Python For Data Science Cheat Sheet

Python Basics

Learn More Python for Data Science Interactively at www.datacamp.com



Variables and Data Types

Variable Assignment

>>>	x=5
>>>	Х
5	

Calculations With Variables

>>> x+2	Sum of two variables
7 >>> x-2	Subtraction of two variables
3 >>> x*2	Multiplication of two variables
10 >>> x**2	Exponentiation of a variable
25 >>> x%2	Remainder of a variable
1 >>> x/float(2)	Division of a variable
2.5	

Types and Type Conversion

str()	'5', '3.45', 'True'	Variables to strings
int()	5, 3, 1	Variables to integers
float()	5.0, 1.0	Variables to floats
bool()	True, True, True	Variables to booleans

Asking For Help

>>> help(str)

Strings

```
>>> my string = 'thisStringIsAwesome'
>>> my string
'thisStringIsAwesome'
```

String Operations

```
>>> my string * 2
 'thisStringIsAwesomethisStringIsAwesome'
>>> my string + 'Innit'
 'thisStringIsAwesomeInnit'
>>> 'm' in my string
```

Lists

```
>>> a = 'is'
>>> b = 'nice'
>>> my list = ['my', 'list', a, b]
>>>  my list2 = [[4,5,6,7], [3,4,5,6]]
```

Selecting List Elements

Index starts at o

Also see NumPy Arrays

Subset

```
>>> my list[1]
>>> my list[-3]
Slice
```

>>> my list[1:3] >>> my list[1:] >>> my list[:3] >>> my list[:]

Subset Lists of Lists >>> my list2[1][0]

>>> my list2[1][:2]

Select item at index 1 Select 3rd last item

Select items at index 1 and 2 Select items after index o Select items before index 3 Copy my list

my list[list][itemOfList]

List Operations

```
>>> my list + my list
['my', 'list', 'is', 'nice', 'my', 'list', 'is', 'nice']
>>> my list * 2
['my', 'list', 'is', 'nice', 'my', 'list', 'is', 'nice']
>>> my list2 > 4
```

List Methods

>>>	<pre>my_list.index(a)</pre>	Get the index of an item
>>>	<pre>my_list.count(a)</pre>	Count an item
>>>	<pre>my_list.append('!')</pre>	Append an item at a time
>>>	<pre>my_list.remove('!')</pre>	Remove an item
>>>	del(my_list[0:1])	Remove an item
>>>	<pre>my_list.reverse()</pre>	Reverse the list
>>>	<pre>my_list.extend('!')</pre>	Append an item
>>>	$my_list.pop(-1)$	Remove an item
>>>	<pre>my_list.insert(0,'!')</pre>	Insert an item
>>>	<pre>my_list.sort()</pre>	Sort the list

String Operations

Index starts at o

```
>>> my string[3]
>>> my string[4:9]
```

String Methods

>>> my string.upper()	String to uppercase
>>> my string.lower()	String to lowercase
>>> my_string.count('w')	Count String elements
>>> my_string.replace('e', 'i')	Replace String elements
>>> my string.strip()	Strip whitespaces

Libraries

Import libraries

>>> import numpy

>>> import numpy as np Selective import >>> from math import pi



pandas 🖟 📉

Data analysis

Scientific computing

Machine learning

***** matplotlib 2D plotting

Install Python



Leading open data science platform powered by Python



Free IDE that is included with Anaconda



Create and share documents with live code. visualizations, text. ...

Numpy Arrays

Also see Lists

```
>>>  my list = [1, 2, 3, 4]
>>> my array = np.array(my list)
>>> my 2darray = np.array([[1,2,3],[4,5,6]])
```

Selecting Numpy Array Elements

Index starts at o

```
Subset
                                Select item at index 1
>>> my array[1]
```

Slice

```
>>> my array[0:2]
  array([1, 2])
Subset 2D Numpy arrays
>>> my 2darray[:,0]
  array([1, 4])
```

Select items at index 0 and 1

my 2darray[rows, columns]

Numpy Array Operations

```
>>> my array > 3
 array([False, False, False, True], dtype=bool)
>>> my array * 2
  array([2, 4, 6, 8])
>>> my array + np.array([5, 6, 7, 8])
 array([6, 8, 10, 12])
```

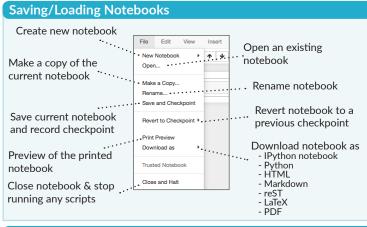
Numpy Array Functions

```
>>> my array.shape
                                      Get the dimensions of the array
>>> np.append(other array)
                                      Append items to an array
>>> np.insert(my array, 1, 5)
                                      Insert items in an array
>>> np.delete(my array,[1])
                                      Delete items in an array
>>> np.mean(my array)
                                      Mean of the array
                                      Median of the array
>>> np.median(my array)
>>> my array.corrcoef()
                                      Correlation coefficient
>>> np.std(my array)
                                      Standard deviation
```

Python For Data Science Cheat Sheet Jupyter Notebook

Learn More Python for Data Science Interactively at www.DataCamp.com







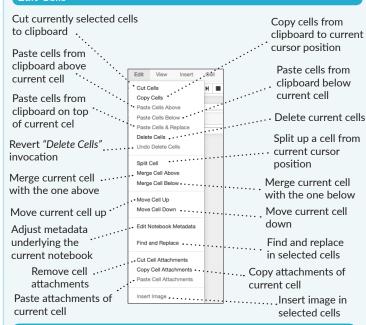
Code and text are encapsulated by 3 basic cell types: markdown cells, code cells, and raw NBConvert cells.

Edit Cells

Insert Cells

current one

Add new cell above the

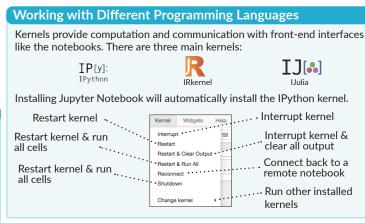


Cell

Insert Cell Relow

Add new cell below the

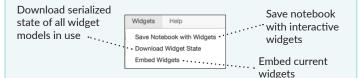
current one



Widgets

Notebook widgets provide the ability to visualize and control changes in your data, often as a control like a slider, textbox, etc.

You can use them to build interactive GUIs for your notebooks or to synchronize stateful and stateless information between Python and JavaScript.

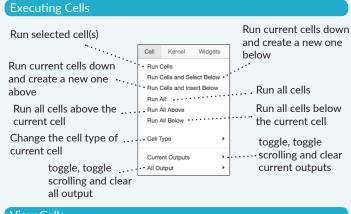


Command Mode:

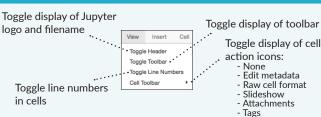




In []: |



View Cells



- 1. Save and checkpoint
- 2. Insert cell below
- 3. Cut cell
- 4. Copy cell(s)
- 5. Paste cell(s) below
- 6. Move cell up

Asking For Help

- 7. Move cell down
- 8. Run current cell

- 9. Interrupt kernel
- 10. Restart kernel11. Display characteristics
- **12**. Open command palette
- 13. Current kernel
- 14. Kernel status
- 15. Log out from notebook server

