bmatrix} 1 & 2 & 3 \end{bmatrix}$

Matrix

$\begin{bmatrix} 1 & 2 \\ 3 & 4 \\ 5 & 6 \end{bmatrix}$

Tensor

$\begin{bmatrix} \begin{bmatrix} 1 & 2 \end{bmatrix} & \begin{bmatrix} 3 & 4 \end{bmatrix} \\ \begin{bmatrix} 5 & 6 \end{bmatrix} & \begin{bmatrix} 7 & 8 \end{bmatrix} \\ \begin{bmatrix} 9 & 0 \end{bmatrix} & \begin{bmatrix} 1 & 2 \end{bmatrix} \end{bmatrix}$

#DONTFORGETUS

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