24-Aug-2025

Sequence → ?

   list, dict, Set, tuple

   list.append(ele)

$l1 = [1, 2, 3, 4]$

$k = 2$

Expected o/p

$l2 = [2, 4, 6, 8]$

X ll * K

For loop

Matrices or vectors

$$\begin{bmatrix} - & - & - & - \\ | & | & |, & | \end{bmatrix}_{m \times n} \qquad \begin{bmatrix} . & - & - & . \end{bmatrix}$$

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Efficient libraries $\Rightarrow$ linear algebra

$$[blas \ \& \ lapack^C]$$

$\downarrow$

numpy

numerical python

Scipy

Array $\longrightarrow$ Conitguous sequence of
homogeneous values

int, float, String, bool, Complex
Unsigned integer, timedelta
datetime, void, unicode string

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$$k = 23$$

$$arr = np.array(k)$$

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

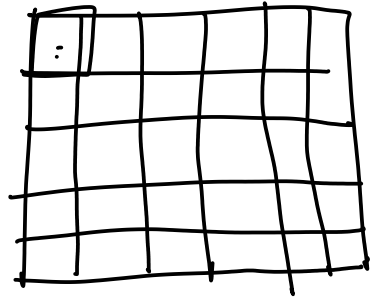$$k = [[1, 2, 3, 4]]$$

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

dimension 0

dimension 1

dimension 2

dimension 3

Pixel → Multi dimension

Any color
↓
rgb

matrix

123

ndarray

df

23	25	NaN	26
NaN	21	22	23
20	NaN	19	18

3 x 4

df.dropna() $\longrightarrow$ Whole df is cleared