Lesser known gems of the standard library

The ?? and ??s of "batteries included"

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Python and beers presentation,
Aprils 29, 2015

About me

- My name is Kenneth Nielsen and I work at CINF
- Free and open source software (FOSS) enthusiast
- Use way too much time on python conference presentations on youtube

Slides and examples

```
git clone https://github.com/KennethNielsen/presentations.git

        https://github.com/KennethNielsen/presentations
                    http://bit.ly/1FclzDR
```

About me

- Name is Kenneth Nielsen and I work at CINF
- Free and open source software (FOSS) enthusiast
- Long time FOSS translator
- BIG TIME Pythonista
- PyG3T https://launchpad.net/pyg3t. Tools for the translation workflow.
- PoProofRead https://launchpad.net/poproofread. Translation proofreading tool
- SoCo https://github.com/SoCo/SoCo. Driver for Sonos speakers.
- PyExpLabSys https://github.com/CINF/PyExpLabSys.

PyExpLabSys

Python Experimental Lab Systems (Best acronym ever!)

- Drivers for experimental equipment
- File parsers for 3-rd party data files
- Infrastructure for a network driven, decentralized, lab:
  - Database logging
  - Wrappers around sockets and socket servers
  - Modules for live data transfer to webpages

Outline

A peak into some of the lesser known (at least in the circle of scientists) gems of the standard library

- ▶ Convenient containers (... and more)
  - ▶ defaultdict, Counter
- ▶ Special operators for key functions (get rid of lambdas)
  - ▶ itemgetter, attrgetter
- ▶ Function tools
  - ▶ partial
- ▶ Part way between anonymous data and full classes
  - ▶ namedtuple
- ▶ Random stuff ;)
  - ▶ choice

Defaultdict

```
from collections import defaultdict
groups = defaultdict(default_callable)
```

A dictionary that will fill in values for unknown keys with defaults supplied by a callable

- ▶ Useful e.g. for grouping, where you would otherwise have to write annoying first-item-init code
- ▶ Supply a callable when creating it, that will be called to ask for a default value

LIVE! Example ex1_default_dict.py

Counter

```
from collections import Counter
counter = Counter()
```

A default dict with default value 0 (and some special counter relevant math)

- ▶ Useful for counting!
- ▶ Can be added and subtracted
- ▶ Flattens out at 0 when subtracted

LIVE! Example ex2_counter.py