

Numpy, Dictionaries, Git

2018-10-12

Numpy Arrays

Numpy Arrays Initialisation

- From a list with elements that all have the same data type

A_list = [1, 2, 3]

A_array = numpy.array(A_list)

- Initialise with identical values for all elements:

numpy.ones(3) => [1 1 1]

numpy.zeros(5) => [0 0 0 0 0]

numpy.zeros((2, 3)) => [[0 0 0] [0 0 0]]

- Initialise with a range of values:

numpy.arange(0, 5) => [0 1 2 3 4]

numpy.linspace(0, 1, 6) => [0.0 0.2 0.4 0.6 0.8 1.0]

Numpy Array Operators And Methods

- Array operators:

A + B => [3 4 5]

A * B => [2 4 6]

A ** B => [1 4 9]

sqrt(A) => [1. 1.41421356 1.73205081]

- Array methods:

C = numpy.array([0, 1, 2])

C.min() => 0

C.max() => 2

C.argmax() => 0

C.argmax() => 2

C.sum() => 3

C.mean() => 1.0

C.std() => 0.81649658092772603

Dictionary

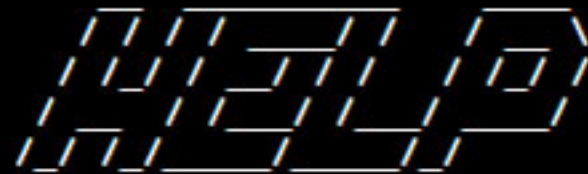
Dictionaries

- Mutable container of unsorted items:
{“key1” : value1, “key2”: value2}
- Item assignment:
proton_number = {}
proton_number[“C”] = 6
proton_number[“N”] = 7
proton_number[“O”] = 8
proton_number[“S”] = 16
- Look up items:
proton_number[“C”] => 6
- Get a list of all keys:
proton_number.keys() => [“C”, “N”, “O”, “S”]

Git

Checkout file
.gitignore
Git init

BASH BASICS:

A stylized, digital-style representation of the word "HELP" in a light blue or cyan color, set against a solid black rectangular background. The letters are composed of horizontal and vertical lines, giving it a pixelated or circuit-like appearance.

- **cd**: Change current working directory
- **ls**: List files in current working directory
- **pwd**: Print current working directory to command line
- **git**: Operate git for repository of current working directory

GIT BASICS:

Remote repository



Github server



Pull



Push



Local repository



Local computer



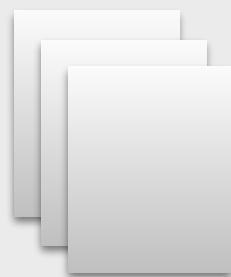
Checkout
(...)



Commit
(...)



Files



GIT BASICS:

Cloning an existing project
\$ git clone [URL]

Creating a new project
\$ git init

Editing your files

Adding new files to repo
\$ git add [filename]

Commit all new files
\$ git commit -a -m "Useful message"

Accept merge message in vim
by typing **:wq** and **RETURN**

Updating the local repo ("pulling")
\$ git pull

Updating the remote repo ("pushing")
\$ git push

