PYTHON - STANDARD LIBARY

Bendik Egenes Dyrli

UiA University of Agder

OVERVIEW

os shutil glob argparse re random datetime codecs time sys plattform socket

STANDARD LIBARY

Is a collection of scripts that is accessible to a python program, to simplify the programming process and removing the need to rewrite commonly used commands

HOW TO IMPORT ...

GOOD

```
import os

print (os.getcwd())
```

BAD!

```
from os import *

print (getcwd())
```

HOW TO IMPORT ...

```python
from os import getcwd

print(getcwd)
```

IMPORT OS

Miscellaneous operating system interfaces

```python
import os
print(os.getcwd())
```

IMPORT SHUTIL

```python
import shutil

print (shutil.copyfile('ricks_lab', 'ricks_secret_lab'))

print (shutil.move('ricks_lab', './secret_basement/'))
```

IMPORT GLOB

```python
import glob
print (glob.glob('*.py'))
```

IMPORT ARGPARSE

```python
import argparse

parser = argparse.ArgumentParser()
parser.add_argument('-l','--location', help="Where do you want
parser.add_argument('-o','--on', help="gotta turn on the porta
args = parser.parse_args()

if not args.on:
    print ("MORTY DID YOU TURN ON THE PORTAL GUN YET?!")
else:
    if not args.location:
        print (f"MORTY, WHERE SHOULD WE GO?!?")
    elif args.location:
        print (f"Teleporting to {args.location}")
```

IMPORT RANDOM

```python
from random import randint, sample

food = ['taco', 'pizza', 'veggies']

print(randint(1,1024))
print (f"Today's dinner is {sample(food,1)}")
```

IMPORT DATETIME

```python
from datetime import datetime

now = datetime.now()

year = now.strftime("%Y")
month = now.strftime("%m")
day = now.strftime("%d")

date = now.strftime("%d.%M.%Y")
time = now.strftime("%H:%M:%S")

print (date)
print (time)
```

IMPORT CODECS

```python
import codecs
codecs.encode('java zone 19,.-', 'rot_13')
```

IMPORT TIME
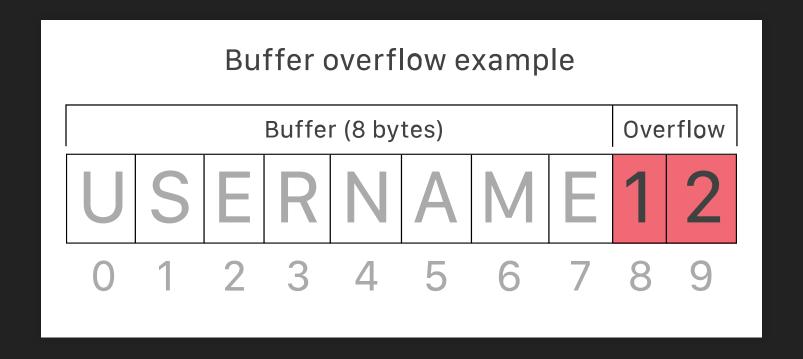
```python
from time import

print ("Sleeping for 5 seconds")
sleep(5)
print ("GOOD MORNING")
```

IMPORT PLATFORM

```python
import platform
import os

if platform.system is "win32" or plattform.system is "Windows"
    os.system('cls')
else:
    os.system('clear')
```

BUFFER OVERFLOW

Buffer overflow example

Buffer (8 bytes)								Overflow	
U	S	E	R	N	A	M	E	1	2
0	1	2	3	4	5	6	7	8	9

SOCKET

```python
import socket

def staticBuffer(host, port):

    buffer = "A"*2025+"\\n\\r\\n"
    buff = str.encode(buffer)

    print(buff)

    strem = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    strem.connect((host,port))
    print (strem.send(buff))
    print ("Amount Sent: {:d}".format(len(buff)))
    print (strem.recv(4096))
```

REGEX

- [ ] - Characted class
- ( ) - Capture Group
- { } - Repetition Counts

REGEX

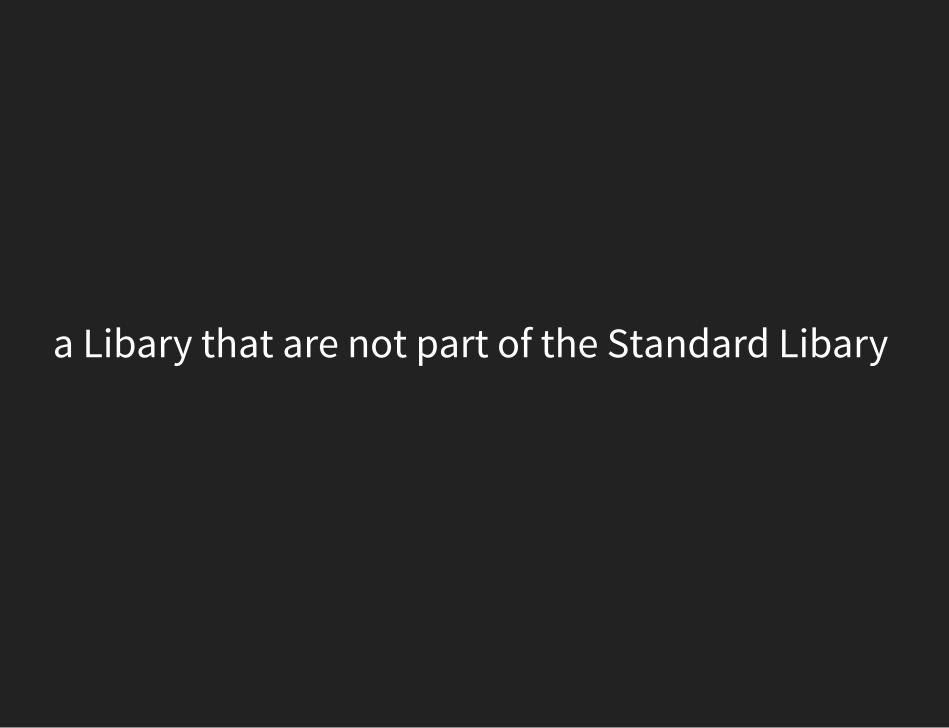| Regex	Matching	Description
[a-zA-Z]	**abc**123**DEF**	Matches any characted between a-z or A-Z
[0-9]	abc**123**DEF	Matches any number between 0-9
[0-9]{2,4}	**1234 5678**	matches any number from 2,4 characteds long
a+	**a aa** b**a**b	Matches one or more consecutive 'a' characters

IMPORT RE

```python
import re

strings = ['aabbccdd', 'aabbccøøææåå', 'ææøøåå']

pattern = re.compile(r'[a-zA-Z0-9]+')
for string in strings:
    print(re.findall(pattern, string))
```

IMPORT JSON

```python
import json

family_memebers =  '{ "Smith_Family":["Rick",
                                       "Morty",
                                       "Summer",
                                       "Beth",
                                       "Jerry"]}'
family_memebers = json.loads(family_memebers)

print(family_memebers["Smith_Family"])
```

a Libary that are not part of the Standard Libary

REQUESTS

```python
from requests import get, status_code

def getData(url:str ) -> str:
    return get(url).text



if status_code is "200":
    print (getData('https://links.datapor.no/'))
else:
    print(f"Oops, we got {status_code}")
```

RESOURCES

https://docs.python.org/3/tutorial/datastructures.html
https://www.cloudflare.com/learning/security/threats/b
overflow/