

Women in Data 2019
Introduction to Python

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What to expect?



Who am I / are we?



Why Python?



What's possible with Python?



Python code examples



How to learn Python?

About me and Mango



About me



Mathematics (MMath) Cardiff University



Created by Fauzan Adilma
from Noun Project

6 + years Python

4+ years R

Intern at Mango (2016)

2+ years Data Scientist at Mango

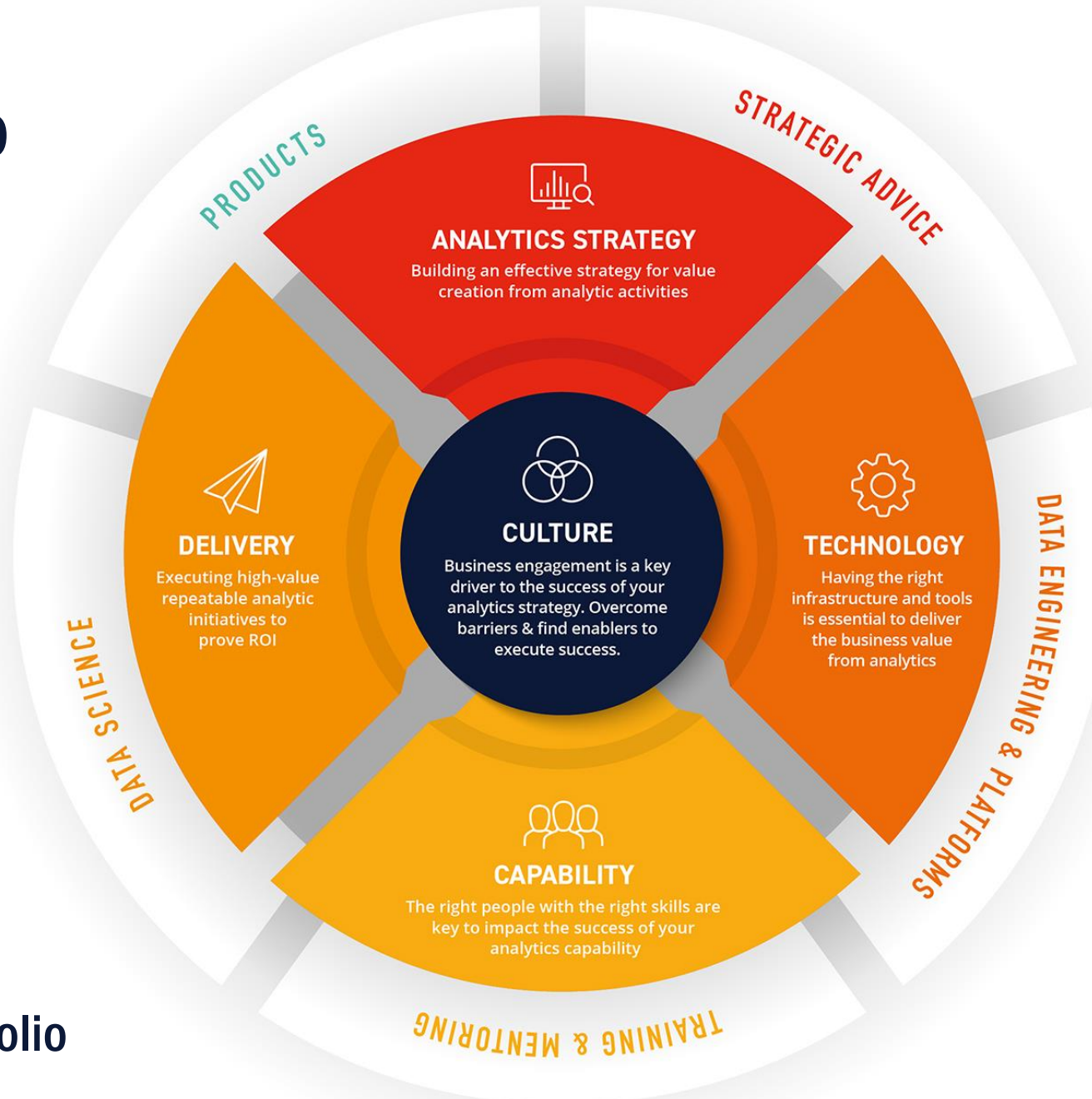


Mango is a **trusted partner** to enterprises that seek to become truly **data-driven** by embedding **data science** into **decision making** – we help them **thrive**

About Mango



Mango's products and services are aligned to data-driven transformation



INNER WHEEL :

Data-driven pillars

OUTER WHEEL :

Supported by Mango's product and services portfolio



Why Python?



Why Python?

Python Principles

The Zen of Python

Beautiful is better than ugly.

Explicit is better than implicit.

Simple is better than complex.

Complex is better than complicated.

Flat is better than nested.

Sparse is better than dense.

Readability counts.

Special cases aren't special enough to break the rules.

Although practicality beats purity.

Errors should never pass silently.

Unless explicitly silenced.

In the face of ambiguity, refuse the temptation to guess.

There should be one-- and preferably only one --obvious way to do it.

Although that way may not be obvious at first unless you're Dutch.

Now is better than never.

Although never is often better than **right** now.

If the implementation is hard to explain, it's a bad idea.

If the implementation is easy to explain, it may be a good idea.

Namespaces are one honking great idea -- let's do more of those!



ANACONDA®

Why Python?

Easy to Install



ANACONDA DISTRIBUTION

Most Trusted Distribution for Data Science

ANACONDA NAVIGATOR

Desktop Portal to Data Science

ANACONDA PROJECT

Portable Data Science Encapsulation

DATA SCIENCE LIBRARIES

Data Science IDEs



Analytics & Scientific Computing



Visualization



Machine Learning



...and many more!



Data Science Package & Environment Manager



Why Python?

**Connects with Other
Languages**



Why Python?

Documentation & Community

EVENTS ▾

RESOURCES ▾


PyData

ABOUT

SPONSOR PYDATA

About PyData

An educational program of NumFOCUS, a 501(c)(3) nonprofit charity



PyData Mission

PyData is a community of data analysis tools to share mission of best practices, new techniques, and visualization. PyData is limited to Python, Julia, and R.

meetup

Start a new group

English ▾

Log in

Sign up

Explore Meetup

Find events hosted by local groups where you can meet new people, try something new, or just do more of what you love

Get started

Python within 50 miles of London, G

London Python

6,216 Pythonistas

London Python Spring

1,767 Pythonistas

London Python Amateurs

842 Members

Oxford Python

917 Pythonistas

stackoverflow

Products

Customers

Use cases

[python]

Home

PUBLIC

Stack Overflow

Tags

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TEAMS

What's this?

First 25 Users Free

Questions tagged [python]

Ask Question

Python is a multi-paradigm, dynamically typed, multipurpose programming language, designed to be quick (to learn, to use, and to understand), and to enforce a clean and uniform syntax. Two similar but incompatible versions of Python are commonly in use, Python 2.7 and 3.x. For version-specific Python questions, add the [python-2.7] or [python-3.x] tag. When using a Python variant or library (e.g. Jython, PyPy, Pandas, Numpy), please include it in the tags.

Learn more... Top users Synonyms (4) python jobs

1,290,704 questions

Newest Active Bountied 42 Unanswered More ▾ Filter

9634 votes

38 answers

2.1m views

What does the "yield" keyword do?

python iterator generator yield coroutine

asked Oct 23 '08 at 22:21

Alex S.

109k 15 47 61

5569 votes

23 answers

1.8m views

Does Python have a ternary conditional operator?

python operators ternary-operator conditional-operator

community wiki

20 revs, 16 users 43% Devoted

5514 votes

29 answers

2.6m views

What does if __name__ == "__main__": do?

python namespaces main python-module idioms

asked Jan 7 '09 at 4:11

Devoted

76.1k 39 79 109

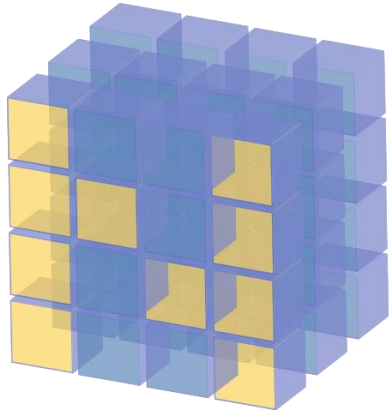
5394 votes

What are metaclasses in Python?

**What's possible with
Python?**



Python in the World of Analytics

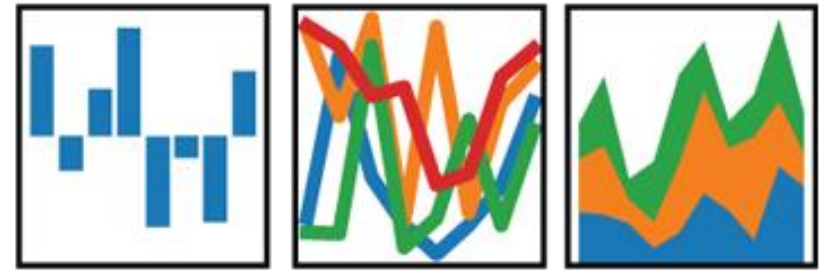


NumPy

pandas



$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



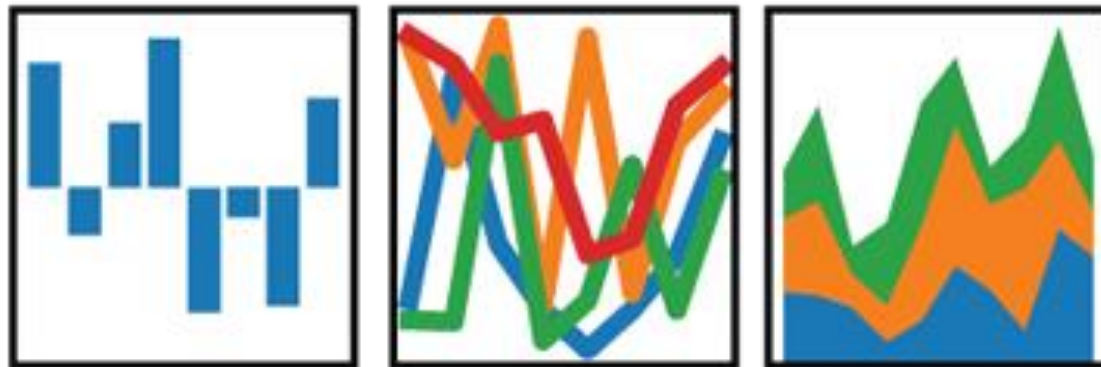
SciPy

Python in the World of Analytics



pandas

$$y_{it} = \beta' x_{it} + \mu_i + \epsilon_{it}$$



Python in the World of ML

Machine Learning, Deep Learning and Artificial Intelligence



Keras

A deep learning library



TensorFlow

The PyTorch logo, featuring the word "PYTORCH" in a bold, sans-serif font. The letter "O" is replaced by a stylized orange flame icon with a small purple dot at its tip.

PYTORCH

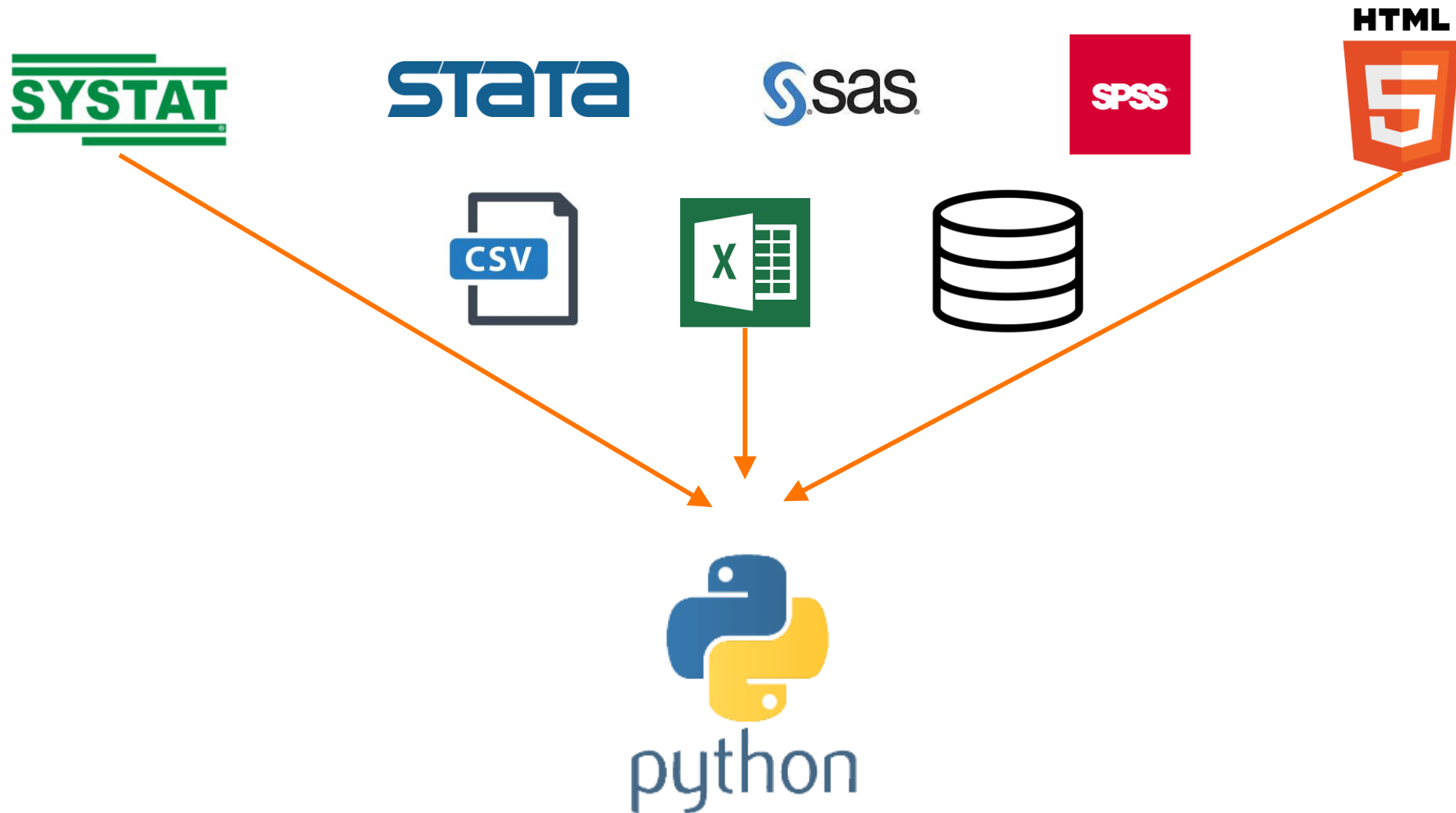
Deep Learning with PyTorch



**Lets Learn Some
Python!**



Data Import



Data Wrangling



country	year	rate
A	1999	0.7K/19M
A	2000	2K/20M
B	1999	37K/172M
B	2000	80K/174M
C	1999	212K/1T
C	2000	213K/1T



country	year	cases	pop
A	1999	0.7K	19M
A	2000	2K	20M
B	1999	37K	172
B	2000	80K	174
C	1999	212K	1T
C	2000	213K	1T

country	1999	2000
A	0.7K	2K
B	37K	80K
C	212K	213K



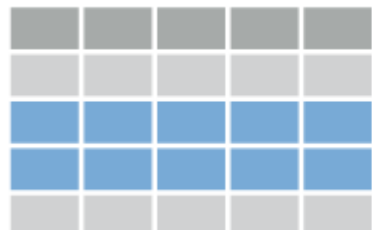
country	year	cases
A	1999	0.7K
B	1999	37K
C	1999	212K
A	2000	2K
B	2000	80K
C	2000	213K



country	year	type	count
A	1999	cases	0.7K
A	1999	pop	19M
A	2000	cases	2K
A	2000	pop	20M
B	1999	cases	37K
B	1999	pop	172M
B	2000	cases	80K
B	2000	pop	174M
C	1999	cases	212K
C	1999	pop	1T
C	2000	cases	213K
C	2000	pop	1T



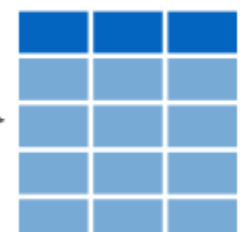
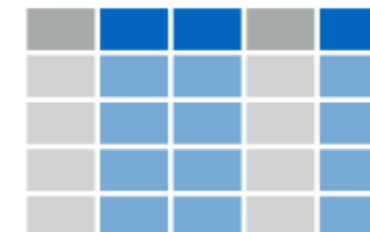
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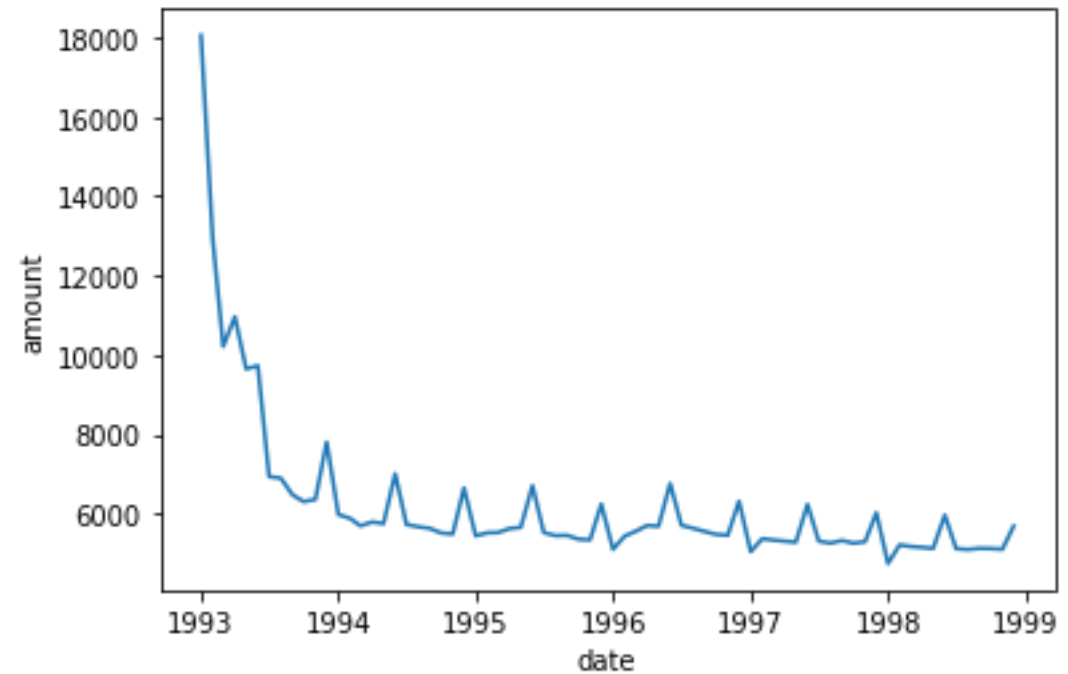
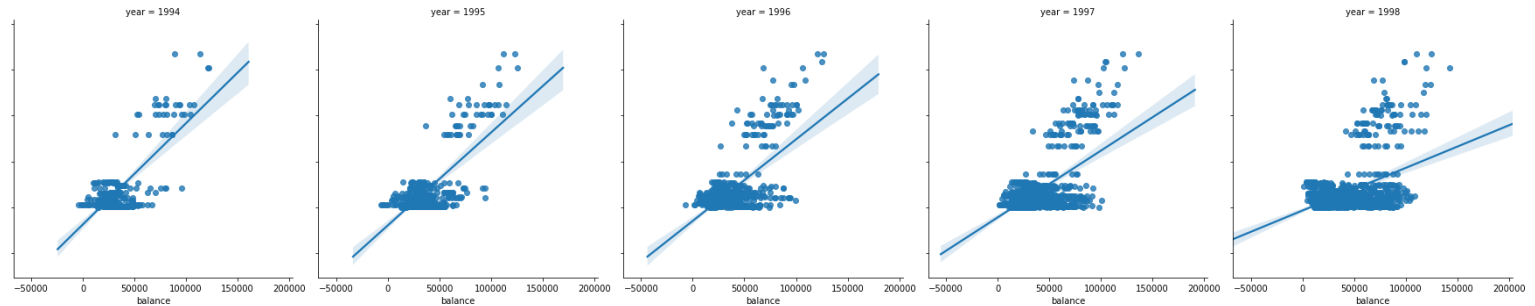
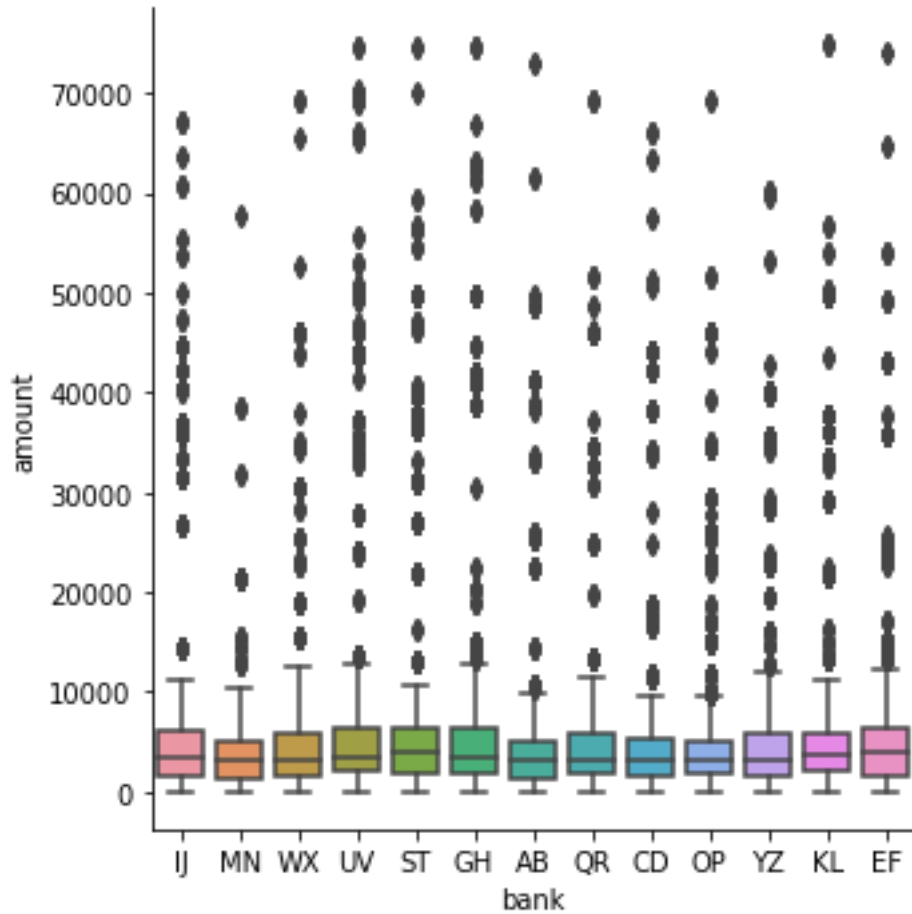
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B	2000	80K
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C	1999	1T
C	2000	213K
C	2000	1T



Data Visualisation

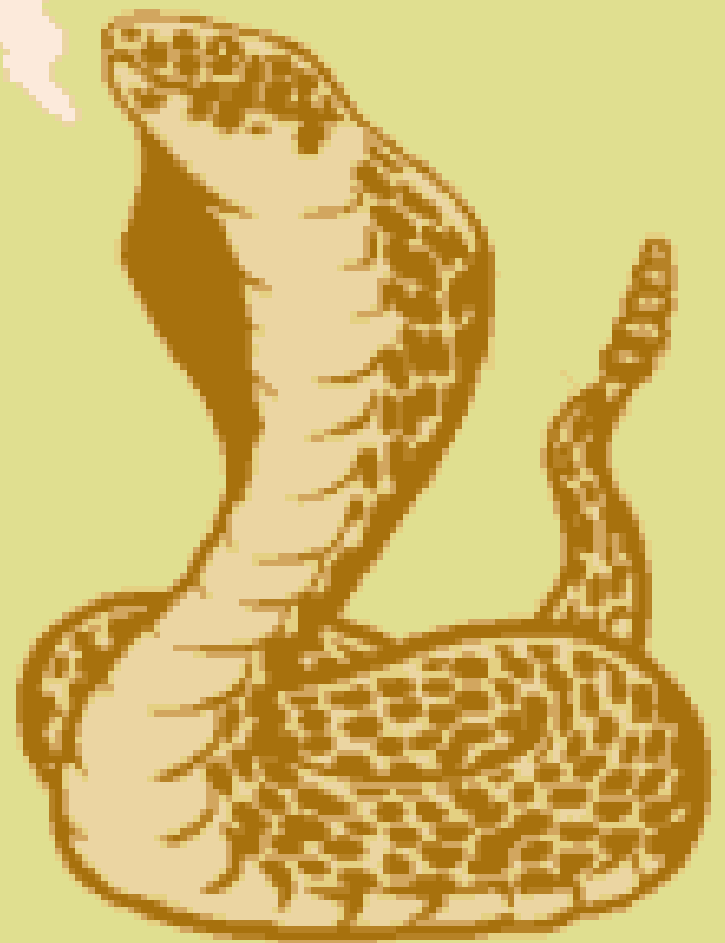


Statistics / Machine Learning



**You've Learnt Some
Python!**

YA





How to Learn More Python?

Free resources

- <https://www.learnpython.org/>
- Google 'Learn Python for free'
- Blog posts
- YouTube
- Meetups (PyData, Python User Groups)
- Stackoverflow



Take-home message

- There are lots of good reasons to learn Python
- Python is easy to read, broad in its applications and powerful in its performance
- There are lots of free resources out there
- Nothing should stop you from starting to use it NOW!



Questions?





We **empower organisations** to make **informed decisions**, using advanced **analytics** and **AI/ML** techniques to meet their objectives and deliver **data-driven value**. We do this through our unique combination of people, values and strategic priorities.



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