multihreading

March 11, 2023

[1]:
```
import threading
```

[8]:
```
def test(id):
    print("this is my id %d" % id)
```

[9]:
```
test(10)
```

```
this is my id 10
```

[10]:
```
test(8)
```

```
this is my id 8
```

[11]:
```
test(9)
```

```
this is my id 9
```

[12]:
```
thred= [threading.Thread(target=test,args=(i,)) for i in [10,8,9]]
```

[13]:
```
thred
```

[13]:
```
[<Thread(Thread-5 (test), initial)>,
 <Thread(Thread-6 (test), initial)>,
 <Thread(Thread-7 (test), initial)>]
```

[14]:
```
for t in thred:
    t.start()
```

```
this is my id 10
this is my id 8
this is my id 9
```

[15]:
```
import urllib.request

def file_download(url,filename):
    urllib.request.urlretrieve(url,filename)
```

[16]:
```
file_download("https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/
↪Class_Method.pdf","test12.txt")
```

[17]:
```
url_list=["https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/Class_Method.
↪pdf","https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/Function.
↪pdf","https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/decorators.pdf"]
```

[18]:
```
url_list
```

[18]:
```
['https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/Class_Method.pdf',
 'https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/Function.pdf',
 'https://github.com/Kishorkurhe/DATA-SCIENCE/blob/main/decorators.pdf']
```

[19]:
```
data_file_list=["datak1.txt","datak2.txt","datak3.txt"]
```

[20]:
```
data_file_list
```

[20]:
```
['datak1.txt', 'datak2.txt', 'datak3.txt']
```

[23]:
```
thread1=[threading.
↪Thread(target=file_download,args=(url_list[i],data_file_list[i])) for i in␣
↪range(len(url_list))]
```

[24]:
```
for t in thread1:
    t.start()
```

[25]:
```
thread1
```

[25]:
```
[<Thread(Thread-8 (file_download), stopped 140437263193664)>,
 <Thread(Thread-9 (file_download), stopped 140436706424384)>,
 <Thread(Thread-10 (file_download), stopped 140436698031680)>]
```

[26]:
```
import time
```

[39]:
```
def test2(x):
    for i in range(10):
        print("test1 print the value of %d and print the value if i %d" %(x,i))
       # time.sleep(2)
```

[40]:
```
thread3=[threading.Thread(target=test2, args=(i,)) for i in[100,10,20,5]]
```

[41]:
```
for t in thread3:
    t.start()
```

```
test1 print the value of 100 and print the value if i 0
test1 print the value of 10 and print the value if i 0
test1 print the value of 20 and print the value if i 0
```

```
test1 print the value of 5 and print the value if i 0
test1 print the value of 10 and print the value if i 1
test1 print the value of 100 and print the value if i 1
test1 print the value of 20 and print the value if i 1
test1 print the value of 5 and print the value if i 1
test1 print the value of 10 and print the value if i 2test1 print the value of
100 and print the value if i 2
test1 print the value of 20 and print the value if i 2

test1 print the value of 5 and print the value if i 2
test1 print the value of 20 and print the value if i 3
test1 print the value of 100 and print the value if i 3
test1 print the value of 10 and print the value if i 3
test1 print the value of 5 and print the value if i 3
test1 print the value of 20 and print the value if i 4
test1 print the value of 100 and print the value if i 4
test1 print the value of 10 and print the value if i 4
test1 print the value of 5 and print the value if i 4
test1 print the value of 20 and print the value if i 5
test1 print the value of 100 and print the value if i 5
test1 print the value of 10 and print the value if i 5
test1 print the value of 5 and print the value if i 5
test1 print the value of 20 and print the value if i 6
test1 print the value of 100 and print the value if i 6
test1 print the value of 10 and print the value if i 6
test1 print the value of 5 and print the value if i 6
test1 print the value of 10 and print the value if i 7test1 print the value of
20 and print the value if i 7

test1 print the value of 100 and print the value if i 7
test1 print the value of 5 and print the value if i 7
test1 print the value of 20 and print the value if i 8
test1 print the value of 10 and print the value if i 8
test1 print the value of 100 and print the value if i 8
test1 print the value of 5 and print the value if i 8
test1 print the value of 20 and print the value if i 9
test1 print the value of 10 and print the value if i 9
test1 print the value of 100 and print the value if i 9
test1 print the value of 5 and print the value if i 9
```

[42]:
```python
def test2(x):
    for i in range(10):
        print("test1 print the value of %d and print the value if i %d" %(x,i))
       # time.sleep(2)
```

[43]:
```python
thread3=[threading.Thread(target=test2, args=(i,)) for i in[100,10,20,5]]
```

[44]:
```
for t in thread3:
    t.start()
```

```
test1 print the value of 100 and print the value if i 0
test1 print the value of 100 and print the value if i 1
test1 print the value of 100 and print the value if i 2
test1 print the value of 100 and print the value if i 3
test1 print the value of 100 and print the value if i 4
test1 print the value of 100 and print the value if i 5
test1 print the value of 100 and print the value if i 6
test1 print the value of 100 and print the value if i 7
test1 print the value of 100 and print the value if i 8
test1 print the value of 100 and print the value if i 9
test1 print the value of 10 and print the value if i 0
test1 print the value of 10 and print the value if i 1
test1 print the value of 10 and print the value if i 2
test1 print the value of 10 and print the value if i 3
test1 print the value of 10 and print the value if i 4
test1 print the value of 10 and print the value if i 5
test1 print the value of 10 and print the value if i 6
test1 print the value of 10 and print the value if i 7
test1 print the value of 10 and print the value if i 8
test1 print the value of 10 and print the value if i 9
test1 print the value of 20 and print the value if i 0
test1 print the value of 20 and print the value if i 1
test1 print the value of 20 and print the value if i 2
test1 print the value of 20 and print the value if i 3
test1 print the value of 20 and print the value if i 4
test1 print the value of 20 and print the value if i 5
test1 print the value of 20 and print the value if i 6
test1 print the value of 20 and print the value if i 7
test1 print the value of 20 and print the value if i 8
test1 print the value of 20 and print the value if i 9
test1 print the value of 5 and print the value if i 0
test1 print the value of 5 and print the value if i 1
test1 print the value of 5 and print the value if i 2
test1 print the value of 5 and print the value if i 3
test1 print the value of 5 and print the value if i 4
test1 print the value of 5 and print the value if i 5
test1 print the value of 5 and print the value if i 6
test1 print the value of 5 and print the value if i 7
test1 print the value of 5 and print the value if i 8
test1 print the value of 5 and print the value if i 9
```

[46]:
```
shared_var=0
lock_var=threading.Lock()
def test4(x):
```

```
    global shared_var
    with lock_var:
        shared_var= shared_var+1
        print("value of x %d and value of shared_var %d"%(x,shared_var))
        time.sleep(1)
threads=[threading.Thread(target=test4,args =(i,)) for i in [1,2,3,4,4,5]]
for t in threads:
    t.start()
```

```
value of x 1 and value of shared_var 1
value of x 2 and value of shared_var 2
value of x 3 and value of shared_var 3
value of x 4 and value of shared_var 4
value of x 4 and value of shared_var 5
value of x 5 and value of shared_var 6
```

[ ]: