1   ` A =   2   6    4

               3    6    9

2                    [2 6 4 3 6 9}

   mean= 2+6+4+3+6+9=30/6=5

mean=5

mode=6

  = 4+3

3 median=[2 6 4 3 6 9]

              A  = 2  6  4 B =      5  5  2

3 6 9 6  2  1

Addition =  A+B=    7  11  6

9   8  10

Subtraction =A-B=     3  1   2

3  4  8

A Transpose=     2   3

6   6

4   9

Scalar multiplication =  Matrix A X 2(Scalar)

2XA=   4  12  8

6  12 18

4      Engineering: Matrices are widely used in engineering applications, such as structural analysis, electrical circuit analysis, and control systems.

Economics: Input-output models in economics use matrices to represent the relationships between different sectors of an economy, allowing economists to study the effects of changes in one sector on the others.

Machine Learning: Matrices are fundamental to machine learning algorithms. Data sets are often represented as matrices, where each row corresponds to a data point, and each column represents a feature.

Genetics: In genetics, matrices are used to represent genetic data, including genotypic and phenotypic information. They are used in techniques like Principal Component Analysis (PCA) to analyze and understand genetic variations.

Weather Prediction: Numerical weather prediction models use matrices to represent atmospheric variables at various locations and time steps. Matrices are used to solve the system of differential equations that govern atmospheric behavior, allowing meteorologists to predict weather patterns.

5 image recognition: In image recognition and computer vision, matrices are employed to represent images as grids of pixels and perform operations like blurring, sharpening, edge detection, and compression.

dimensionality reduction:is the transformation of data from a high-dimensional space into a low-dimensional space so that the low-dimensional representation retains some meaningful properties of the original data, ideally close to its [intrinsic dimension](https://en.wikipedia.org/wiki/Intrinsic_dimension)