DBMS LAB-12

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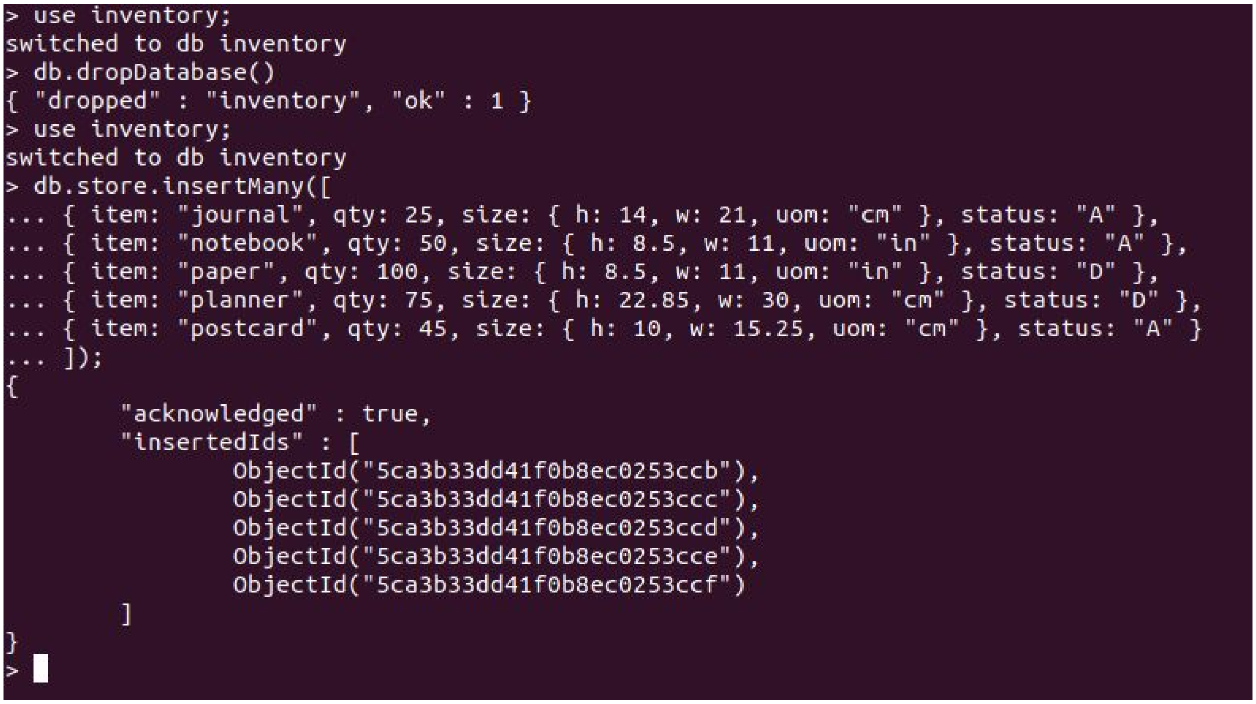
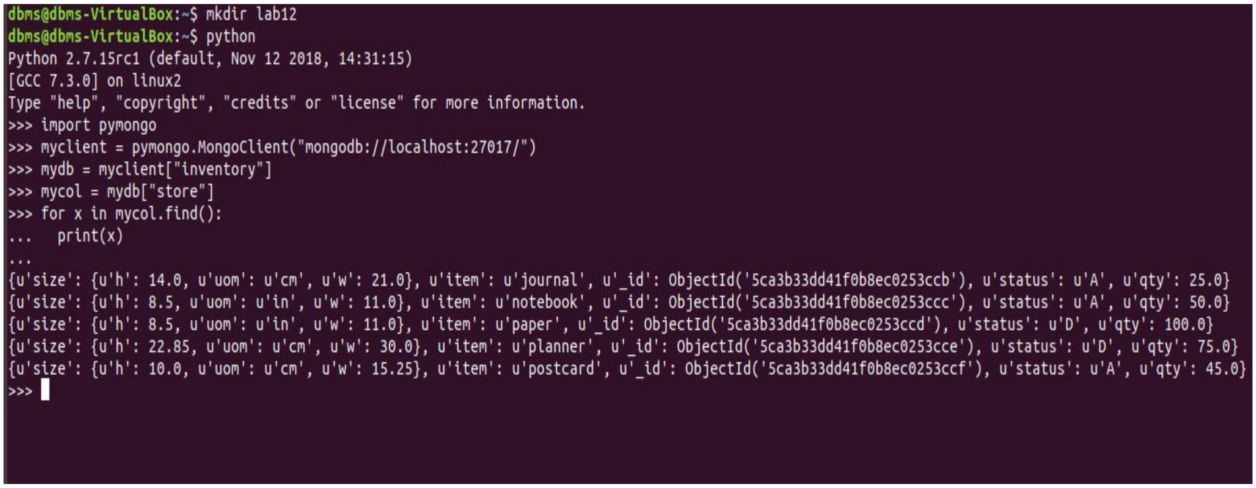
II.6 Connect to database inventory, and collection store using PyMongo



```
> use inventory;
switched to db inventory
> db.dropDatabase()
{ "dropped" : "inventory", "ok" : 1 }
> use inventory;
switched to db inventory
> db.store.insertMany([
... { item: "journal", qty: 25, size: { h: 14, w: 21, uom: "cm" }, status: "A" },
... { item: "notebook", qty: 50, size: { h: 8.5, w: 11, uom: "in" }, status: "A" },
... { item: "paper", qty: 100, size: { h: 8.5, w: 11, uom: "in" }, status: "D" },
... { item: "planner", qty: 75, size: { h: 22.85, w: 30, uom: "cm" }, status: "D" },
... { item: "postcard", qty: 45, size: { h: 10, w: 15.25, uom: "cm" }, status: "A" }
... ]);
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("5ca3b33dd41f0b8ec0253ccb"),
                ObjectId("5ca3b33dd41f0b8ec0253ccc"),
                ObjectId("5ca3b33dd41f0b8ec0253ccd"),
                ObjectId("5ca3b33dd41f0b8ec0253cce"),
                ObjectId("5ca3b33dd41f0b8ec0253ccf")
        ]
}
>
```

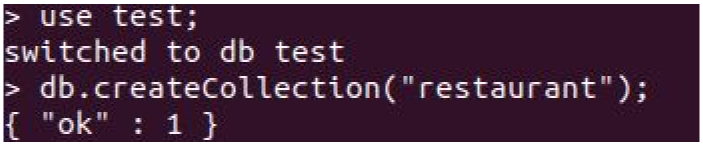
II.7Show the records using PyMongo



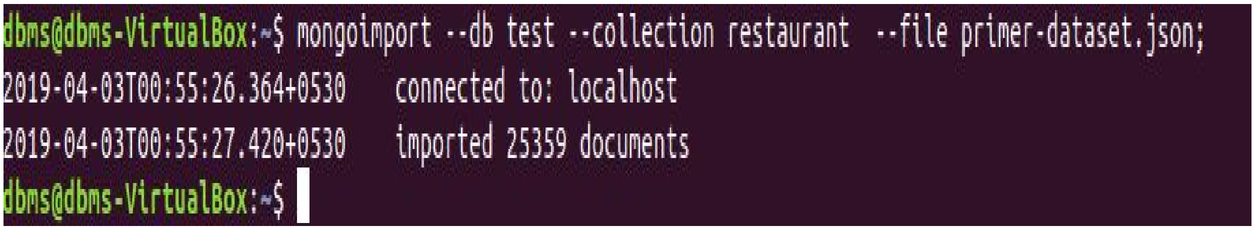
```
dbms@dbms-VirtualBox:~$ mkdir lab12
dbms@dbms-VirtualBox:~$ python
Python 2.7.15rc1 (default, Nov 12 2018, 14:31:15)
[GCC 7.3.0] on linux2
Type "help", "copyright", "credits" or "license" for more information.
>>> import pymongo
>>> myclient = pymongo.MongoClient("mongodb://localhost:27017/")
>>> mydb = myclient["inventory"]
>>> mycol = mydb["store"]
>>> for x in mycol.find():
...   print(x)
...
{u'size': {u'h': 14.0, u'uom': u'cm', u'w': 21.0}, u'item': u'journal', u'_id': ObjectId('5ca3b33dd41f0b8ec0253ccb'), u'status': u'A', u'qty': 25.0}
{u'size': {u'h': 8.5, u'uom': u'in', u'w': 11.0}, u'item': u'notebook', u'_id': ObjectId('5ca3b33dd41f0b8ec0253ccc'), u'status': u'A', u'qty': 50.0}
{u'size': {u'h': 8.5, u'uom': u'in', u'w': 11.0}, u'item': u'paper', u'_id': ObjectId('5ca3b33dd41f0b8ec0253ccd'), u'status': u'D', u'qty': 100.0}
{u'size': {u'h': 22.85, u'uom': u'cm', u'w': 30.0}, u'item': u'planner', u'_id': ObjectId('5ca3b33dd41f0b8ec0253cce'), u'status': u'D', u'qty': 75.0}
{u'size': {u'h': 10.0, u'uom': u'cm', u'w': 15.25}, u'item': u'postcard', u'_id': ObjectId('5ca3b33dd41f0b8ec0253ccf'), u'status': u'A', u'qty': 45.0}
>>>
```

Part III

8. Import data into test database corresponding to a restaurants collection using the

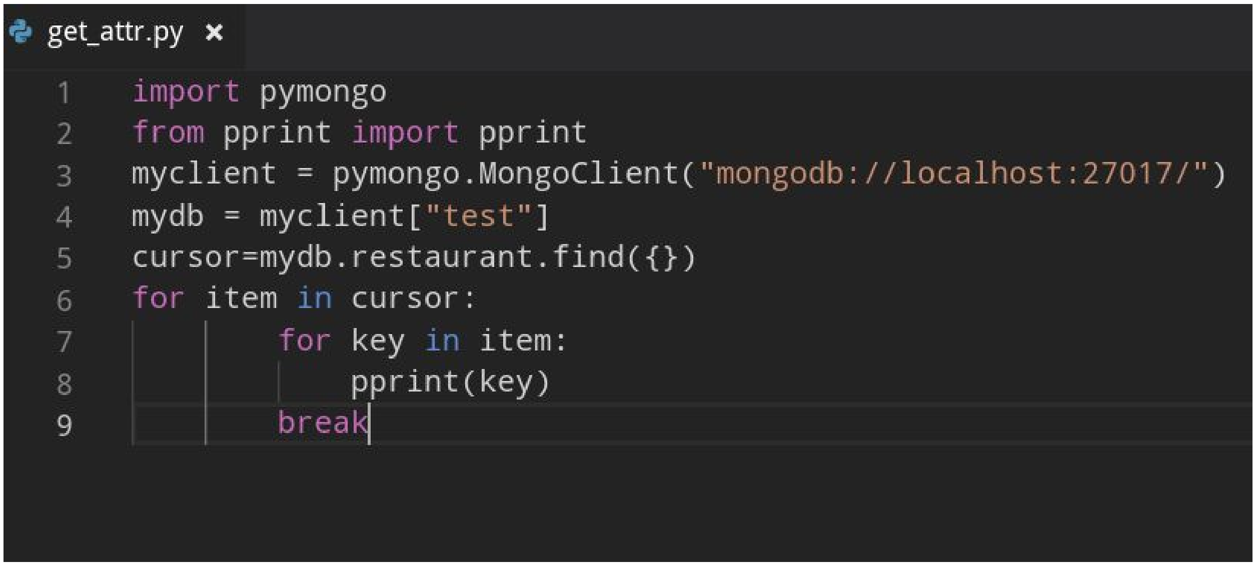


```
> use test;
switched to db test
> db.createCollection("restaurant");
{ "ok" : 1 }
```

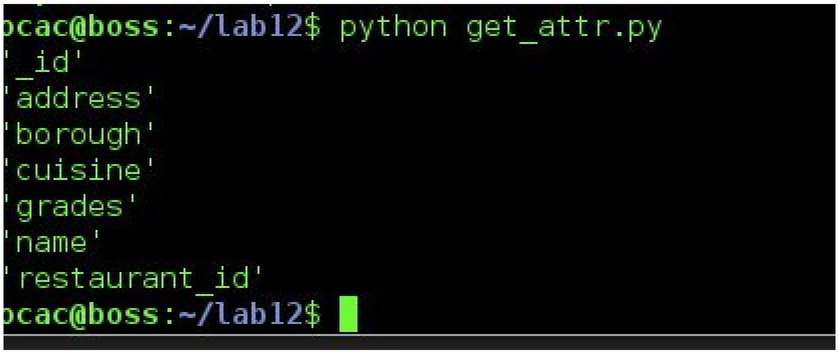


```
dbms@dbms-VirtualBox:~$ mongoimport --db test --collection restaurant  --file primer-dataset.json;
2019-04-03T00:55:26.364+0530    connected to: localhost
2019-04-03T00:55:27.420+0530    imported 25359 documents
dbms@dbms-VirtualBox:~$
```

9. List all the attributes in restaurants collection

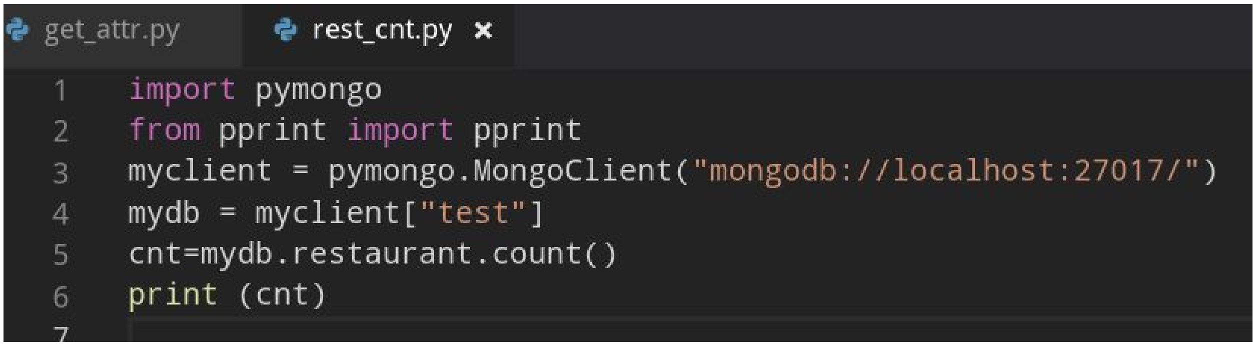


```python
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cursor=mydb.restaurant.find({})
for item in cursor:
        for key in item:
            pprint(key)
        break
```

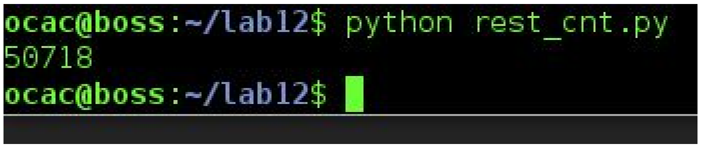


```
ocac@boss:~/lab12$ python get_attr.py
'_id'
'address'
'borough'
'cuisine'
'grades'
'name'
'restaurant_id'
ocac@boss:~/lab12$ 
```

10. Count total number of restaurants

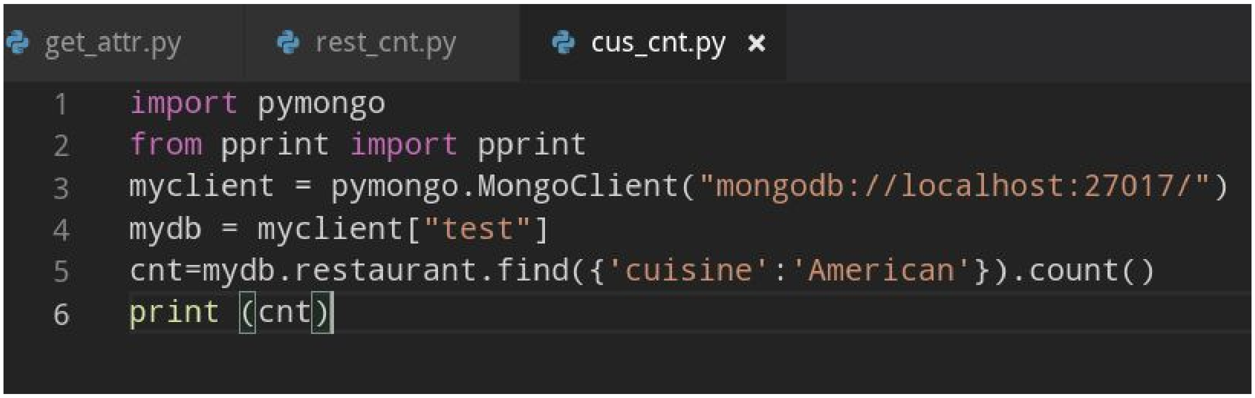


```python
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cnt=mydb.restaurant.count()
print (cnt)
```

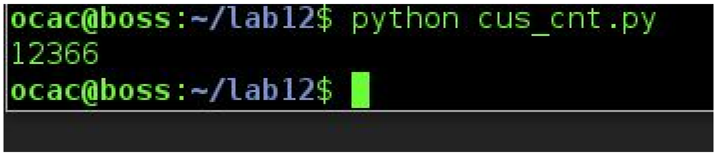


```
ocac@boss:~/lab12$ python rest_cnt.py
50718
ocac@boss:~/lab12$ 
```

11. Count number of restaurants with American cuisine

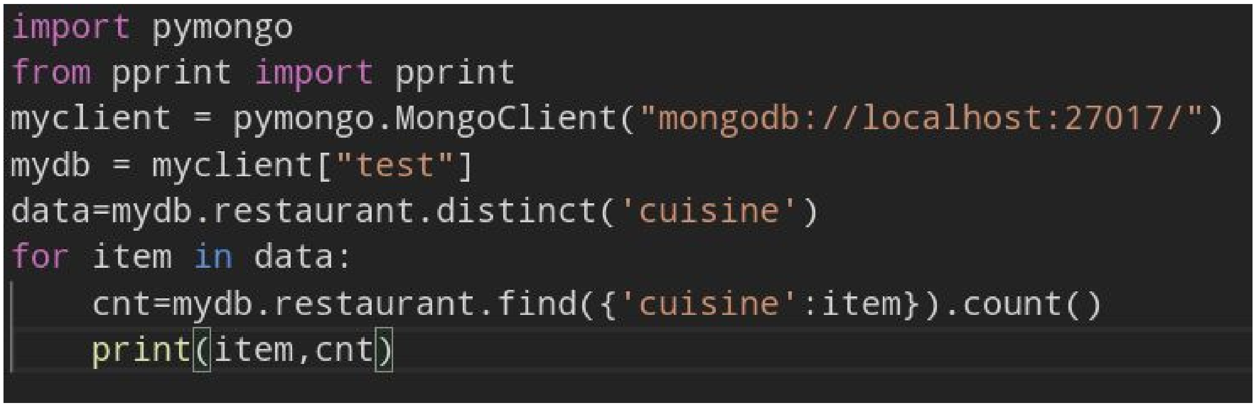


```python
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cnt=mydb.restaurant.find({'cuisine':'American'}).count()
print (cnt)
```

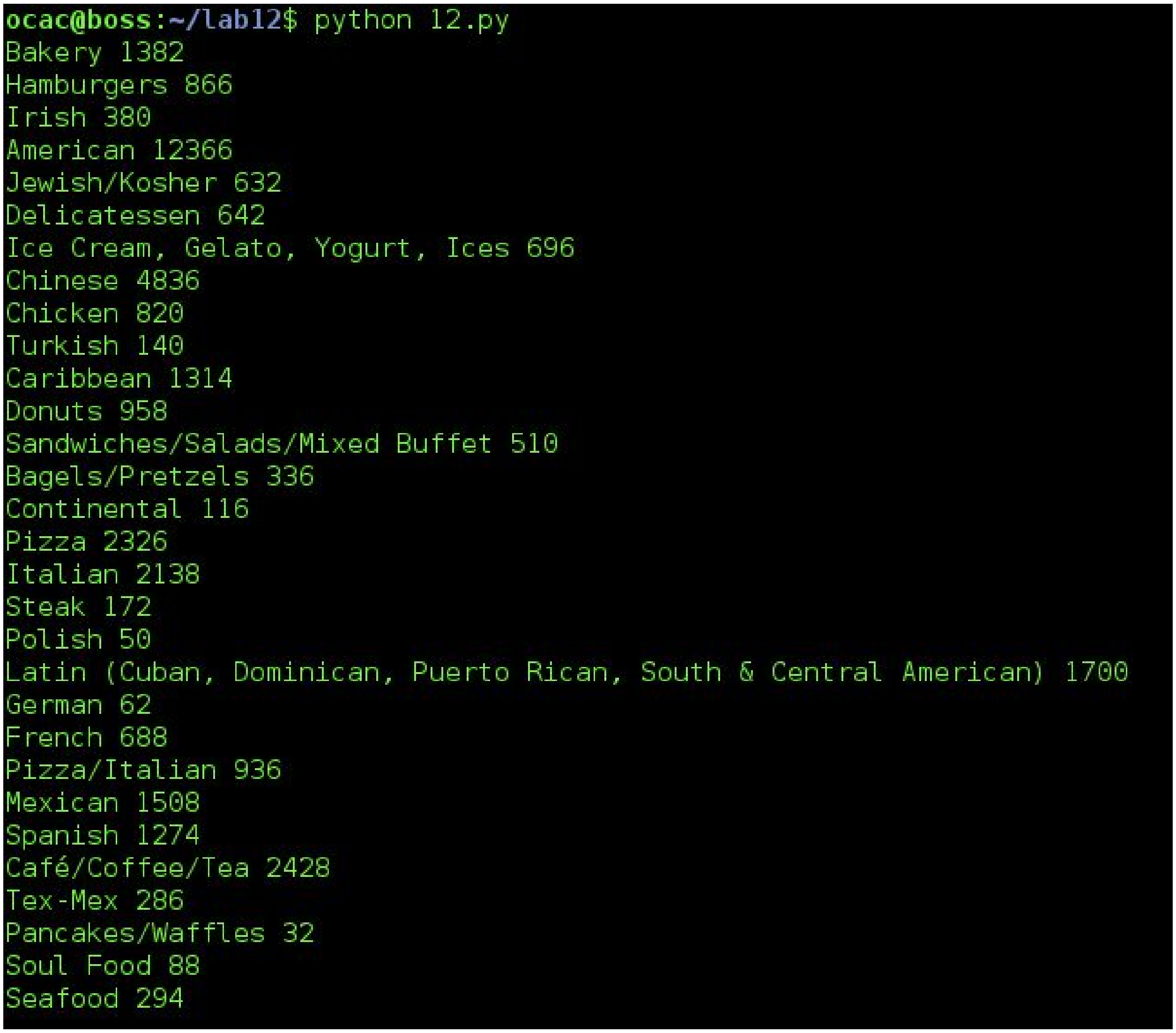


```
ocac@boss:~/lab12$ python cus_cnt.py
12366
ocac@boss:~/lab12$ 
```

12. Show the number of restaurants corresponding to each cuisine

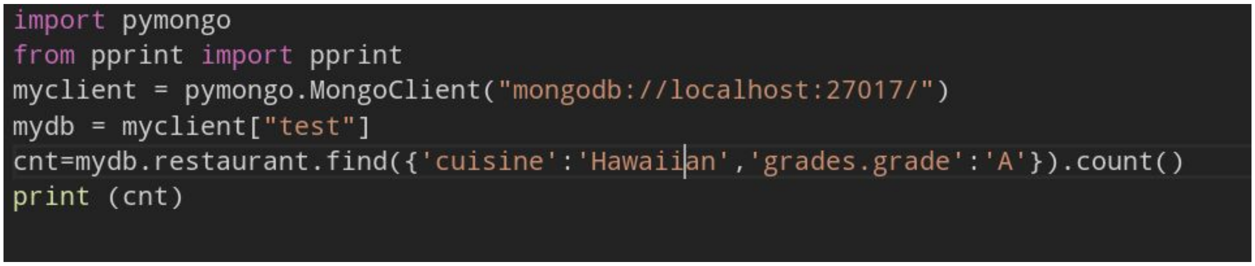


```
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
data=mydb.restaurant.distinct('cuisine')
for item in data:
    cnt=mydb.restaurant.find({'cuisine':item}).count()
    print(item,cnt)
```

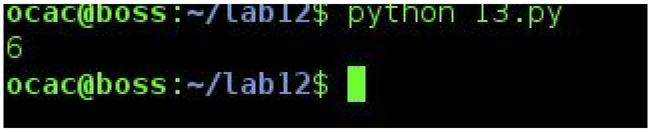


```
ocac@boss:~/lab12$ python 12.py
Bakery 1382
Hamburgers 866
Irish 380
American 12366
Jewish/Kosher 632
Delicatessen 642
Ice Cream, Gelato, Yogurt, Ices 696
Chinese 4836
Chicken 820
Turkish 140
Caribbean 1314
Donuts 958
Sandwiches/Salads/Mixed Buffet 510
Bagels/Pretzels 336
Continental 116
Pizza 2326
Italian 2138
Steak 172
Polish 50
Latin (Cuban, Dominican, Puerto Rican, South & Central American) 1700
German 62
French 688
Pizza/Italian 936
Mexican 1508
Spanish 1274
Café/Coffee/Tea 2428
Tex-Mex 286
Pancakes/Waffles 32
Soul Food 88
Seafood 294
```

13. Count number of Hawaiian cuisine restaurants with grade=A

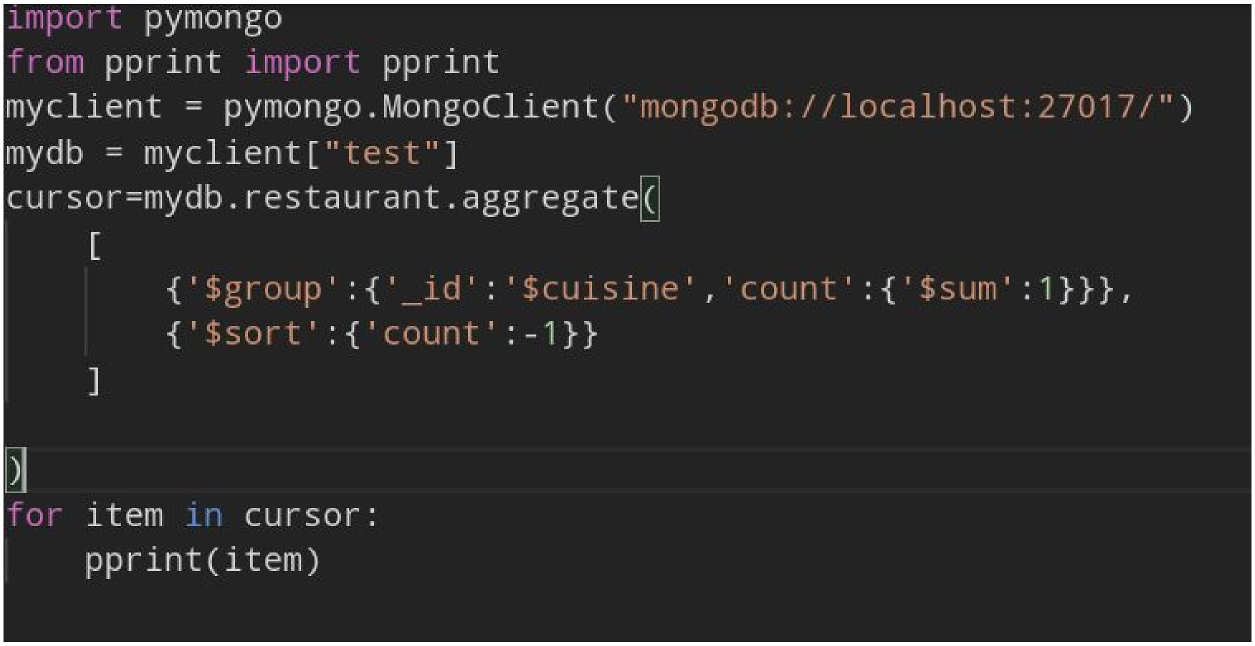


```python
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cnt=mydb.restaurant.find({'cuisine':'Hawaiian','grades.grade':'A'}).count()
print (cnt)
```



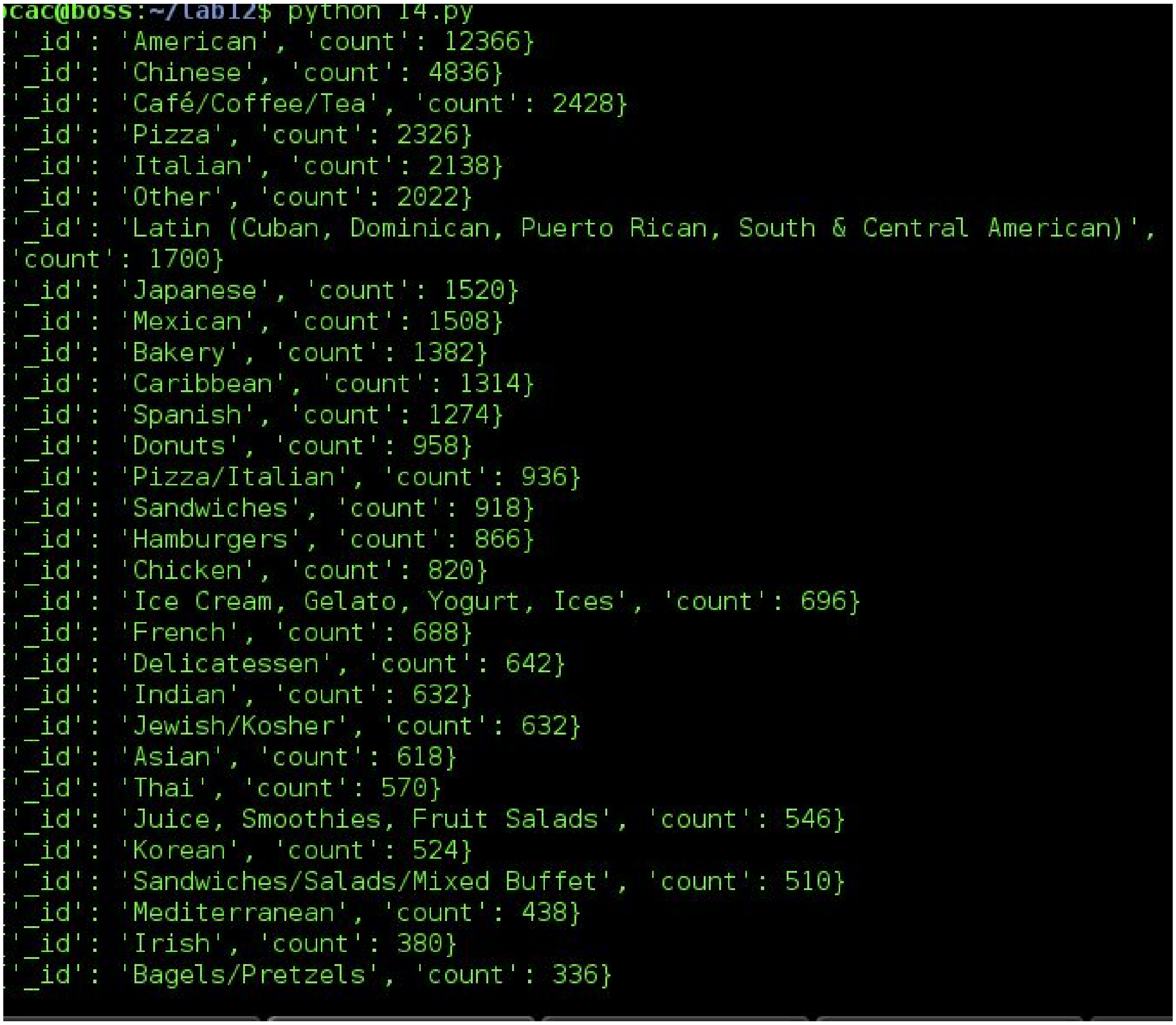
```
ocac@boss:~/lab12$ python 13.py
6
ocac@boss:~/lab12$ 
```

14. Show the number of restaurants corresponding to each cuisine using ‘cursor’ mode (you can view it in parts and show more like setting) in sorted order so that highest number cuisines appear first.



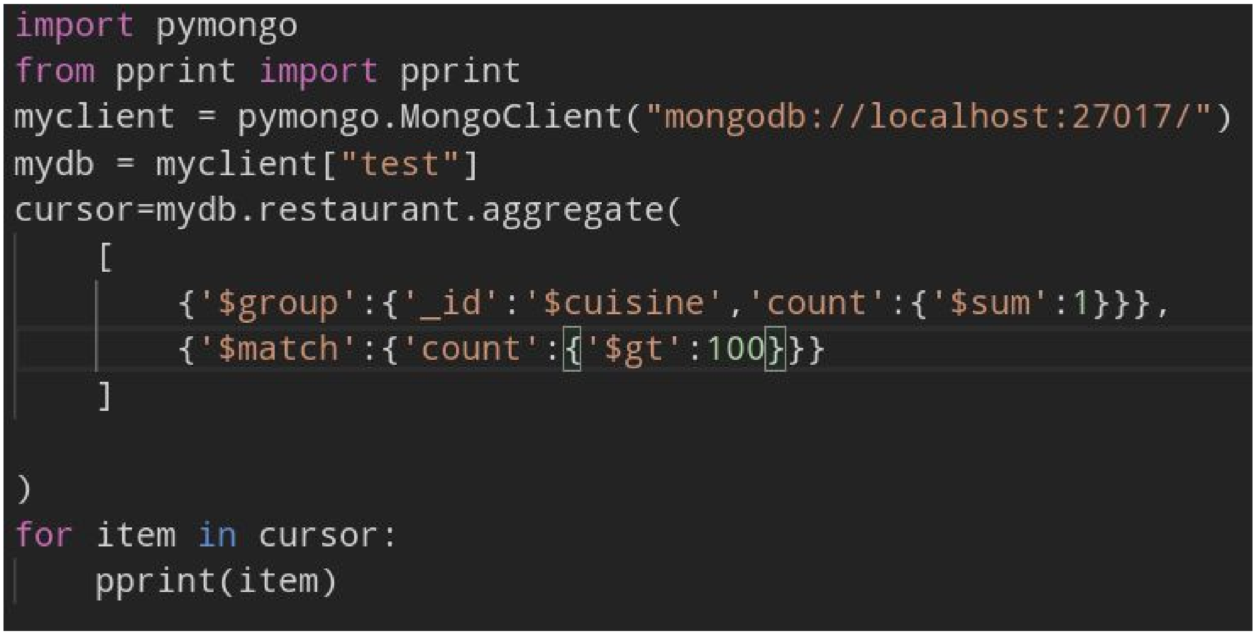
```
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cursor=mydb.restaurant.aggregate(
    [
        {'$group':{'_id':'$cuisine','count':{'$sum':1}}},
        {'$sort':{'count':-1}}
    ]

)
for item in cursor:
    pprint(item)
```



```
cac@boss:~/lab12$ python 14.py
'_id': 'American', 'count': 12366}
'_id': 'Chinese', 'count': 4836}
'_id': 'Café/Coffee/Tea', 'count': 2428}
'_id': 'Pizza', 'count': 2326}
'_id': 'Italian', 'count': 2138}
'_id': 'Other', 'count': 2022}
'_id': 'Latin (Cuban, Dominican, Puerto Rican, South & Central American)',
'count': 1700}
'_id': 'Japanese', 'count': 1520}
'_id': 'Mexican', 'count': 1508}
'_id': 'Bakery', 'count': 1382}
'_id': 'Caribbean', 'count': 1314}
'_id': 'Spanish', 'count': 1274}
'_id': 'Donuts', 'count': 958}
'_id': 'Pizza/Italian', 'count': 936}
'_id': 'Sandwiches', 'count': 918}
'_id': 'Hamburgers', 'count': 866}
'_id': 'Chicken', 'count': 820}
'_id': 'Ice Cream, Gelato, Yogurt, Ices', 'count': 696}
'_id': 'French', 'count': 688}
'_id': 'Delicatessen', 'count': 642}
'_id': 'Indian', 'count': 632}
'_id': 'Jewish/Kosher', 'count': 632}
'_id': 'Asian', 'count': 618}
'_id': 'Thai', 'count': 570}
'_id': 'Juice, Smoothies, Fruit Salads', 'count': 546}
'_id': 'Korean', 'count': 524}
'_id': 'Sandwiches/Salads/Mixed Buffet', 'count': 510}
'_id': 'Mediterranean', 'count': 438}
'_id': 'Irish', 'count': 380}
'_id': 'Bagels/Pretzels', 'count': 336}
```

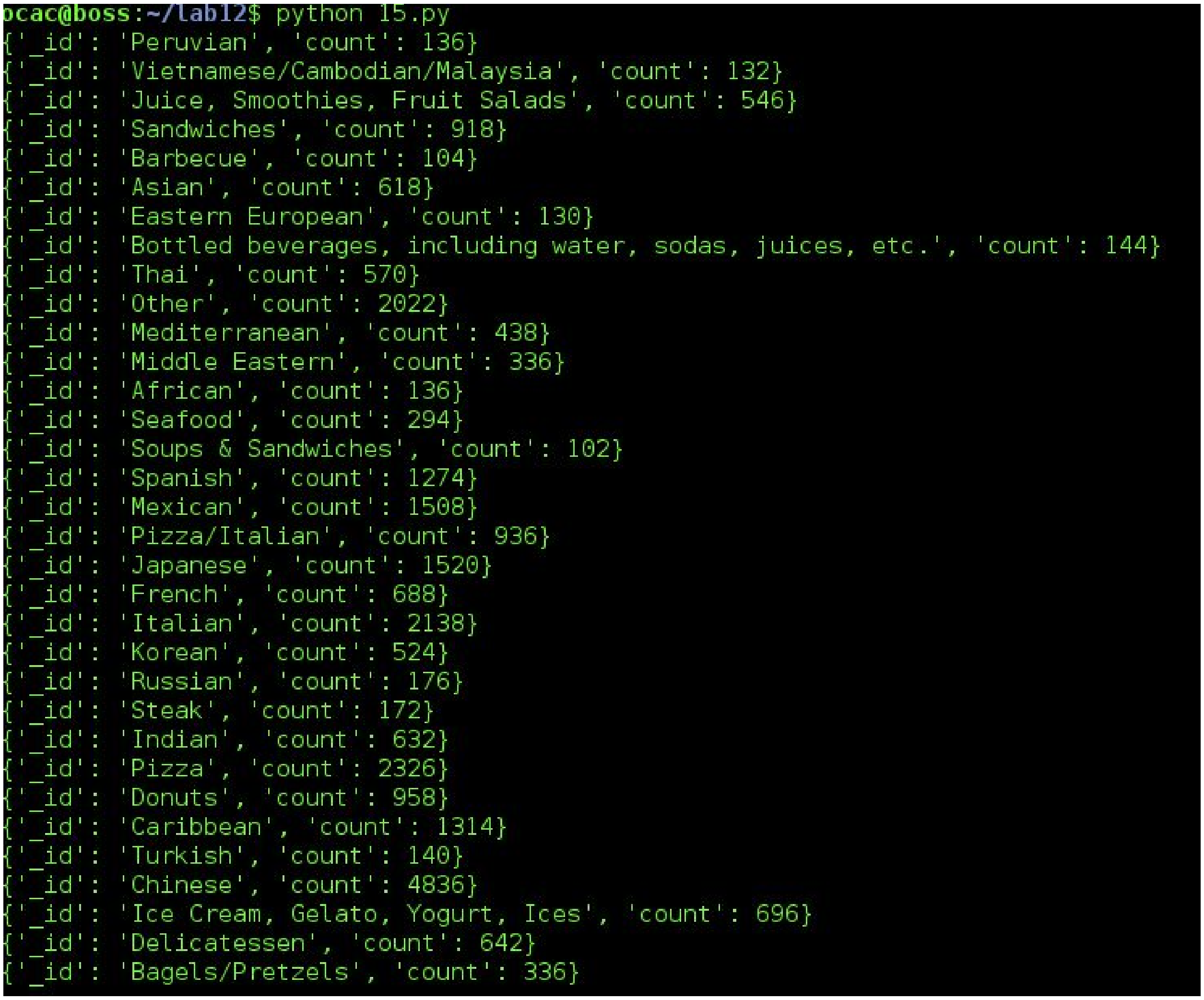
15. Modify 8 such that it returns cuisines with restaurants more than 100



```
import pymongo
from pprint import pprint
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["test"]
cursor=mydb.restaurant.aggregate(
    [
        {'$group':{'_id':'$cuisine','count':{'$sum':1}}},
        {'$match':{'count':{'$gt':100}}}
    ]

)
for item in cursor:
    pprint(item)
```

.



```
ocac@boss:~/lab12$ python 15.py
{'_id': 'Peruvian', 'count': 136}
{'_id': 'Vietnamese/Cambodian/Malaysia', 'count': 132}
{'_id': 'Juice, Smoothies, Fruit Salads', 'count': 546}
{'_id': 'Sandwiches', 'count': 918}
{'_id': 'Barbecue', 'count': 104}
{'_id': 'Asian', 'count': 618}
{'_id': 'Eastern European', 'count': 130}
{'_id': 'Bottled beverages, including water, sodas, juices, etc.', 'count': 144}
{'_id': 'Thai', 'count': 570}
{'_id': 'Other', 'count': 2022}
{'_id': 'Mediterranean', 'count': 438}
{'_id': 'Middle Eastern', 'count': 336}
{'_id': 'African', 'count': 136}
{'_id': 'Seafood', 'count': 294}
{'_id': 'Soups & Sandwiches', 'count': 102}
{'_id': 'Spanish', 'count': 1274}
{'_id': 'Mexican', 'count': 1508}
{'_id': 'Pizza/Italian', 'count': 936}
{'_id': 'Japanese', 'count': 1520}
{'_id': 'French', 'count': 688}
{'_id': 'Italian', 'count': 2138}
{'_id': 'Korean', 'count': 524}
{'_id': 'Russian', 'count': 176}
{'_id': 'Steak', 'count': 172}
{'_id': 'Indian', 'count': 632}
{'_id': 'Pizza', 'count': 2326}
{'_id': 'Donuts', 'count': 958}
{'_id': 'Caribbean', 'count': 1314}
{'_id': 'Turkish', 'count': 140}
{'_id': 'Chinese', 'count': 4836}
{'_id': 'Ice Cream, Gelato, Yogurt, Ices', 'count': 696}
{'_id': 'Delicatessen', 'count': 642}
{'_id': 'Bagels/Pretzels', 'count': 336}
```