

BIST Python Bootcamp

Why Python?

14.09.2017



Other ways of Data Analysis - Excel

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Other ways of Data Analysis - Excel

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Other ways of Data Analysis - Excel

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	A	B	C
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Python – Arrays (Block 4)

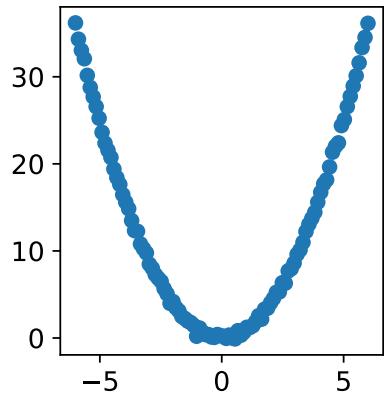
In [4]: `np.random.randint(0, 100, (3, 6, 5))`

Out[4]:

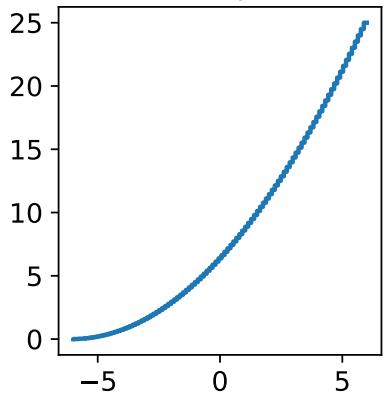
```
array([[[17, 31, 15, 89, 63],  
       [40, 77, 88, 96, 88],  
       [66, 93, 30, 39, 40],  
       [52, 76, 28, 33, 31],  
       [94, 46, 61, 62, 70],  
       [88, 60, 97, 36, 28]],  
  
      [[11, 82, 96, 38, 43],  
       [27, 86, 70, 93, 31],  
       [90, 78, 48, 72, 94],  
       [57, 66, 27, 88, 44],  
       [67, 54, 47, 90, 88],  
       [18, 52, 24, 83, 50]],  
  
      [[98, 25, 51, 97, 34],  
       [41, 20, 20, 46, 38],  
       [29, 58, 95, 51, 83],  
       [90, 63, 4, 72, 60],  
       [57, 74, 24, 3, 84],  
       [82, 58, 4, 18, 69]]])
```

Python – Plotting (Block 5)

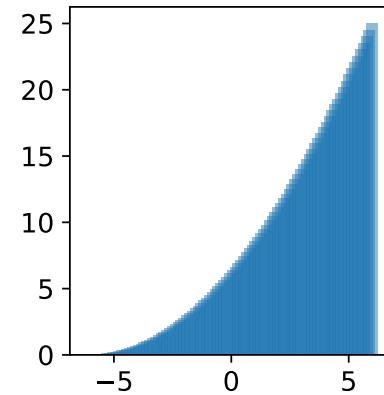
Scatter



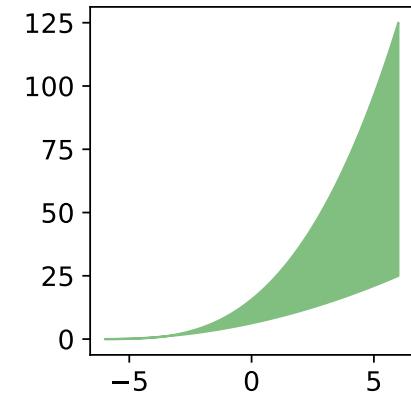
Step



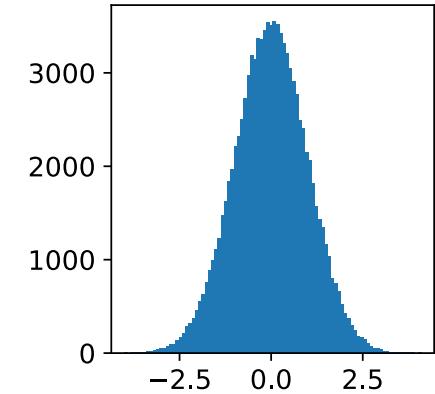
Bar



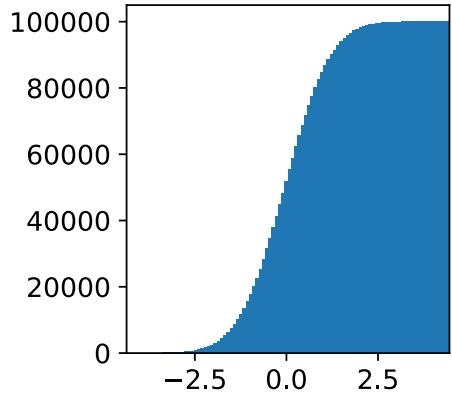
Fill between



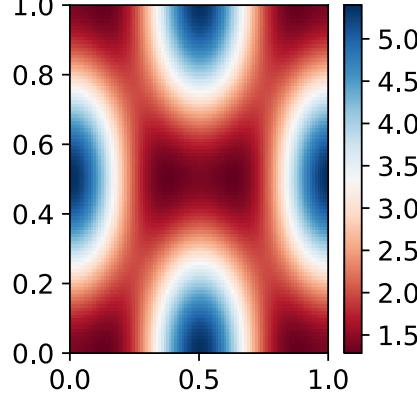
Histogram



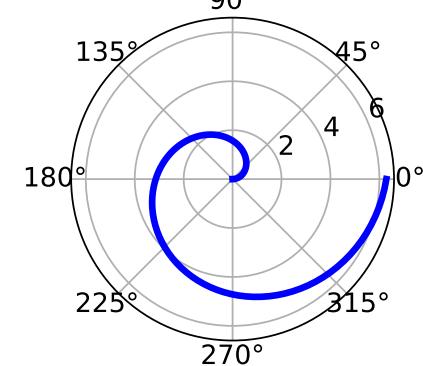
Cumulative histogram



Color map



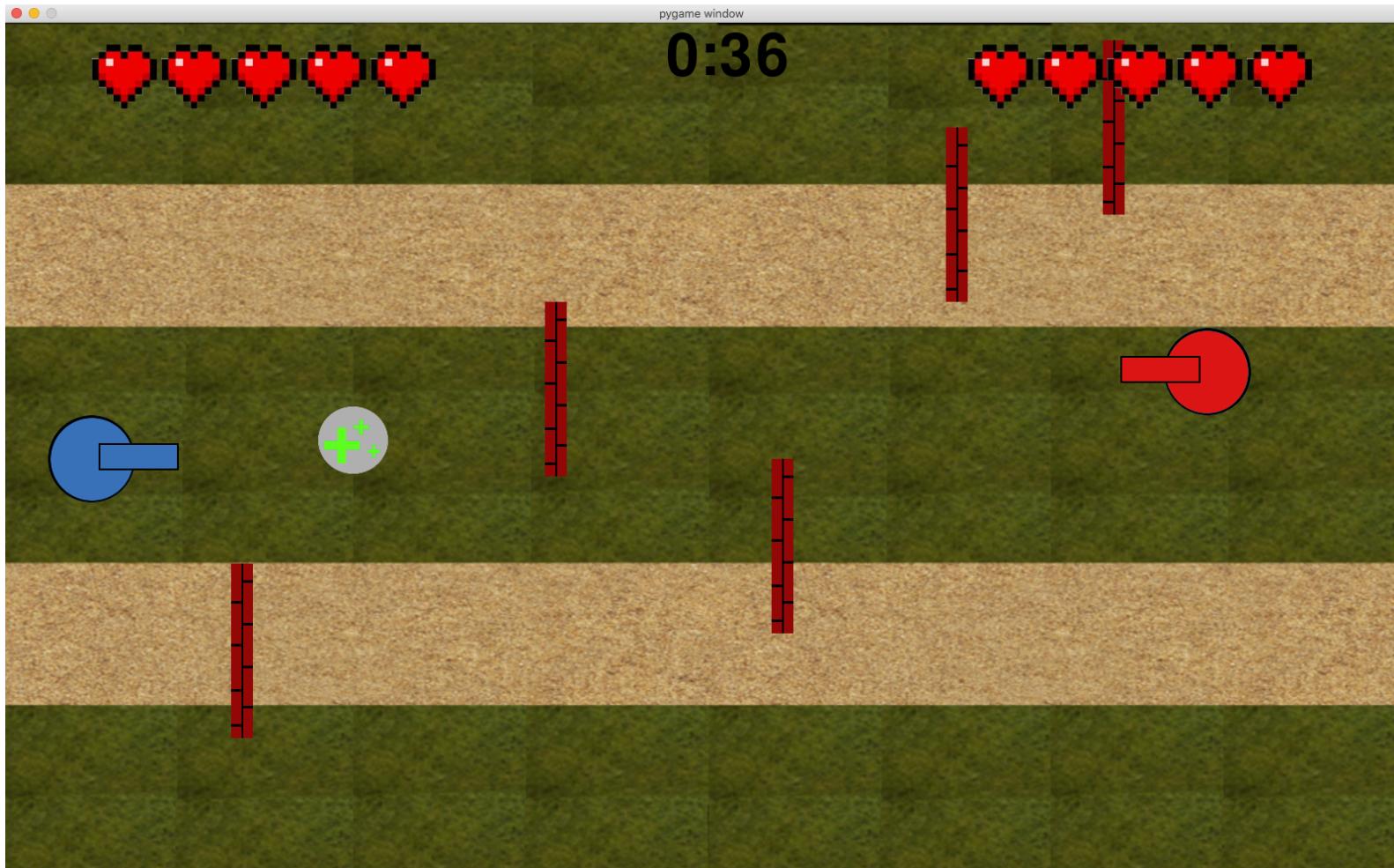
Polar coordinates



Alternatives to Python

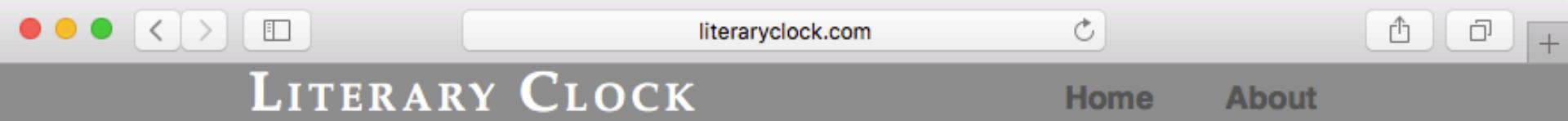


Other uses for Python - Games



www.raywenderlich.com/24252/beginning-game-programming-for-teens-with-python

Other uses for Python - Website



pythonhow.com/building-a-website-with-python-flask/

Other uses for Python - Twitter



Literary Clock

@literaryclock

Tweets
221

Following
39

Followers
28

Likes
3

Moments
0



Literary Clock @literaryclock · Aug 16

if we all step smartly and follow Lor— Com— Sir Samuel we ought to be back here for lunch no later than half past one

Jingo

Terry Pratchett



Literary Clock @literaryclock · Aug 16

Half-past one, The street lamp sputtered, The street lamp muttered,
Rhapsody on a Windy Night

T. S. Eliot



[emerging.commons.gc.cuny.edu/2013/10/
making-twitter-bot-python-tutorial/](http://emerging.commons.gc.cuny.edu/2013/10/making-twitter-bot-python-tutorial/)

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Anaconda

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 **jupyter notebook** 4.2.3 Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis. [Launch](#)

 **qtconsole** 4.2.1 PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more. [Launch](#)

 **spyder** 3.0.0 Scientific Python Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features. [Launch](#)

 **glueviz** 0.10.4 Multidimensional data visualization across files. Explore relationships within and among related datasets. [Install](#)

 **orange3** 3.4.1 [Install](#)

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Anaconda



jupyter
notebook

4.2.3

Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis.

[Launch](#)



qtconsole

4.2.1

PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more.

[Launch](#)



spyder

3.0.0

Scientific PYthon Development EnviRonment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features

[Launch](#)



glueviz

0.10.4

Multidimensional data visualization across files. Explore relationships within and among related datasets.

[Install](#)



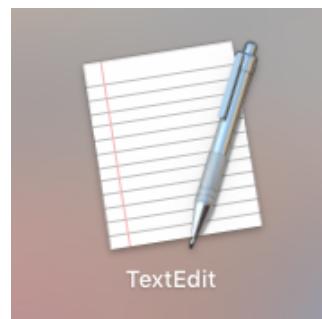
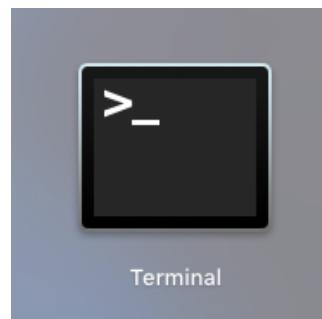
orange3

3.4.1

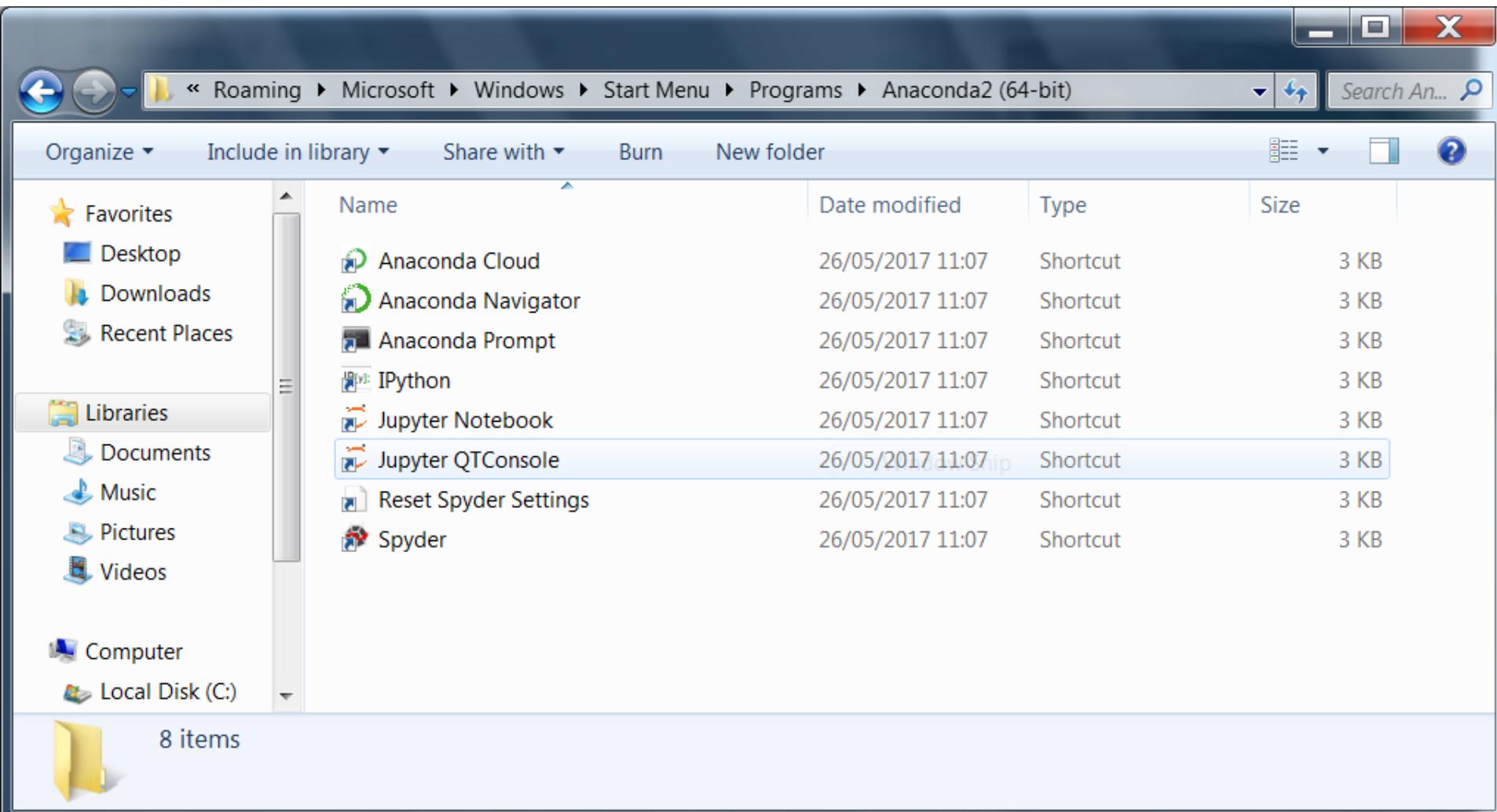
[Install](#)

Anaconda – Mac OS X

 notebook 4.2.3	 qtconsole 4.2.1	 spyder 3.0.0	 glueviz 0.10.4	 orange3 3.4.1
Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis. Launch	PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more. Launch	Scientific PYthon Development EnviRonment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features Launch	Multidimensional data visualization across files. Explore relationships within and among related datasets. Install	



Anaconda – Windows



Getting the course data - Github

Git

Git is a version control software that lets you keep track of the history of your code, data, and documents. To download the course materials run `$ git clone https://github.com/philipp-germann/BIST-Python-Bootcamp.git`.

<https://github.com/germannp/BIST-Python-Bootcamp>

Scientific python course material for two days. <http://bist.eu/master/>

The screenshot shows a GitHub repository page. At the top, there are four blue buttons: 'python', 'data-science', 'scientific-computing', and 'course-material'. Below these are four summary statistics: 70 commits, 1 branch, 0 releases, and 3 contributors. A navigation bar includes 'Branch: master' with a dropdown arrow, 'New pull request', 'Find file', and a green 'Clone or download' button. The main area displays a list of recent commits:

Commit	Description	Date
	apozas committed on GitHub Minor typo corrections	Latest commit d60b592 4 days ago
	stocks Added interactive plotting and stocks datasets	19 days ago
	0_Preliminary_Requirements.md Corrections for 0_Prelim	2 months ago
	1_Git_Anaconda_Jupyter_Spyder.ipynb Add git log and git checkout	15 days ago
	1_Why_Python.pdf 1_Why_Python - presentation added	4 days ago