Python intro

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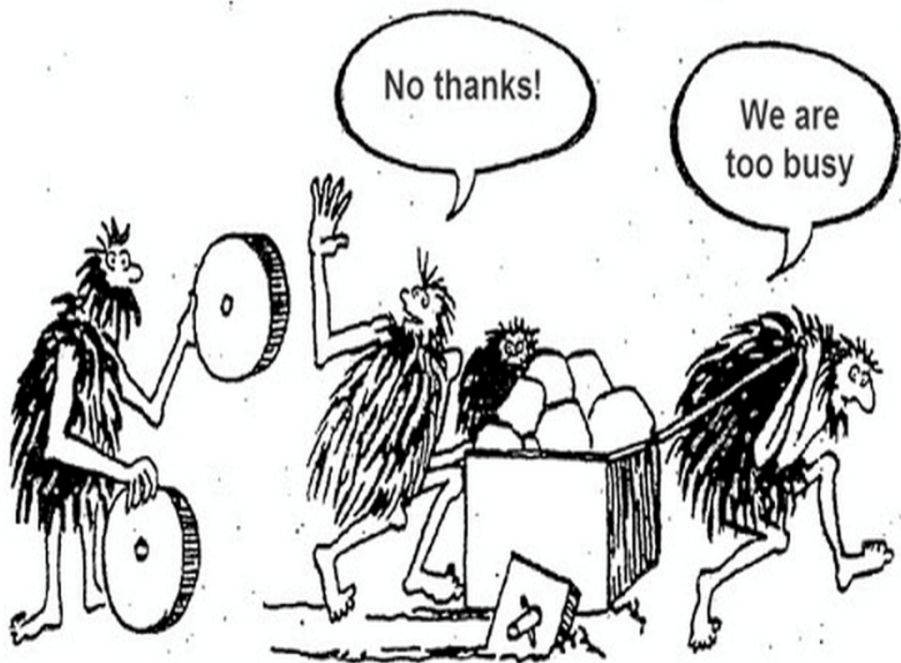
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references/tutorials

◇ com sci, quick, readable! `http: //code.google.com/edu/languages/google-python-class/`

◇ looks superb! `https://automatetheboringstuff.com/#toc`

◇ general, complete, lengthy `http://www.diveintopython3.net/`

◇ for soc sci, comprehensive `http://nealcaren.github.io/python-tutorials/`

◇ looks like for soc sci, haven't try it yet:

· `http://www.data-analysis-in-python.org/`

why Python?

$\diamond$ most user friendly, fun to use, 'glue', and general

$\diamond$ unlike qgis, sas, Stata, R,

$\cdot$ Python is a regular (hi-lev) programming (scripting?) lang

$\diamond$ a good idea to learn a general language
  –it can do everything that computers can do!

Python for a social scientist

- · automating os, like BASH scripts (os, system)
- · data management (pandas)
- · text processing (re, nltk)
- · statistics (pandas, scipy, statsmodels, scikit-learn)
- · API (urllib, rauth)
- · gis (pysal, geopandas, folium)
- · web scrapping (beautifulsoup, scrappy, html5lib)
- · beautiful graphs, I'd say THE BEST (pandas, matplotlib)
- · and much more !

feel

◇ very clean
◇ transparent, easy to figure out what is going on
· almost like human language
◇ I find it much more user friendly than R

indentation

◇ indentation is part of syntax!

◇ with loops, "if else" statements, programs, etc

· you have to indent

◇ so no braces { and } like in Stata foreach loop

◇ just indentation

◇ actually makes sense–you should indent anyway

· so the braces are unnecessary

◇ this is Python: cleanliness first!

◇ we'll see examples

IDE/GUI: Spyder
◇ kind of like Stata or RStudio
◇ on the left we have code
◇ and it runs on the right in 'console'
◇ and some other less useful windows that you can drop
◇ at the top a bunch of menu items
◇ but most of the time just highlight code you want to run
· and hit:
· green 'play' triangle icon with blue rectangle to the left
· or better just press Ctrl-Enter to run selection
· note: for win paths may need double backward slash $\backslash\backslash$

Ipython v regular Python console

◇ new Spyder's default is Ipython
◇ but can open console from under 'Consoles' menu
◇ unlike Stata, can have multiple interpreters running
◇ Ipython holds all output incl graphs
◇ and also gives the [In] [Out] line numbering