Best of Both Worlds: SAS and open source

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SAS UK Technology Office

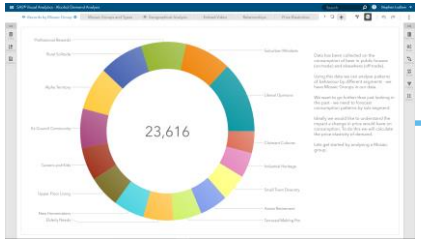
Agenda

- SAS' openness
- How SAS embraces and extends open source
- Demonstration of open source and SAS integration
- Q +A

SAS – Market Perception

New open architecture: SAS® Viya™

Visual Interfaces



Programming Interfaces

python™

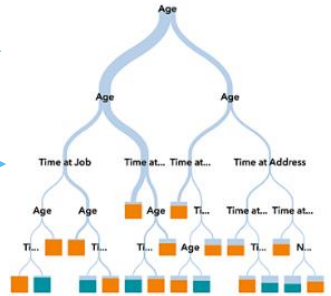
sas

Java

R

API Interfaces

REST API



SAS® Viya™

sas THE POWER TO KNOW.

SAS for Developers

Give us your feedback

Use the power of SAS Viya in your applications.

SAS Viya adds enhancements to the SAS platform including accessibility to SAS services for developers and data scientists.

Coding examples in Python and more

New Article | Options

Subject	Comments	Likes	Contributors	Views	Latest Article
Running Data Step from Python Labels: cas python viya	0	1		282	04-14-2016 12:57 PM by KevinSmith
Loading Data from Python into CAS Labels: cas python viya	0	0		260	04-13-2016 11:47 AM by KevinSmith
Simple Statistics in Python Labels: cas python viya	0	0		118	04-13-2016 02:18 PM by KevinSmith

Resources

SAS Viya API documentation
About SAS Cloud Analytic Services
SAS Viya Coders Library
SAS Viya Programming Examples on GitHub
Learn Python (python.org)

Labels

cas (10)

- SAS' openness
- How SAS embraces and extends open source
- Demonstration of open source and SAS integration

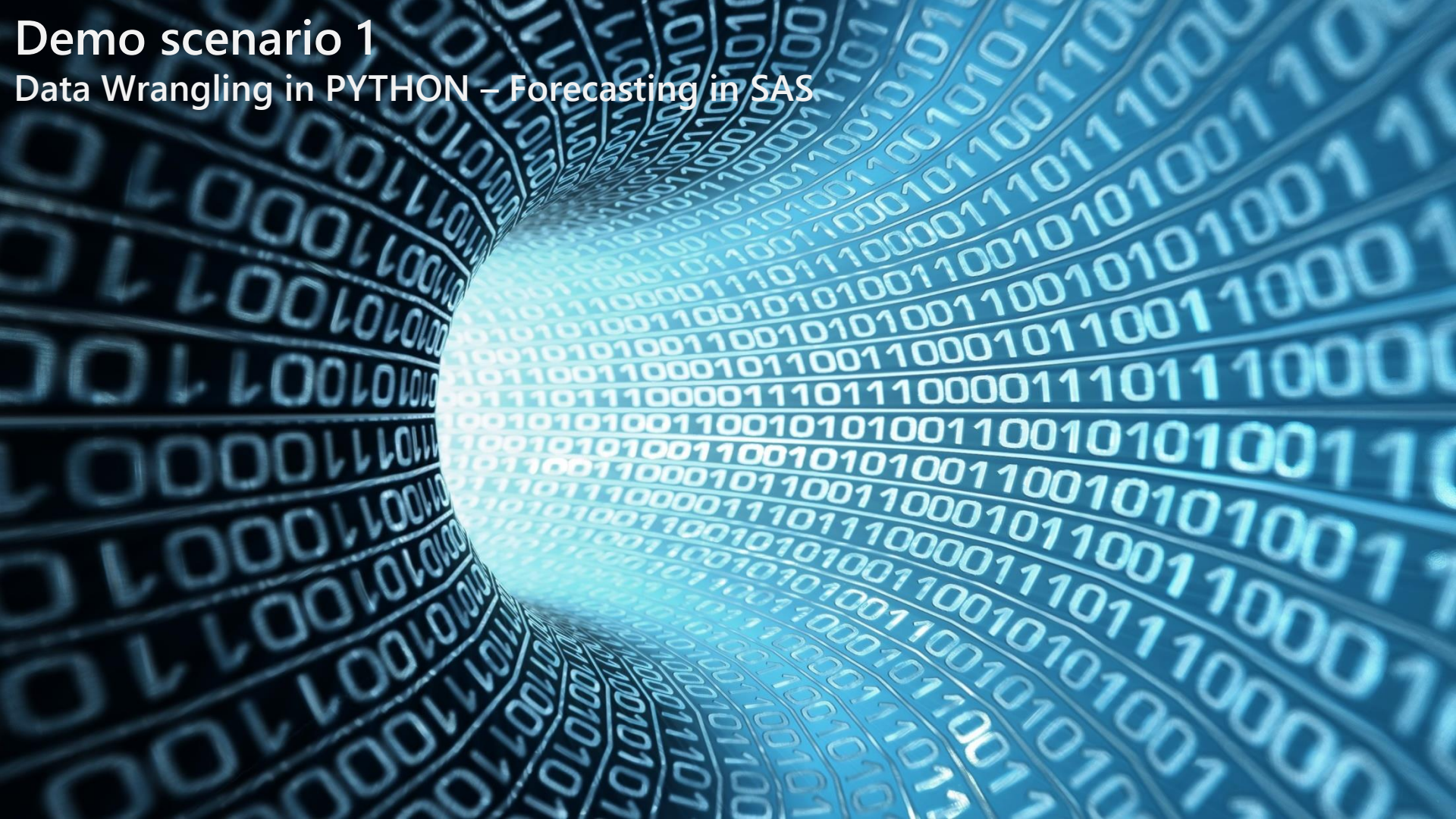
SAS as an Integrated Open Platform

- Joint development and deep integration with Hadoop
- Rapid prototyping and utilising all available resources
- Incorporating open source models into the analytical life cycle
- Providing governance and lineage of data and models
- Scalability and speed in deployment without any recoding

- SAS' openness
- How SAS embraces and extends open source
- Demonstration of open source and SAS integration

Demo scenario 1

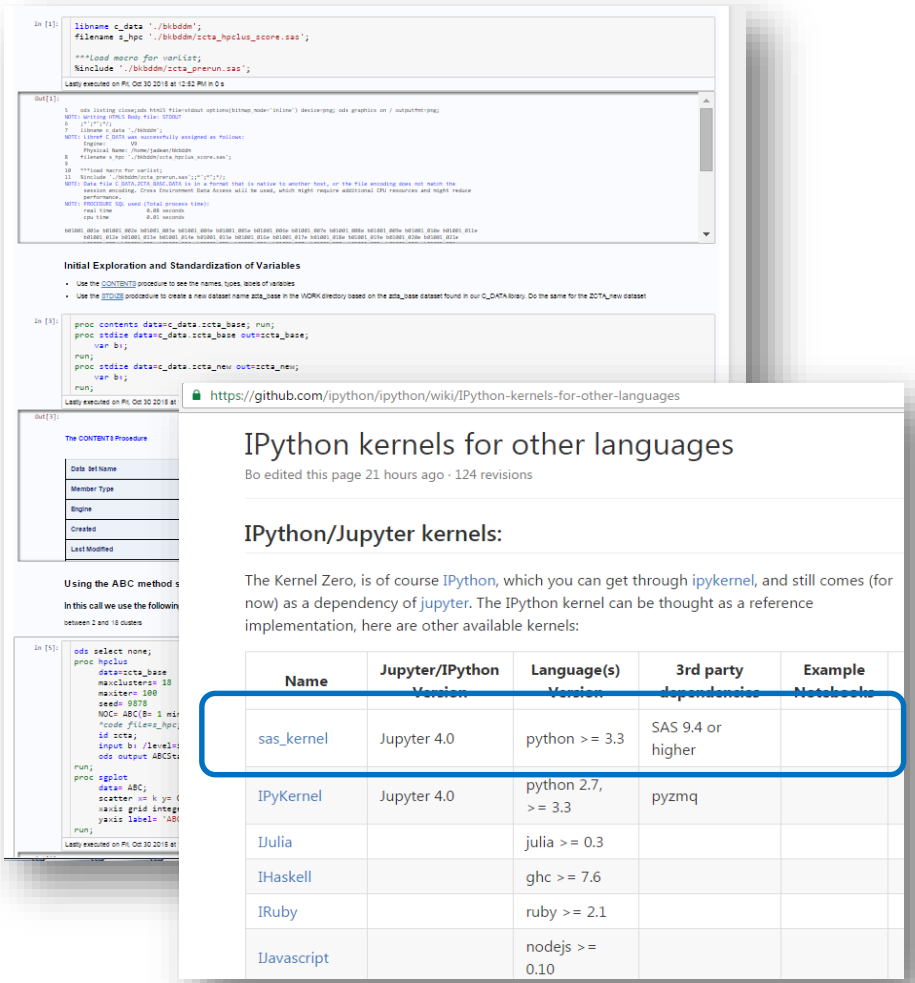
Data Wrangling in PYTHON – Forecasting in SAS



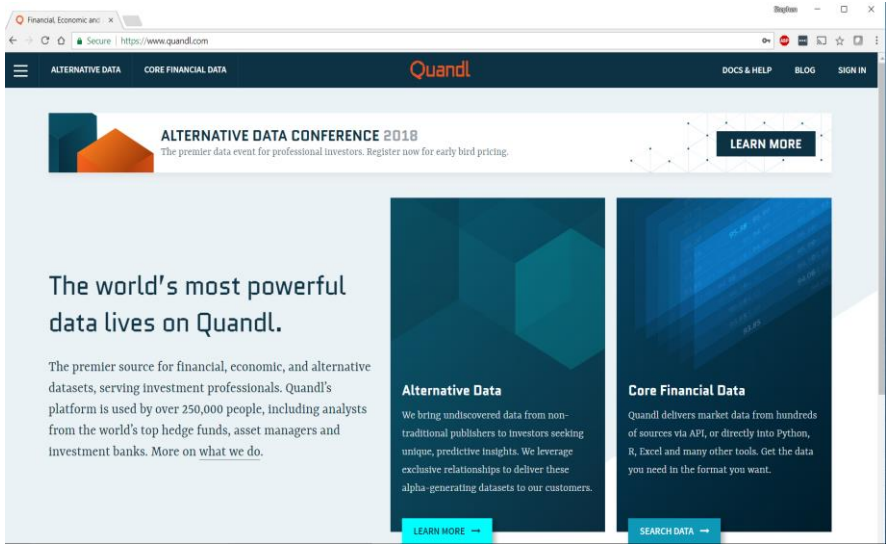
Python is an interpreted, object-oriented, high-level programming language with modular libraries that support data extraction and processing.

The Jupyter Notebook is a web application that allows you to create and share documents that contain live code, equations, visualizations and explanatory text.

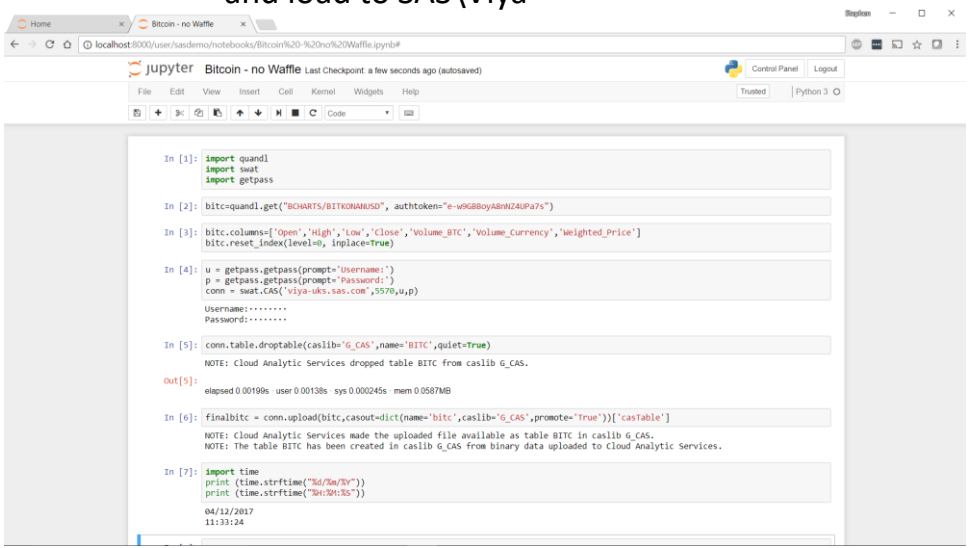
The notebook has support for over 40 languages including SAS and Python.



Bitcoin Data from Quandl



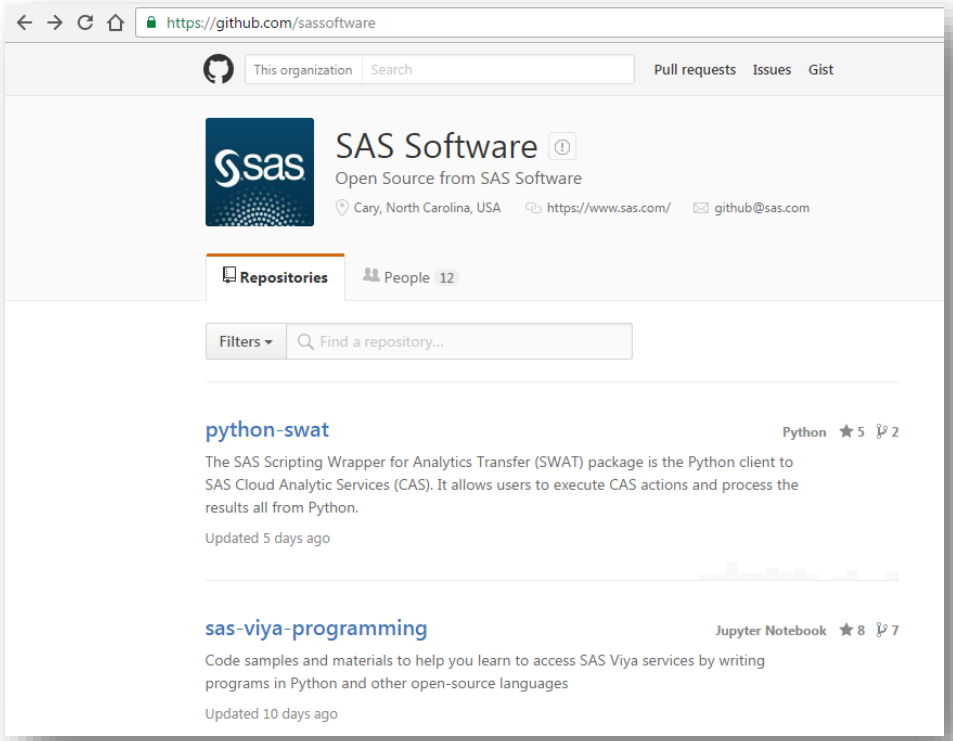
Use Python\Jupyter to wrangle and load to SAS\Viya



Exploit in Python\R\REST etc. or SAS

Demo

SAS on GitHub



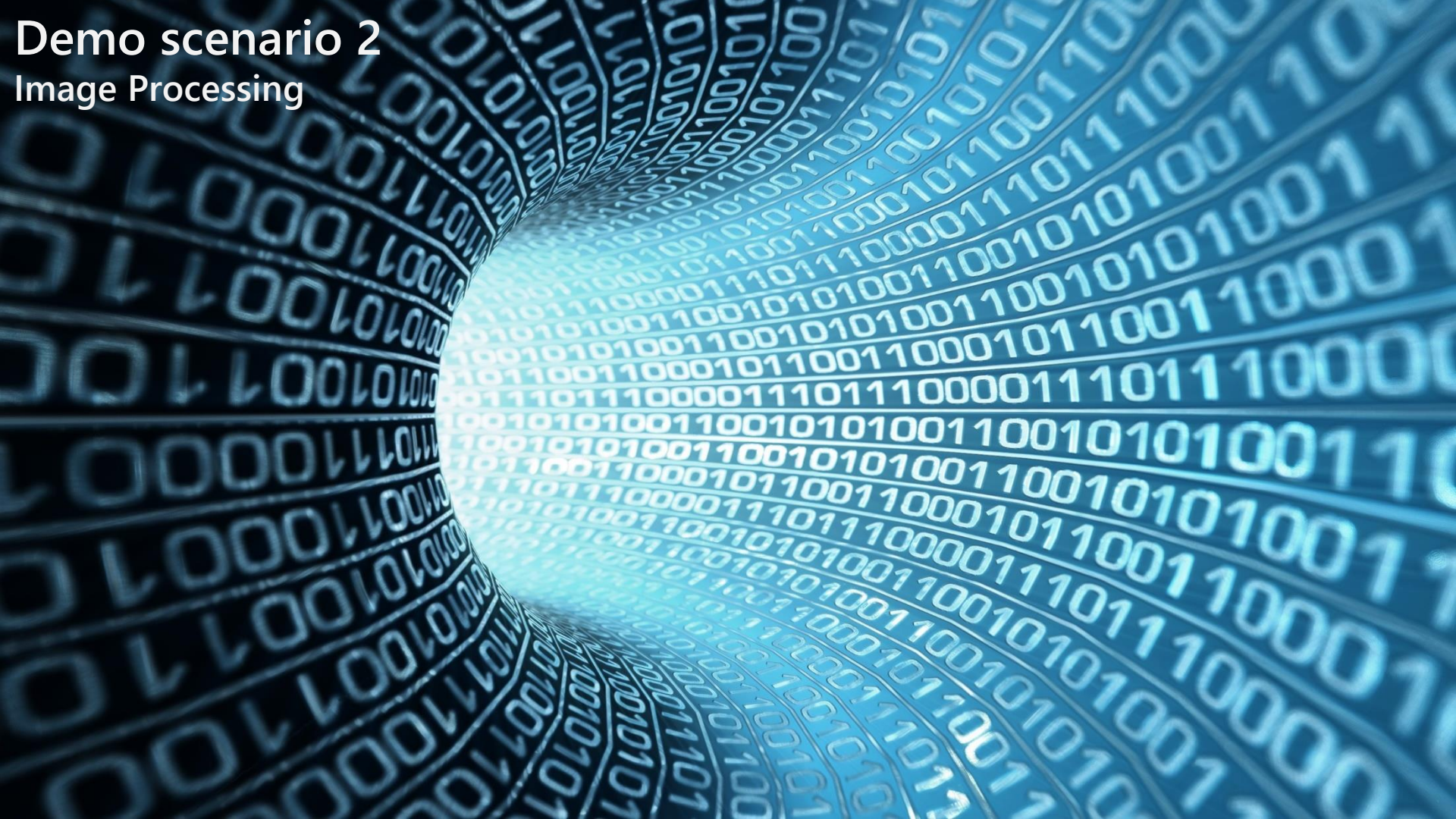
SAS kernel for Jupyter Notebook:
https://github.com/sassoftware/sas_kernel

SAS Cell Magic for Python:
https://github.com/sassoftware/saspy

SAS Viya Open API for Python:
https://github.com/sassoftware/python-swat

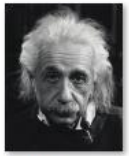
Demo scenario 2

Image Processing




Abraham Lincoln.jpg


Al_Gore.jpg


Albert Einstein.jpg


Alfred_Hitchcock.jpg


Angelina_Jolie.jpg


Anthony_Hopkins.jpg


Audrey_Hepburn.jpg


Bill_Clinton.jpeg


Bill_Gates.jpg


Bob_Dylan.jpg


Brad_Pitt.jpg


Daniel Craig.jpg


David_Beckham.jpg


Dian_Princess_of_Wales.jpg


Elvis_Presley.jpg


George_Clooney.jpg


Harry_Styles.jpg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Jim_Carrey.jpg


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Madonna.jpg


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Obama.jpg


Peter_Sellers.jpg


Stephen_Hawkin


Steven


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sukabc.jpg


sukjhs.jpg


sukjmt.jpg


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sukkst.jpg


sukppj.jpg

jupyter **Famous People?** Last Checkpoint: a few seconds ago (autosaved)

Control Panel | Logout

File | Edit | View | Insert | Cell | Kernel | Widgets | Help | Trusted | Python 3

Code

Top Image

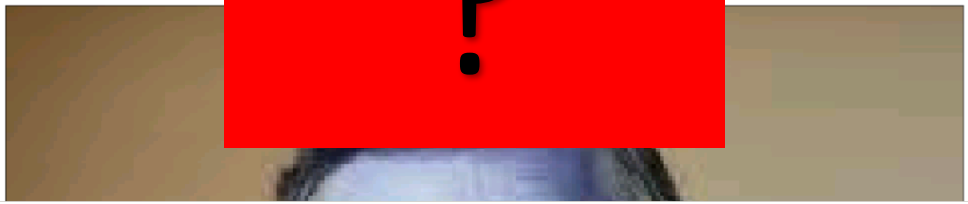
In [23]:
```
':'DESCENDING'}],
'name':'_reference_id_'}]},to=1)
```

Out[23]:

- need to get _reference_id into the below path

In [25]:
```
r = s.image.loadImages(casou
                       path=
imageTable = s.CASTable('fam
imageShow(imageTable, 0, 1)
print(r)
```

```
NOTE: Loaded 1 image from /o                    Analytic Services table famous
_match.
+ Elapsed: 0.0038s, user: 0.
```



Demo

SAS – Market Perception

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Use the power of SAS Viya in your applications.

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Best of Both Worlds: SAS and open source
SAS AS an open platform

✓ Not an **OR** but **AND** decision

✓ All resources are utilized and more people are enabled for analytics
✓ Data scientists can code in their language of choice
✓ IT can have governance and lineage over the data and models
✓ Access to SAS' scalable and fault-tolerant, in-memory analytics server
✓ Streamlined deployment

Q + A