25-05-2025

Agenda :-

Built in function

Numpy

Built in - function

add, sob, print, len, enumerate, range

(1) lambda function

one-line function ← what it is?

full function, it would be overkill ← when to use?

Syntax :-

lambda arguments : expression

2^2

3^2

N^2

```
def square (x):
    return x**2
```

↓ lambda function

```
lambda x : x**2
lambda x : x*x
```

$2^2 = 2 \times 2$

$3^2 = 3 \times 3$

(2)

Sort

map (function , iterable)

square = lambda x : x * x

add = lambda x, y : x + y

square (1)

square (2)

a = [1, 2, 3, 4]

```
result = [ ]
for i in a:
  r = square ( i )
  result.append ( r )
```

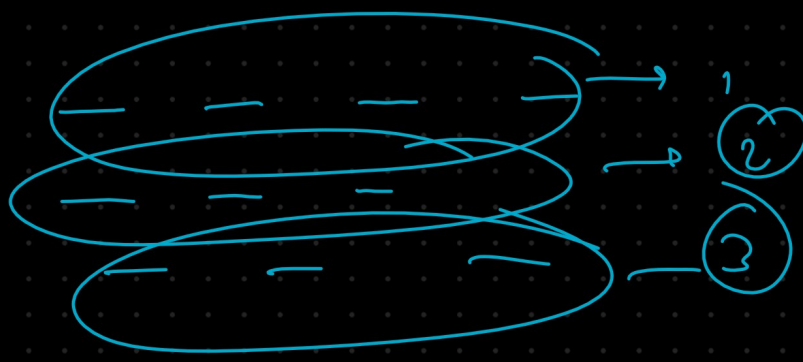
map (square , a)

map object → list → result

r
r2
r3

full name, Age, phno, remarks) , ... , ~

get all relevant details

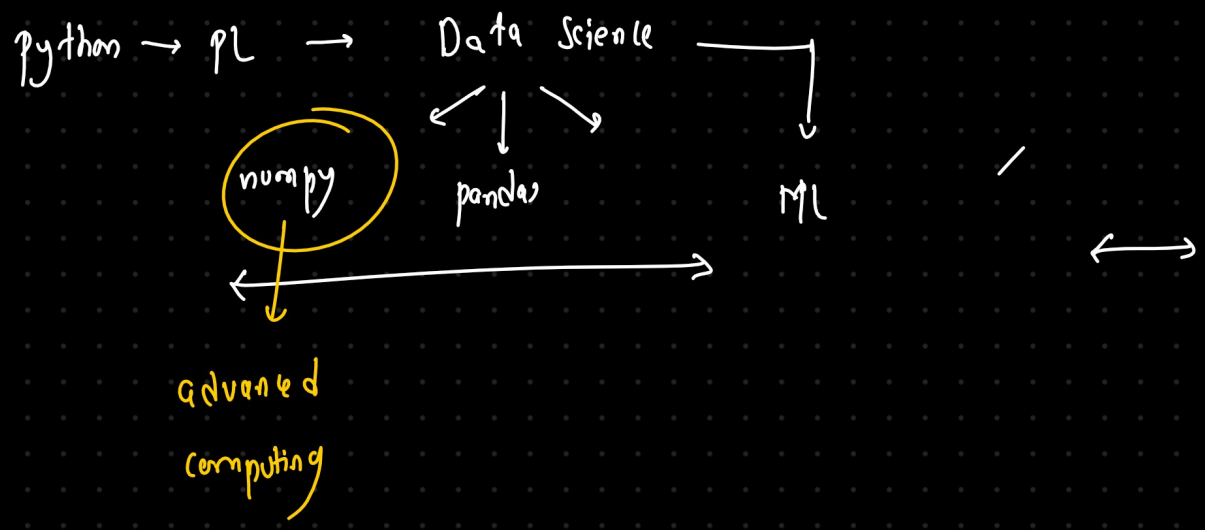


File A
File B
File C
→ zip

upload → 1 file → mail

zip → [A B C] → unpack → A B C

[1,2,3] → unpack → 1 2 3



numpy :—

- core of scientific python
- faster → optimized , C

ML

calculators → python

prefix

int float
long double

1
0.5

6x 2x

9x

pandas

scikit-learn

scipy

float 32
float 64

int 16
int 32
int 64

python

linear Algebra ←

memory efficient

vectorized ← topic, technique

array → datatype → C, C++, Java

list = [1, 2, "Hello", {1: 2}]

array = [1, 2, 3, 4] } values of same data type

array-2 = ["Hello", "Yes"]

array → numpy → ndarray → same data

[1, 1, 1] → 1D list

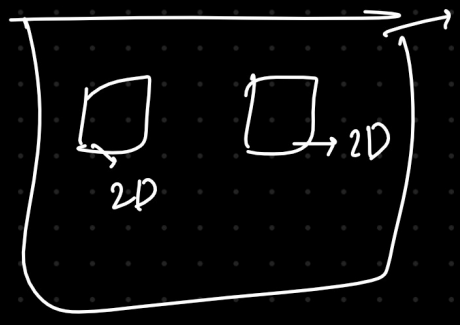
[[1, 2], [1, 2]] → 2D

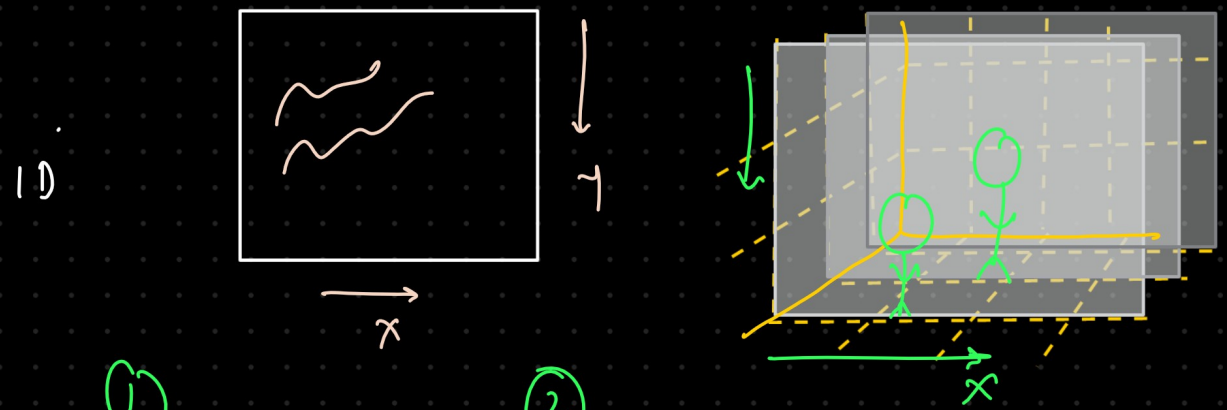
arr → Float → model
DL → 2
int

[[[1, 2], [1, 2]], [[1, 2]]]

3D 3D 3D

1D 2D 2D





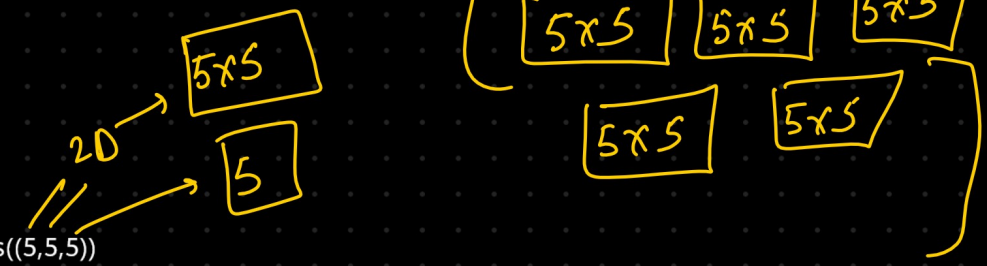
① ②

[1,2,3] [[1,2,3] , [1,2,3]]

1D 2D

2D → 1D 2D 3D → array

[[[1,2,3] , [1,2,3]] , [[1,2,3] , [1,2,3]]]




```
npz_3 = np.zeros((5,5,5))
print(npz_3)
```