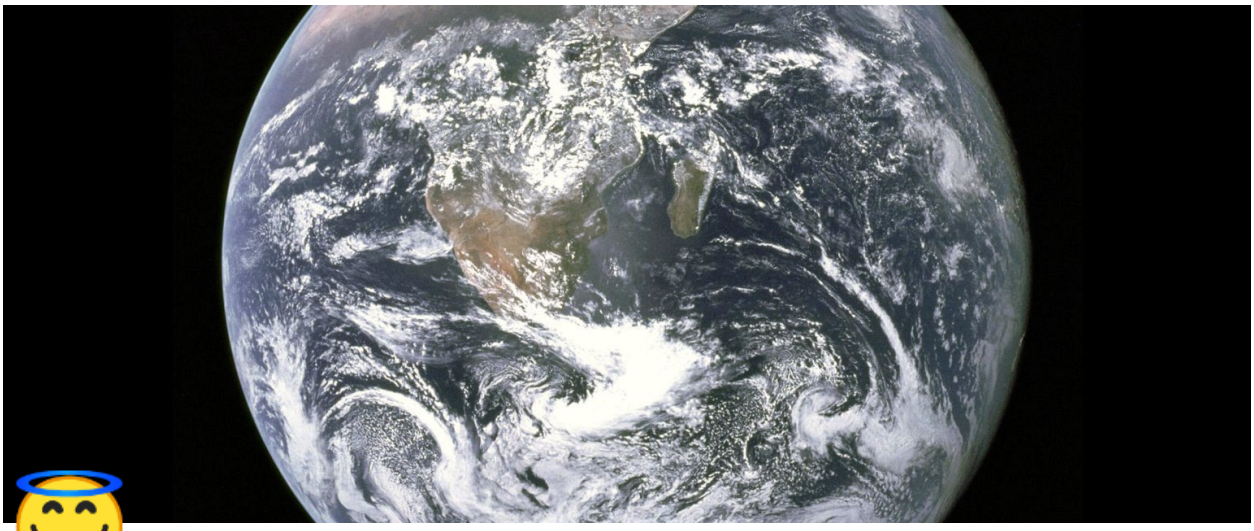

Numpy Python

Numpy arrays

- creating
  - np.array([1,2,3,4,5)
- accessing
  - like normal list
  - std slicing works the same
- multi indexing
  - takes multi indexing
- kw arg for
  - dtype=np.int64 etc...
- check actual type :
  - {array}.dtype

matrices :

- shape of the matrix :
  - row x col
  - {array}.shape
- get size of all unique elements in matrix
  - {array}.size
- reasign complete row
  - {np array}[index] = {another np array}
  - if you have a 3x3 matrix and do
    - matrix[0] = 12 all 3 elements of row are changed to 12
- create array from range
  - np.arange(4) ⇒ create np array with 0,1,2,3,4 inside

Summary statistics

- function that can be applied to nparray
- sum : sum of all elements
- std : standard deviation
- mean : moyenne
- you can give axis

broadcasting

- action on every element of array
- {np array} * 2 ⇒ multiplies every element of array by 2 and returns a new array

boolean arrays

- boolean array are array containing true or false

- used to select data like slicing but provide a boolean array every true value will be returned as a 1dimension numpy array

Linear algebra

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IMPORTANT

- numpy array are immutable
- action will return a new array most of the time