Std Lib Essentials

Python Mauritius UserGroup (pymug)

More info: mscc.mu/python-mauritius-usergroup-pymug/

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Abdur-Rahmaan Janhangeer
(Just a Python programmer)

twitter: @osdotsystem
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Std Lib Essentials

or useful std lib modules you'll frequently need

Random

The random module provides lots of tools to deal with randomness

Random

```
>>> import random
>>> random.random()
0.3974936409349549
>>> random.randint(0, 1)
1
>>> random.randint(0, 1)
0
>>> random.randint(0, 10)
4
>>> fruits = ['apple', 'orange', 'banana']
>>> random.choice(fruits)
'orange'
>>> random.shuffle(fruits)
>>> fruits
['orange', 'apple', 'banana']
```

Json

The Json module helps with parsing json files

JSON

Converting json string to dictionary

```
import json


json_string = '''
{
    "glossary": {
        "title": "example glossary",
                "GlossDiv": {
            "title": "S"
        }
    }
}
'''
data = json.loads(json_string) # could have been reading file
print(data['glossary']) # became normal dict
```

Dictionary to Json file

```
import json

data = {'a':1, 'b':2, 'c':3}
with open('file.json', 'w+') as f:
    json.dump(data, f, indent=4)
```

Pprint

Try printing a normal dictionary, not as pretty as you wanted. Pprint is here for you.

Pprint

```
import pprint


x = {'a':1, 'b':2, 'c':3}
pprint.pprint(x, indent=4, width=10)
```

Calendar

Easily guessed. It shows you the calendar.

Calendar

```
print(calendar.calendar(2019),
file=open('microcosmm.txt', 'w+'))
```

we can also try

```
print(calendar.month(2019, 11))
```

```
   November 2019
Mo Tu We Th Fr Sa Su
                1  2  3
 4  5  6  7  8  9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30
```

datetime

The datetime library has all you need to deal with dates and time.

Date And Time

```
>>> import datetime
>>> datetime.datetime.now() # .strftime("%m/%d/%Y, %H:%M:%S")
>>> datetime.date.today() #.year .month
```

Counting Time Between Dates

```
import datetime

start_date = datetime.date(2019, 10, 2)
end_date = datetime.date(2019, 11, 28)
difference = end_date - start_date # or delta
print(difference.days)
```

math

The math module has math functions as well as constants

Math

```
>>> import math
>>> math.sin(180)
-0.8011526357338304
>>> math.pi
3.141592653589793
>>> math.sqrt(25)
5.0
>>> math.degrees(2*math.pi)
360.0
```

os

The os module contains some useful functions for dealing with the operating system

os

```
>>> import os
>>> os.getcwd()
>>> os.mkdir('foldername')
>>> os.rmdir('foldername') # os.remove for files
```

```
os.path.join(os.sep, 'folder', 'file')
```

time

Time is for dealing with stand-alone time

Time

```
>>> x = time.time()
>>> y = time.time()
>>> y - x
7.401423454284668
>>> time.sleep(5)
```

webbrowser

Well, for opening the browser

Web Browser

```
>>> import webbrowser
>>> webbrowser.open('https://www.google.com')
>>> webbrowser.open_new('https://www.google.com')
```

sys

This module provides access to some objects used or maintained by the interpreter and to functions that interact strongly with the interpreter.

Sys

```
>>> import sys
>>> sys.executable
'C:\\Users\\j\\AppData\\Local\\Programs\\
    Python\\Python37-32\\python.exe'
>>> sys.version
'3.7.3 (v3.7.3:ef4ec6ed12, Mar 25 2019, 21:26:53)
    [MSC v.1916 32 bit (Intel)]'
>>> sys.platform
'win32'
>>> sys.exit()
```

What needs checking

- textwrap
- itertools
- functools
- sqlite
- csv
- configparser
- logging
- collections

When NOT to use the std lib?

The std lib has many useful functions, however, there are times you'll want to stay away from it. Examples:

- Web Requests

Use Requests

- date and time

Use a cool lib, like maya

- xml parsing
- csv handling