Python modules

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Writing custom module

Variables, functions, class would be placed in a file. For example 5 functions would be placed in a file”custom_module.py”.

```
def check_even_or_odd(number):
    """
     1. Accept a number and check if it is even or odd
    """
    if number%2 == 0:
        return True
    else:
        return False

def print_even_numbers(number):
    """
       2. To print even numbers till 100
    """
    for i in range(0,number,2):
        print(i)
    return

def sum_of_even_numbers(number):
    """
        3.Prints sum of even numbers till 50
    """
    sum = 0
    for i in range(0,50,2):
        sum = sum+i
    return sum

def divisible_by_5(number):
    """
```

```
    4.Prints numbers divisible by 5 and below 25
  """
  for i in range(number):
    if i%5 == 0:
      print(i)


def multiples_of_10(number):
  """
    5. Prints numbers multiples of 10 under 200
  """
  count = 0
  while count< number:
    if count%10 == 0:
      print(count)
    count = count+1


  return
```

Functions and classes, attributes would be imported in another file, imported functions would be called from another_file “another_file.py”

```
from custom_module import
check_even_or_odd,print_even_numbers,sum_of_even_numbers,divisible_by_5,multiples_of_10


print(check_even_or_odd(12))
print(check_even_or_odd(25))
print_even_numbers(100)
print_even_numbers(5)
result = sum_of_even_numbers(25)
print(result)
divisible_by_5(33)
multiples_of_10(111)
```

Using Python Modules (os, sys, json, Beautifulsoup, urllib, datetime)

 # module os => operating system related functionality

```
>>>import os

>>> os.name
'nt'

>>> os.environ
{'TMP': 'C:\\DOCUME~1\\admin\\LOCALS~1\\Temp', 'COMPUTERNAME': 'ALBA', 'USERDOMA
IN': 'ALBA', 'COMMONPROGRAMFILES': 'C:\\Program Files\\Common Files', 'PROCESSOR
_IDENTIFIER': 'x86 Family 6 Model 15 Stepping 13, GenuineIntel', 'PROGRAMFILES':
 'C:\\Program Files', 'PROCESSOR_REVISION': '0f0d', 'SYSTEMROOT': 'C:\\WINDOWS',
 'PATH': 'C:\\WINDOWS\\system32;C:\\WINDOWS;C:\\WINDOWS\\System32\\Wbem;C:\\Prog
ram Files\\Skype\\Phone\\;C:\\Python27;C:\\Python27\\scripts', 'TEMP': 'C:\\DOCU
ME~1\\admin\\LOCALS~1\\Temp', 'PROCESSOR_ARCHITECTURE': 'x86', 'ALLUSERSPROFILE'
: 'C:\\Documents and Settings\\All Users', 'SESSIONNAME': 'Console', 'HOMEPATH':
 '\\Documents and Settings\\admin', 'USERNAME': 'admin', 'LOGONSERVER': '\\\\ALB
A', 'PROMPT': '$P$G', 'COMSPEC': 'C:\\WINDOWS\\system32\\cmd.exe', 'PATHEXT': '.
COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH', 'CLIENTNAME': 'Console', 'FP_N
O_HOST_CHECK': 'NO', 'WINDIR': 'C:\\WINDOWS', 'APPDATA': 'C:\\Documents and Sett
ings\\admin\\Application Data', 'HOMEDRIVE': 'C:', 'SYSTEMDRIVE': 'C:', 'NUMBER_
OF_PROCESSORS': '2', 'PROCESSOR_LEVEL': '6', 'OS': 'Windows_NT', 'USERPROFILE':
'C:\\Documents and Settings\\admin'}

>>> pwd=os.getcwd()

>>> pwd
'C:\\Documents and Settings\\admin\\Desktop\\NewFolder\\dtut\\mypro'

>>> os.listdir(pwd)
['db.sqlite3', 'manage.py', 'mypro']

>>> os.stat("manage.py")
nt.stat_result(st_mode=33206, st_ino=0L, st_dev=0, st_nlink=0, st_uid=0, st_gid=
0, st_size=803L, st_atime=1471754940L, st_mtime=1471754915L, st_ctime=1471754915
L)

>>> new_dir='C:\\Documents and Settings\\admin\\Desktop\\NewFolder\\dtut'
```

```
>>> os.chdir(new_dir)

>>> os.getcwd()
'C:\\Documents and Settings\\admin\\Desktop\\NewFolder\\dtut'
# module sys => system related data and functionalities
>>> import sys

>>> sys.version
'2.7.2 (default, Jun 12 2011, 15:08:59) [MSC v.1500 32 bit (Intel)]'

>>> sys.path
['', 'C:\\WINDOWS\\system32\\python27.zip', 'C:\\Python27\\DLLs', 'C:\\Python27\
\lib', 'C:\\Python27\\lib\\plat-win', 'C:\\Python27\\lib\\lib-tk', 'C:\\Python27
', 'C:\\Python27\\lib\\site-packages']

>>> sys.platform
'win32'

>>> sys.flags
sys.flags(debug=0, py3k_warning=0, division_warning=0, division_new=0, inspect=0
, interactive=0, optimize=0, dont_write_bytecode=0, no_user_site=0, no_site=0, i
gnore_environment=0, tabchec=0, verbose=0, unicode=0, bytes_warning=0)

>>> sys.maxsize
2147483647

>>> sys.maxunicode
# Using urllib, BeautifulSoup

>>> import BeautifulSoup,urllib
>>> reponse = urllib.urlopen("http://py-tut.blogspot.com")
>>> response = urllib.urlopen("http://py-tut.blogspot.com")
>>> response_data = response.read()
>>> soup=BeautifulSoup.BeautifulSoup(response_data)
>>> for link in soup.findAll("a"):
...     print l(ink.get("href"))
...
None
http://py-tut.blogspot.sg/2016/08/exception-in-python.html
https://www.blogger.com/profile/12675846072017286451
```

http://py-tut.blogspot.sg/2016/08/exception-in-python.html
http://py-tut.blogspot.sg/2016/08/exception-in-python.html#comment-form

 # Using httplib,

```
import httplib, json
 c = httplib.HTTPSConnection(ip)
 c.request("GET", "/qwerty")
 response = c.getresponse()
 #print response.status, response.reason
 data = response.read()
 #print data


 response_dict = json.loads(data)
```

#Using date datetime

```
>>> from datetime import datetime, date

>>> date.today()
datetime.date(2016, 8, 21)

>>> datetime.now()
datetime.datetime(2016, 8, 21, 14, 50, 37, 812000)

>>> from datetime import timedelta

>>> td= timedelta(days=1)

>>> t_day = date.today()
>>> t_day
datetime.date(2016, 8, 21)

>>> t_day+td
datetime.date(2016, 8, 22)

>>> t_now = datetime.now()
>>> t_now.strftime("%y")
'16'
>>> t_now.strftime("%Y-%M-%d")
'2016-51-21'
>>> t_now.strftime("%Y-%M-%d-%H-%m")
'2016-51-21-14-08'
```

#Using json module

```
>>> import json
>>> diction={1:"one",2:"two"}
>>> json.loads(diction)

>>> json.dumps(diction)
'{"1": "one", "2": "two"}'
>>> json_data='{"123":"one hundres twenty three", "245":{"11":"eleven","21":"twentyone"}}'
>>> json.loads(json_data)
{u'245': {u'11': u'eleven', u'21': u'twentyone'}, u'123': u'one hundres twenty three'}
>>> diction1=json.loads(json_data)
>>> diction1.keys()
[u'245', u'123']
>>> diction1.values()
[{u'11': u'eleven', u'21': u'twentyone'}, u'one hundres twenty three']
>>> diction1.values()[0].keys()

[u'11', u'21']
```