INDEX

```
{ "_id" : "ash", "total" : 2 }
{ "_id" : "rina", "total" : 1 }
{ "_id" : "jitesh", "total" : 1 }
{ "_id" : "harsh", "total" : 2 }
```

//ADDTOSET AGGREGATE

```
> db.website.aggregate({$group:
{_id:"$name","total"{$addToSet:"$amount"}}});
{ "_id" : "ash", "total" : [ 1000, 4000 ] }
{ "_id" : "rina", "total" : [ 3000 ] }
{ "_id" : "jitesh", "total" : [ 2000 ] }
{ "_id" : "harsh", "total" : [ 1000 ] }
```

SET-13

1. Backup and restoring data

```
use demo

switched to db demo

> db.createCollection('student');

{ "ok" : 1 }

> db.Student.insert({'Rno':'1','Name':'amrutha','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.Student.insert({'Rno':'2','Name':'anakha','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.Student.insert({'Rno':'3','Name':'sherin','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.Student.insert({'Rno':'4','Name':'prathibha','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.Student.insert({'Rno':'5','Name':'judith','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.Student.insert({'Rno':'6','Name':'teena','Class':'TE COMP'});

WriteResult({ "nInserted" : 1 })

> db.student.find().pretty();

> db.Student.find()

{ "_id" : ObjectId("627ddb25856512dff8e204c9"), "Rno" : "1", "Name" : "amrutha",
"Class" : "TE COMP" }
```

```
{ "_id" : ObjectId("627ddb62856512dff8e204ca"), "Rno" : "2", "Name" : "anakha",
"Class" : "TE COMP" }

{ "_id" : ObjectId("627ddb7c856512dff8e204cb"), "Rno" : "3", "Name" : "sherin",
"Class" : "TE COMP" }

{ "_id" : ObjectId("627ddb91856512dff8e204cc"), "Rno" : "4", "Name" : "prathibha",
"Class" : "TE COMP" }

{ "_id" : ObjectId("627ddba6856512dff8e204cd"), "Rno" : "5", "Name" : "judith",
"Class" : "TE COMP" }

{ "_id" : ObjectId("627ddbbf856512dff8e204ce"), "Rno" : "6", "Name" : "teena",
"Class" : "TE COMP" }

> db.createCollection('employee')

{ "ok" : 1 }

> db.employee.insert({'eid':'107','ename':'anite','address':'cff','gender':'f'});

WriteResult({ "nInserted" : 1 })

> db.employee.insert({'eid':'108','ename':'anna','address':'cdf','gender':'f'});

WriteResult({ "nInserted" : 1 })

> db.employee.insert({'eid':'109','ename':'bharathy','address':'cff','gender':'f'});

WriteResult({ "nInserted" : 1 })

> db.employee.insert({'eid':'110','ename':'amrutha','address':'cff','gender':'f'});

WriteResult({ "nInserted" : 1 })

> db.employee.find()

{ "_id" : ObjectId("627ddd48856512dff8e204cf"), "eid" : "107", "ename" : "anite",
"address" : "cff", "gender" : "f" }

{ "_id" : ObjectId("627dddaf856512dff8e204d0"), "eid" : "108", "ename" : "anna",
"address" : "cdf", "gender" : "f" }

{ "_id" : ObjectId("627dddd2856512dff8e204d1"), "eid" : "109", "ename" :
"bharathy", "address" : "cff", "gender" : "f" }

{ "_id" : ObjectId("627ddde9856512dff8e204d2"), "eid" : "110", "ename" :
"amrutha", "address" : "cff", "gender" : "f" }
```

Open administrator:

```
C:\Windows\system32>cd C:\Program Files\MongoDB\Server\5.0\bin


C:\Program Files\MongoDB\Server\5.0\bin>mongodump


2022-05-13T10:01:08.731+0530    writing admin.system.version to
dump\admin\system.version.bson
2022-05-13T10:01:08.735+0530    done dumping admin.system.version (1 document)
2022-05-13T10:01:08.735+0530    writing demo.employee to
dump\demo\employee.bson
2022-05-13T10:01:08.738+0530    done dumping demo.employee (4 documents)
2022-05-13T10:01:08.738+0530    writing students.person to
dump\students\person.bson
2022-05-13T10:01:08.740+0530    done dumping students.person (0 documents)
2022-05-13T10:01:09.038+0530    writing demo.student to dump\demo\student.bson
2022-05-13T10:01:09.038+0530    writing demo.Student to dump\demo\Student.bson
2022-05-13T10:01:09.038+0530    writing students.Students to
dump\students\Students.bson
2022-05-13T10:01:09.040+0530    done dumping demo.student (0 documents)
2022-05-13T10:01:09.040+0530    done dumping demo.Student (6 documents)
2022-05-13T10:01:09.040+0530    done dumping students.Students (2 documents)


C:\Program Files\MongoDB\Server\5.0\bin>
```

Open mongo shell,then

```
> db.dropDatabase();
{ "ok" : 1 }
> exit
bye
C:\Program Files\MongoDB\Server\5.0\bin>mongorestore
```

```
2022-05-13T10:05:42.850+0530    using default 'dump' directory

2022-05-13T10:05:42.852+0530    preparing collections to restore from

2022-05-13T10:05:42.860+0530    reading metadata for demo.employee from
dump\demo\employee.metadata.json

2022-05-13T10:05:42.865+0530    reading metadata for demo.student from
dump\demo\student.metadata.json

2022-05-13T10:05:42.871+0530    reading metadata for students.Students from
dump\students\Students.metadata.json

2022-05-13T10:05:42.877+0530    reading metadata for students.person from
dump\students\person.metadata.json

2022-05-13T10:05:43.180+0530    restoring to existing collection students.Students
without dropping

2022-05-13T10:05:43.181+0530    restoring to existing collection students.person
without dropping

2022-05-13T10:05:43.181+0530    restoring students.person from
dump\students\person.bson

2022-05-13T10:05:43.187+0530    restoring demo.employee from
dump\demo\employee.bson

2022-05-13T10:05:43.187+0530    restoring students.Students from
dump\students\Students.bson

2022-05-13T10:05:43.193+0530    finished restoring students.person (0 documents, 0
failures)

2022-05-13T10:05:43.219+0530    finished restoring demo.employee (4 documents, 0
failures)

2022-05-13T10:05:43.245+0530    continuing through error: E11000 duplicate key
error collection: students.Students index: _id_ dup key: { _id:
ObjectId('627cd555a441ce83c4e71274') }

2022-05-13T10:05:43.245+0530    continuing through error: E11000 duplicate key
error collection: students.Students index: _id_ dup key: { _id:
ObjectId('627cd569a441ce83c4e71275') }

2022-05-13T10:05:43.246+0530    finished restoring students.Students (0 documents,
2 failures)

2022-05-13T10:05:43.309+0530    restoring demo.student from
dump\demo\student.bson
```

```
2022-05-13T10:05:43.337+0530    finished restoring demo.student (6 documents, 0
failures)
2022-05-13T10:05:43.337+0530    no indexes to restore for collection demo.student
2022-05-13T10:05:43.339+0530    no indexes to restore for collection demo.employee
2022-05-13T10:05:43.340+0530    no indexes to restore for collection
students.Students
2022-05-13T10:05:43.341+0530    no indexes to restore for collection students.person
2022-05-13T10:05:43.342+0530    10 document(s) restored successfully. 2
document(s) failed to restore.


C:\Program Files\MongoDB\Server\5.0\bin>show dbs
'show' is not recognized as an internal or external command,
operable program or batch file.


C:\Program Files\MongoDB\Server\5.0\bin>mongo
MongoDB shell version v5.0.8
connecting to:
mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("36f53a05-31fb-4bf3-883f-67016107b9a2") }
MongoDB server version: 5.0.8
================
Warning: the "mongo" shell has been superseded by "mongosh",
which delivers improved usability and compatibility.The "mongo" shell has been
deprecated and will be removed in
an upcoming release.
For installation instructions, see
https://docs.mongodb.com/mongodb-shell/install/
================
---
The server generated these startup warnings when booting:
        2022-05-12T14:04:23.024+05:30: Access control is not enabled for the database.
Read and write access to data and configuration is unrestricted

---

---

        Enable MongoDB's free cloud-based monitoring service, which will then receive
and display

        metrics about your deployment (disk utilization, CPU, operation statistics, etc).


        The monitoring data will be available on a MongoDB website with a unique
URL accessible to you

        and anyone you share the URL with. MongoDB may use this information to
make product

        improvements and to suggest MongoDB products and deployment options to
you.


        To enable free monitoring, run the following command:
db.enableFreeMonitoring()

        To permanently disable this reminder, run the following command:
db.disableFreeMonitoring()

---

> show dbs

admin     0.000GB

config    0.000GB

demo      0.000GB

local     0.000GB

students  0.000GB

>
```

SET-14

1. Create Users and Roles

(1)

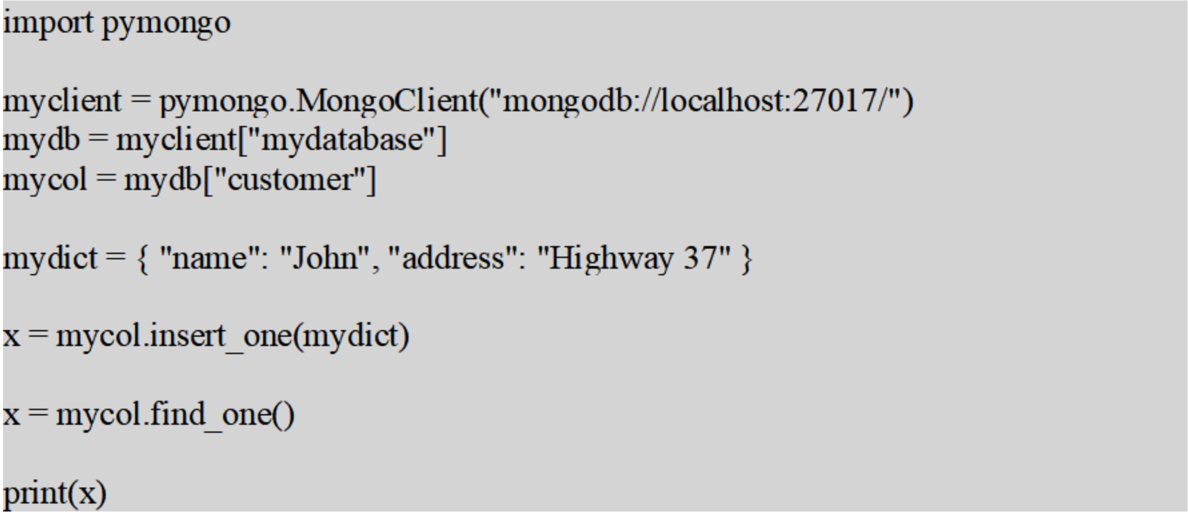
```
use admin
db.createUser(
   {
     user: "admin",
     pwd: passwordPrompt(),
     roles: [  { "role" : "userAdminAnyDatabase","db" : "admin"},
"readWriteAnyDatabase"]
   }
)

mongo -u "reportsUser" -p "reportsUser" --authenticationDatabase "admin"
```

(2)

```
use employee
db.createUser(
   {
     user: "employee",
     pwd: passwordPrompt(),
     roles: [  { "role" : "readWrite","db" : "employee"}]
   }
)


mongo -u "employee" -p "employee" --authenticationDatabase "employee"
```

<u>pymongo</u>

1.

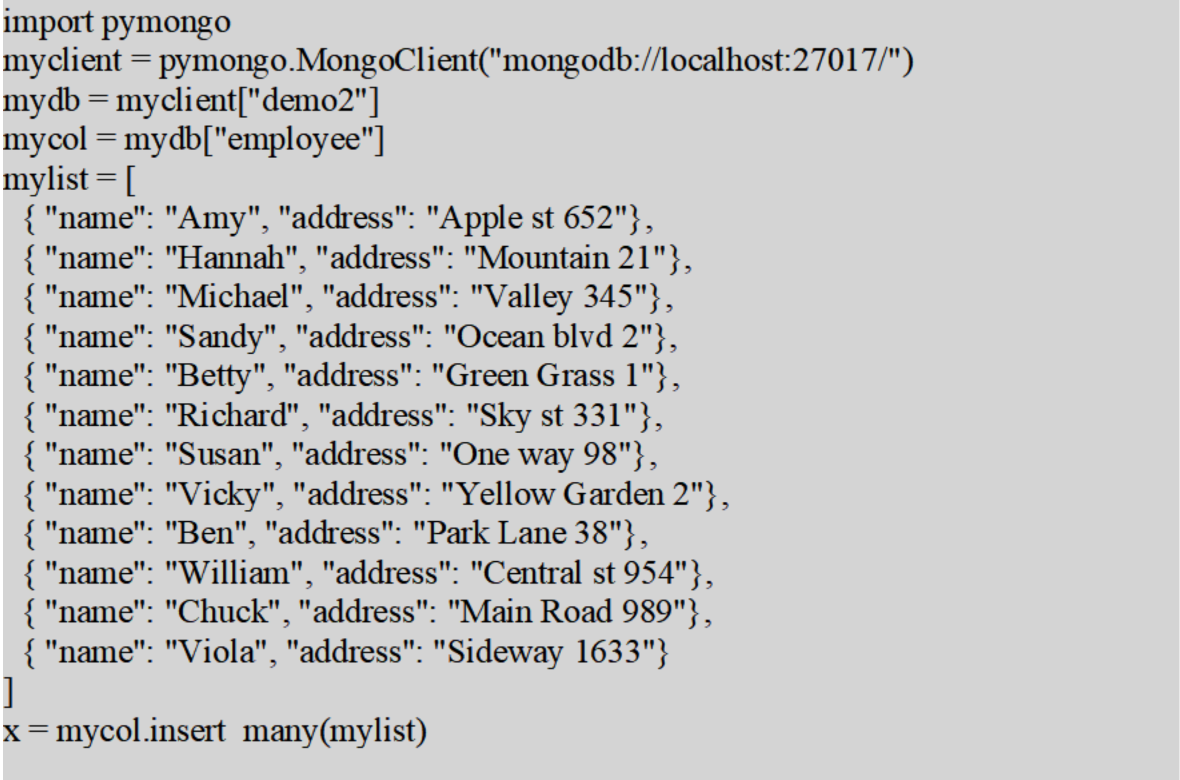


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["mydatabase"]
mycol = mydb["customer"]

mydict = { "name": "John", "address": "Highway 37" }

x = mycol.insert_one(mydict)

x = mycol.find_one()

print(x)
```

output

```
{'_id': ObjectId('629dbdf9cacb7bbcbfa8a3f3'), 'name': 'John', 'address': 'Highway 37'}
```

2.

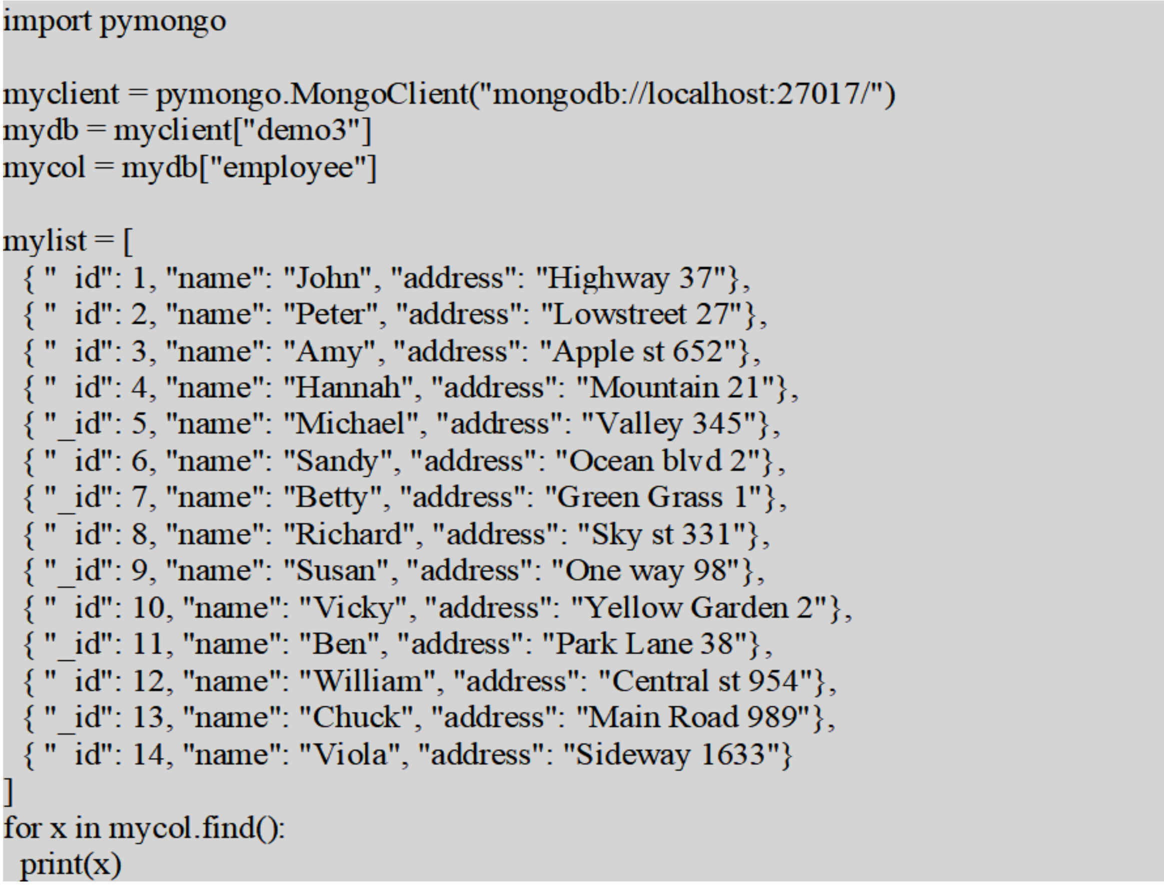


```
import pymongo
myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo2"]
mycol = mydb["employee"]
mylist = [
  { "name": "Amy", "address": "Apple st 652"},
  { "name": "Hannah", "address": "Mountain 21"},
  { "name": "Michael", "address": "Valley 345"},
  { "name": "Sandy", "address": "Ocean blvd 2"},
  { "name": "Betty", "address": "Green Grass 1"},
  { "name": "Richard", "address": "Sky st 331"},
  { "name": "Susan", "address": "One way 98"},
  { "name": "Vicky", "address": "Yellow Garden 2"},
  { "name": "Ben", "address": "Park Lane 38"},
  { "name": "William", "address": "Central st 954"},
  { "name": "Chuck", "address": "Main Road 989"},
  { "name": "Viola", "address": "Sideway 1633"}
]
x = mycol.insert  many(mylist)
```

output

[ObjectId('629dc1d4395ce873e6b47b76'), ObjectId('629dc1d4395ce873e6b47b77'), ObjectId('629dc1d4395ce873e6b47b78'), ObjectId('629dc1d4395ce873e6b47b79'), ObjectId('629dc1d4395ce873e6b47b7a'), ObjectId('629dc1d4395ce873e6b47b7b'), ObjectId('629dc1d4395ce873e6b47b7c'), ObjectId('629dc1d4395ce873e6b47b7d'), ObjectId('629dc1d4395ce873e6b47b7e'), ObjectId('629dc1d4395ce873e6b47b7f'), ObjectId('629dc1d4395ce873e6b47b80'), ObjectId('629dc1d4395ce873e6b47b81')]

3.



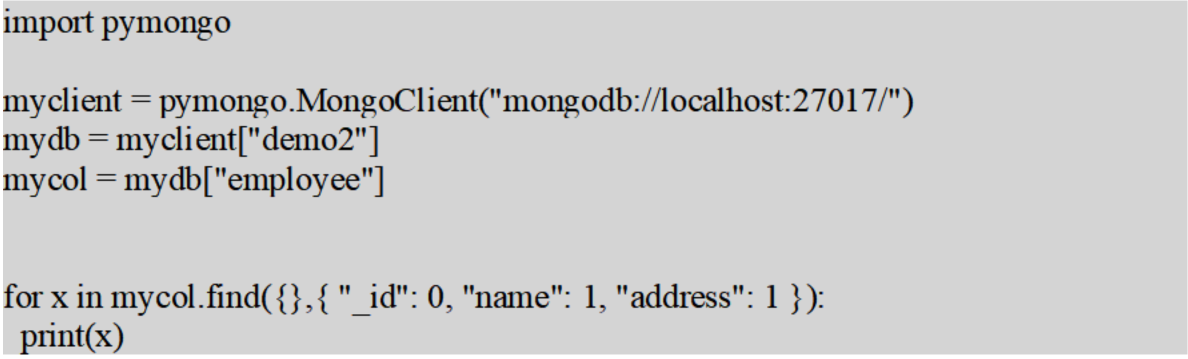
```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

mylist = [
  { "  id": 1, "name": "John", "address": "Highway 37"},
  { "  id": 2, "name": "Peter", "address": "Lowstreet 27"},
  { "  id": 3, "name": "Amy", "address": "Apple st 652"},
  { "  id": 4, "name": "Hannah", "address": "Mountain 21"},
  { "_id": 5, "name": "Michael", "address": "Valley 345"},
  { "  id": 6, "name": "Sandy", "address": "Ocean blvd 2"},
  { "_id": 7, "name": "Betty", "address": "Green Grass 1"},
  { "  id": 8, "name": "Richard", "address": "Sky st 331"},
  { "_id": 9, "name": "Susan", "address": "One way 98"},
  { "  id": 10, "name": "Vicky", "address": "Yellow Garden 2"},
  { "_id": 11, "name": "Ben", "address": "Park Lane 38"},
  { "  id": 12, "name": "William", "address": "Central st 954"},
  { "_id": 13, "name": "Chuck", "address": "Main Road 989"},
  { "  id": 14, "name": "Viola", "address": "Sideway 1633"}
]
for x in mycol.find():
  print(x)
```

output

```
{'_id': 1, 'name': 'John', 'address': 'Highway 37'}

{'_id': 2, 'name': 'Peter', 'address': 'Lowstreet 27'}

{'_id': 3, 'name': 'Amy', 'address': 'Apple st 652'}

{'_id': 4, 'name': 'Hannah', 'address': 'Mountain 21'}

{'_id': 5, 'name': 'Michael', 'address': 'Valley 345'}

{'_id': 6, 'name': 'Sandy', 'address': 'Ocean blvd 2'}

{'_id': 7, 'name': 'Betty', 'address': 'Green Grass 1'}
```

```
{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}

{'_id': 9, 'name': 'Susan', 'address': 'One way 98'}

{'_id': 10, 'name': 'Vicky', 'address': 'Yellow Garden 2'}

{'_id': 11, 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': 12, 'name': 'William', 'address': 'Central st 954'}

{'_id': 13, 'name': 'Chuck', 'address': 'Main Road 989'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}
```

4.

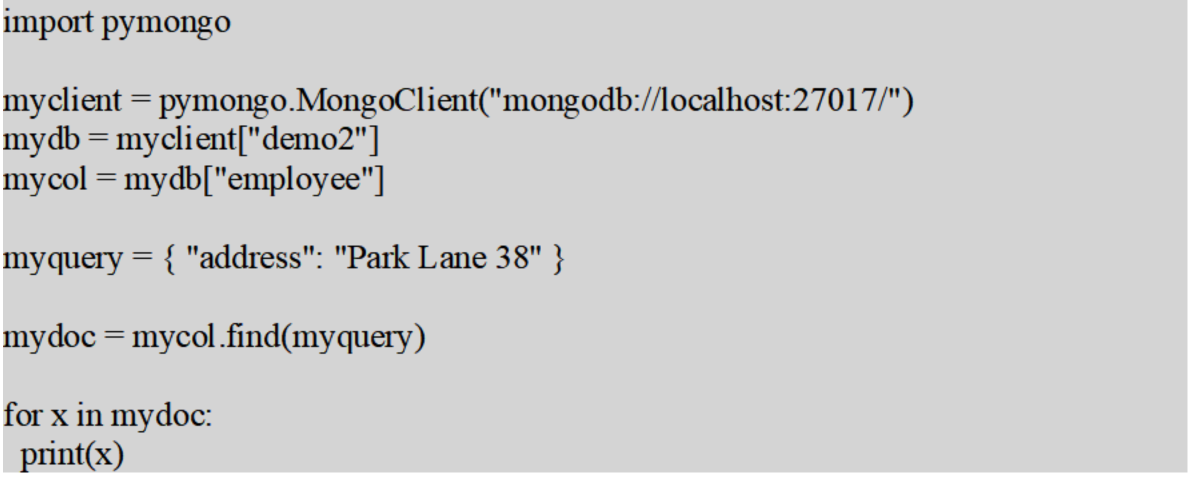


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo2"]
mycol = mydb["employee"]


for x in mycol.find({},{ "_id": 0, "name": 1, "address": 1 }):
  print(x)
```

output

```
{'_id': 1, 'name': 'John', 'address': 'Highway 37'}

{'_id': 2, 'name': 'Peter', 'address': 'Lowstreet 27'}

{'_id': 3, 'name': 'Amy', 'address': 'Apple st 652'}

{'_id': 4, 'name': 'Hannah', 'address': 'Mountain 21'}

{'_id': 5, 'name': 'Michael', 'address': 'Valley 345'}

{'_id': 6, 'name': 'Sandy', 'address': 'Ocean blvd 2'}

{'_id': 7, 'name': 'Betty', 'address': 'Green Grass 1'}

{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}

{'_id': 9, 'name': 'Susan', 'address': 'One way 98'}

{'_id': 10, 'name': 'Vicky', 'address': 'Yellow Garden 2'}

{'_id': 11, 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': 12, 'name': 'William', 'address': 'Central st 954'}

{'_id': 13, 'name': 'Chuck', 'address': 'Main Road 989'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}
```

5.

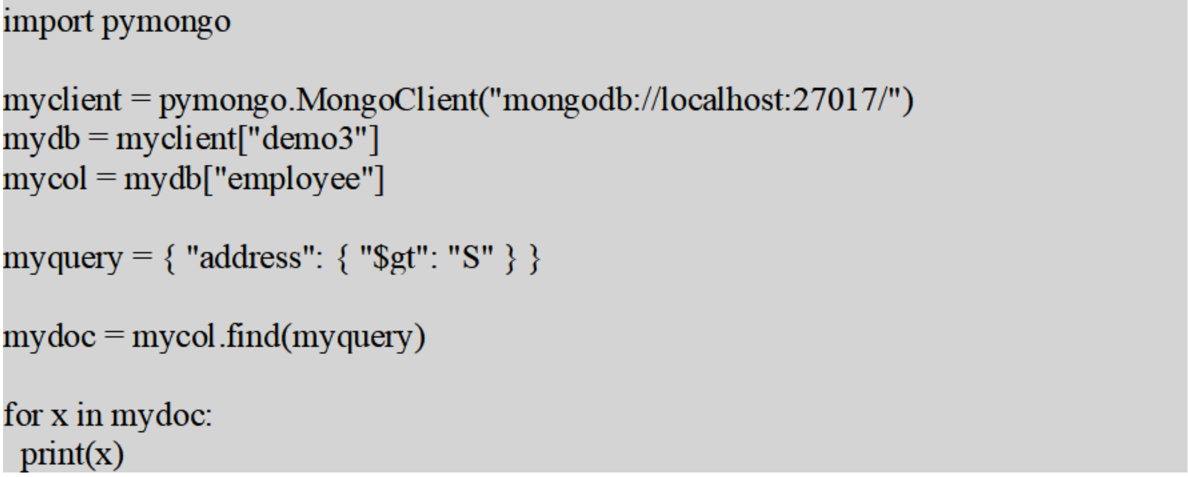


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo2"]
mycol = mydb["employee"]

myquery = { "address": "Park Lane 38" }

mydoc = mycol.find(myquery)

for x in mydoc:
  print(x)
```

output

```
{'_id': ObjectId('629dbfafce7710f58491c638'), 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': ObjectId('629dbfe367e8c2542f342e0c'), 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': ObjectId('629dbfee31396d79d72b783d'), 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': ObjectId('629dc1d4395ce873e6b47b7e'), 'name': 'Ben', 'address': 'Park Lane 38'}
```

6.

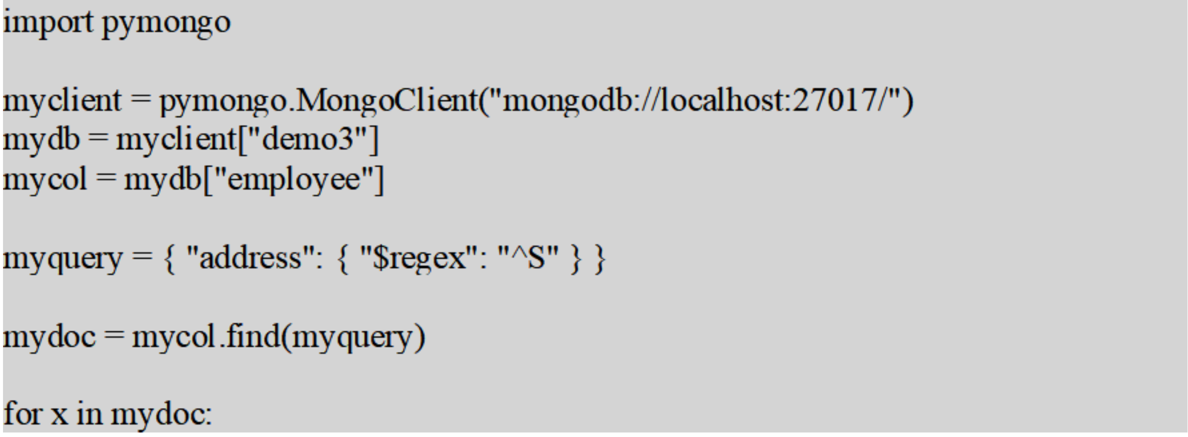


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

myquery = { "address": { "$gt": "S" } }

mydoc = mycol.find(myquery)

for x in mydoc:
  print(x)
```

output

```
{'_id': 5, 'name': 'Michael', 'address': 'Valley 345'}

{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}

{'_id': 10, 'name': 'Vicky', 'address': 'Yellow Garden 2'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}
```

7.

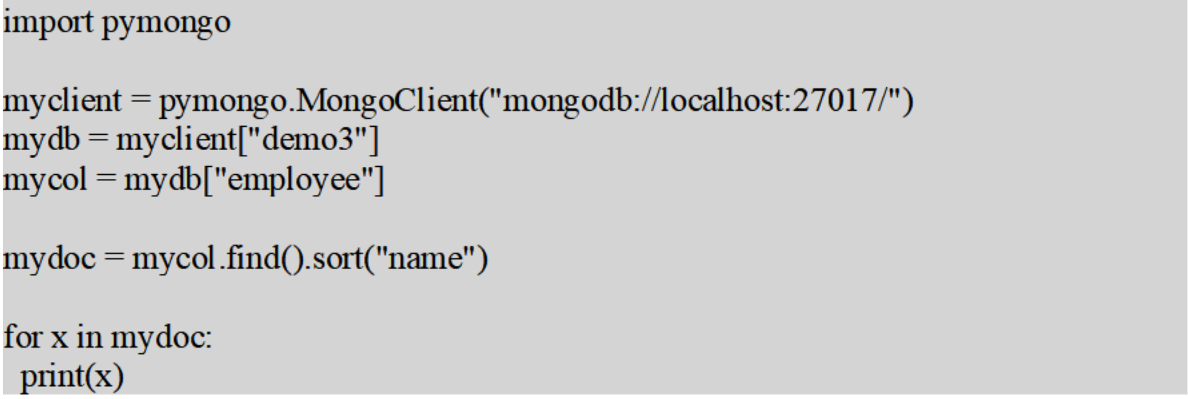


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

myquery = { "address": { "$regex": "^S" } }

mydoc = mycol.find(myquery)

for x in mydoc:
```

output

```
{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}
```

8.



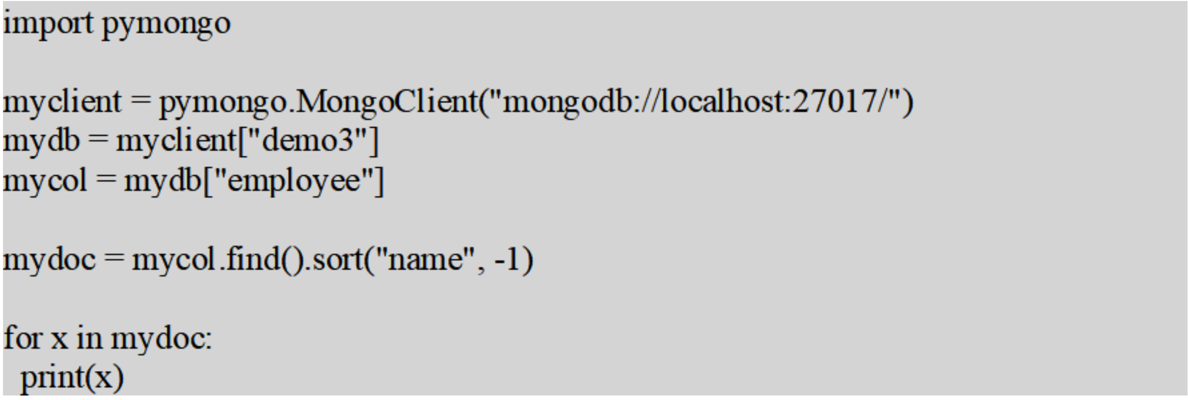
```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

mydoc = mycol.find().sort("name")

for x in mydoc:
  print(x)
```

output

```
{'_id': 3, 'name': 'Amy', 'address': 'Apple st 652'}

{'_id': 11, 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': 7, 'name': 'Betty', 'address': 'Green Grass 1'}

{'_id': 13, 'name': 'Chuck', 'address': 'Main Road 989'}

{'_id': 4, 'name': 'Hannah', 'address': 'Mountain 21'}

{'_id': 1, 'name': 'John', 'address': 'Highway 37'}

{'_id': 5, 'name': 'Michael', 'address': 'Valley 345'}

{'_id': 2, 'name': 'Peter', 'address': 'Lowstreet 27'}

{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}
```

```
{'_id': 6, 'name': 'Sandy', 'address': 'Ocean blvd 2'}

{'_id': 9, 'name': 'Susan', 'address': 'One way 98'}

{'_id': 10, 'name': 'Vicky', 'address': 'Yellow Garden 2'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}

{'_id': 12, 'name': 'William', 'address': 'Central st 954'}
```

9.

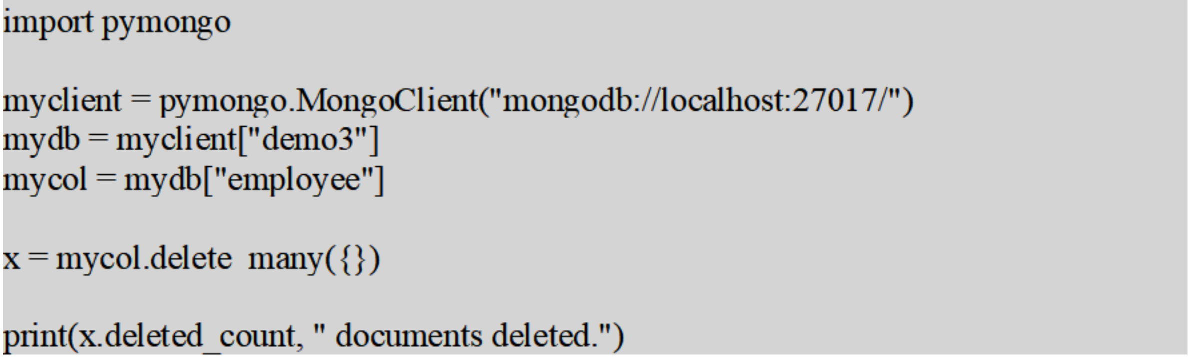


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

mydoc = mycol.find().sort("name", -1)

for x in mydoc:
  print(x)
```

output

```
{'_id': 12, 'name': 'William', 'address': 'Central st 954'}

{'_id': 14, 'name': 'Viola', 'address': 'Sideway 1633'}

{'_id': 10, 'name': 'Vicky', 'address': 'Yellow Garden 2'}

{'_id': 9, 'name': 'Susan', 'address': 'One way 98'}

{'_id': 6, 'name': 'Sandy', 'address': 'Ocean blvd 2'}

{'_id': 8, 'name': 'Richard', 'address': 'Sky st 331'}

{'_id': 2, 'name': 'Peter', 'address': 'Lowstreet 27'}

{'_id': 5, 'name': 'Michael', 'address': 'Valley 345'}

{'_id': 1, 'name': 'John', 'address': 'Highway 37'}

{'_id': 4, 'name': 'Hannah', 'address': 'Mountain 21'}

{'_id': 13, 'name': 'Chuck', 'address': 'Main Road 989'}

{'_id': 7, 'name': 'Betty', 'address': 'Green Grass 1'}

{'_id': 11, 'name': 'Ben', 'address': 'Park Lane 38'}

{'_id': 3, 'name': 'Amy', 'address': 'Apple st 652'}
```

10.

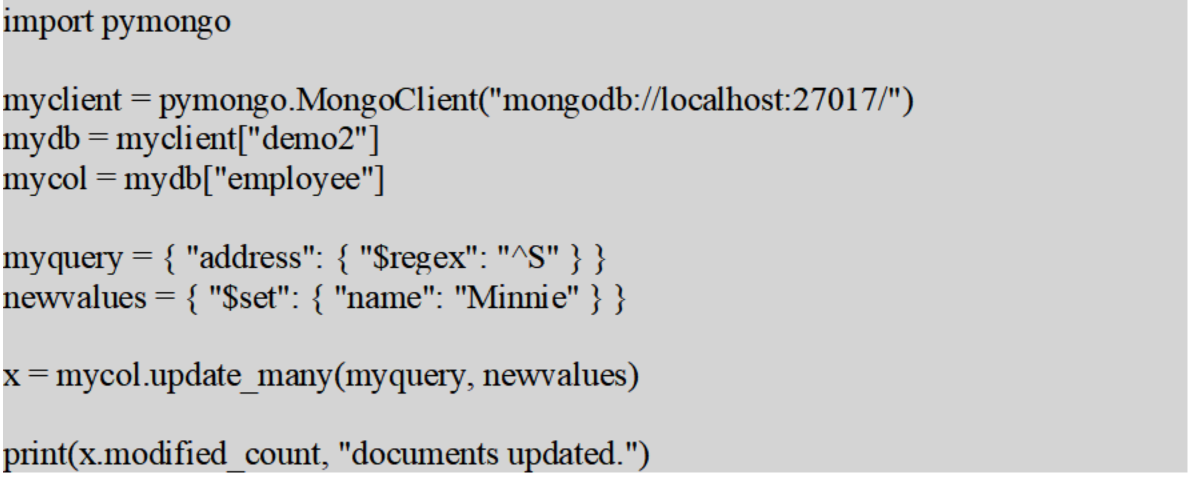


```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo3"]
mycol = mydb["employee"]

x = mycol.delete  many({})

print(x.deleted_count, " documents deleted.")
```

output

13 documents deleted.

11.



```
import pymongo

myclient = pymongo.MongoClient("mongodb://localhost:27017/")
mydb = myclient["demo2"]
mycol = mydb["employee"]

myquery = { "address": { "$regex": "^S" } }
newvalues = { "$set": { "name": "Minnie" } }

x = mycol.update_many(myquery, newvalues)

print(x.modified_count, "documents updated.")
```

output

8 documents updated.