

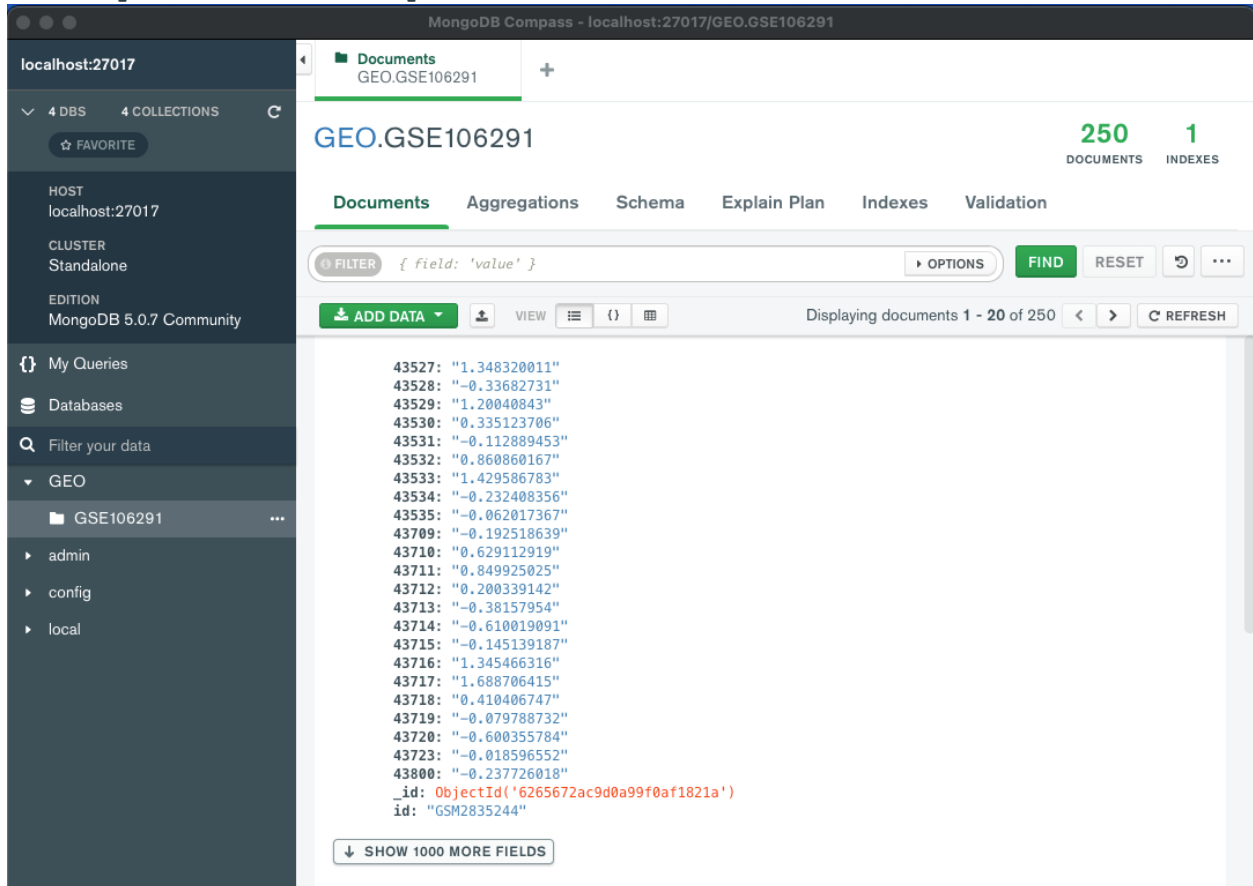
MongoDB

Team 2

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THIS HOMEWORK IS DONE IN MongoDB

1. Create a database called "GEO"; Create a collection called "GSE106291" And upload "GSE106291.zip" file to GEO.GSE106291.



2. Write the attached MongoDB scripts (Script_CS527.js) against GEO.GSE106291 by replacing "instacart" with "GEO" and "customers" with "GSE106291".

```
// select database
use GEO;

> show dbs
GEO      0.080GB
admin    0.000GB
config   0.000GB
local    0.000GB
> use GEO
switched to db GEO

// create a collection
db.createCollection("GSE106291");

> show collections
GSE106291

// add a document
db.GSE106291.insert({id:"AAA", value:"-0.111111111"});
[> db.GSE106291.insert({id:"AAA", value:"-0.111111111"})
WriteResult({ "nInserted" : 1 })
```



```
// remove just one document
db.GSE106291.remove({id:"CCC"},{justone:true});
> db.GSE106291.remove({id:"CCC"},{justone:true})
WriteResult({ "nRemoved" : 1 })
```

```
// add nested documents
```

```
db.GSE106291.insert({
  id:"AAA",
  population:"5000",
  country: "USA",
  memberships: ["UN","NATO"]
});

db.GSE106291.insert({
  id:"BBB",
  population: "3000",
  country: "China",
  age:65,
  memberships: ["UN","UNIC"]});
```

```
> db.GSE106291.insert({
... id:"AAA",
... population:"5000",
... country: "USA",
... memberships: ["UN","NATO"]
... });
WriteResult({ "nInserted" : 1 })
>
> db.GSE106291.insert({
... id:"BBB",
... population: "3000",
... country: "China",
... age:65,
... memberships: ["UN","UNIC"]});
WriteResult({ "nInserted" : 1 })
```

```
// search by filter
```

```
db.GSE106291.find({id:"AAA"});
> db.GSE106291.find({id:"AAA"})
{ "_id" : ObjectId("62657492edf30bda6be48674"), "id" : "AAA", "population" : "5000", "country" : "USA", "memberships" : [ "UN", "NATO" ] }
```

```
// search by filter and logical operators
```

```
db.GSE106291.find({$or:[{id:"AAA"},{country:"China"}]}).pretty();
```

```
> db.GSE106291.find({$or:[{id:"AAA"},{country:"China"}]}).pretty()
{
  "_id" : ObjectId("62657492edf30bda6be48674"),
  "id" : "AAA",
  "population" : "5000",
  "country" : "USA",
  "memberships" : [
    "UN",
    "NATO"
  ]
}
{
  "_id" : ObjectId("62657492edf30bda6be48675"),
  "id" : "BBB",
  "population" : "3000",
  "country" : "China",
  "age" : 65,
  "memberships" : [
    "UN",
    "UNIC"
  ]
}
```

```
// search by filter and numerical operator
```

```
db.GSE106291.find({population:{$lt: "4000"}}).pretty();
```

```
> db.GSE106291.find({population:{<4000}}).pretty()
{
  "_id" : ObjectId("62657492edf30bda6be48675"),
  "id" : "BBB",
  "population" : "3000",
  "country" : "China",
  "age" : 65,
  "memberships" : [
    "UN",
    "UNIC"
  ]
}
```

// search a nested document

```
db.GSE106291.find({"address.city":"New York"}).pretty();
```

```
> db.GSE106291.insert({
... id:"CCC",
... country: "GER",
... population:"1000",
... age:65,
... memberships: ["UN","EU"],
... address:{
... city:"New York",
... state:"NY",
... contacts:[
... {name:"Ali", relationship:"no-friend"},
... {name:"Frazer", relationship:"bithim"}
... ]});
WriteResult({ "nInserted" : 1 })
> db.GSE106291.find({"address.city":"New York"}).pretty()
{
  "_id" : ObjectId("62657709edf30bda6be48676"),
  "id" : "CCC",
  "country" : "GER",
  "population" : "1000",
  "age" : 65,
  "memberships" : [
    "UN",
    "EU"
  ],
  "address" : {
    "city" : "New York",
    "state" : "NY"
  },
  "contacts" : [
    {
      "name" : "Ali",
      "relationship" : "no-friend"
    },
    {
      "name" : "Frazer",
      "relationship" : "bithim"
    }
  ]
}
```

// search a document by attribute with multiple values

```
db.GSE106291.find({memberships:"UN"}).pretty();
```

```
> db.GSE106291.find(memberships:"UN").pretty();
{
  "_id" : ObjectId("62657492edf30bda6be48674"),
  "id" : "AAA",
  "population" : "5000",
  "country" : "USA",
  "memberships" : [
    "UN",
    "NATO"
  ]
}
{
  "_id" : ObjectId("62657492edf30bda6be48675"),
  "id" : "BBB",
  "population" : "3000",
  "country" : "China",
  "age" : 65,
  "memberships" : [
    "UN",
    "UNIC"
  ]
}
{
  "_id" : ObjectId("62657709edf30bda6be48676"),
  "id" : "CCC",
  "country" : "GER",
  "population" : "1000",
  "age" : 65,
  "memberships" : [
    "UN",
    "EU"
  ],
  "address" : {
    "city" : "New York",
    "state" : "NY"
  },
  "contacts" : [
    {
      "name" : "Ali",
      "relationship" : "no-friend"
    },
    {
      "name" : "Frazer",
      "relationship" : "bithim"
    }
  ]
}
```

```
// sort documents ascendingly
```

```
db.GSE106291.find({id:"BBB"}).sort({id:1}).pretty();
```

```
> db.GSE106291.find({id:"BBB"}).sort({id:1}).pretty();
{
  "_id" : ObjectId("62657492edf30bda6be48675"),
  "id" : "BBB",
  "population" : "3000",
  "country" : "China",
  "age" : 65,
  "memberships" : [
    "UN",
    "UNIC"
  ]
}
{
  "_id" : ObjectId("626578f5edf30bda6be48678"),
  "id" : "BBB",
  "country" : "GER",
  "population" : "2000",
  "age" : 65,
  "memberships" : [
    "UN",
    "EU"
  ],
  "address" : {
    "city" : "New York",
    "state" : "NY"
  },
  "contacts" : [
    {
      "name" : "Ali",
      "relationship" : "no-friend"
    },
    {
      "name" : "Frazer",
      "relationship" : "bithim"
    }
  ]
}
```

```
// sort documents descendingly
```

```
db.GSE106291.find({id:"BBB"}).sort({id:-1}).pretty();
```

```
> db.GSE106291.find({id:"BBB"}).sort({id:-1}).pretty();
{
  "_id" : ObjectId("62657492edf30bda6be48675"),
  "id" : "BBB",
  "population" : "3000",
  "country" : "China",
  "age" : 65,
  "memberships" : [
    "UN",
    "UNIC"
  ]
}
{
  "_id" : ObjectId("626578f5edf30bda6be48678"),
  "id" : "BBB",
  "country" : "GER",
  "population" : "2000",
  "age" : 65,
  "memberships" : [
    "UN",
    "EU"
  ],
  "address" : {
    "city" : "New York",
    "state" : "NY"
  },
  "contacts" : [
    {
      "name" : "Ali",
      "relationship" : "no-friend"
    },
    {
      "name" : "Frazer",
      "relationship" : "bithim"
    }
  ]
}
```

```
// count documents
```

```
db.GSE106291.find().count();  
> db.GSE106291.find().count();  
253
```

```
// search + count
```

```
db.GSE106291.find({id:"AAA"}).count();  
> db.GSE106291.find({id:"AAA"}).count();  
1
```

```
// documents result set limit
```

```
db.GSE106291.find({id:"BBB"}).limit(2).pretty();  
> db.GSE106291.find({id:"BBB"}).limit(2).pretty();  
{  
  "_id" : ObjectId("62657492edf30bda6be48675"),  
  "id" : "BBB",  
  "population" : "3000",  
  "country" : "China",  
  "age" : 65,  
  "memberships" : [  
    "UN",  
    "UNIC"  
  ]  
}  
{  
  "_id" : ObjectId("626578f5edf30bda6be48678"),  
  "id" : "BBB",  
  "country" : "GER",  
  "population" : "2000",  
  "age" : 65,  
  "memberships" : [  
    "UN",  
    "EU"  
  ],  
  "address" : {  
    "city" : "New York",  
    "state" : "NY"  
  },  
  "contacts" : [  
    {  
      "name" : "Ali",  
      "relationship" : "no-friend"  
    },  
    {  
      "name" : "Frazer",  
      "relationship" : "bithim"  
    }  
  ]  
}
```

```
// search by loop
```

```
db.GSE106291.find({id:"BBB"}).forEach(function(doc){print("memberships:  
"+doc.id)});
```

```
> db.GSE106291.find({id:"BBB"}).forEach(function(doc){print("memberships: "+doc.id)});  
memberships: BBB  
memberships: BBB  
memberships: BBB
```

```
// drop collection
```

```
db.GSE106291.drop();  
> db.GSE106291.drop();  
true
```

```
// add user
```

```
db.createUser({  
  user:"brad",  
  pwd:"1234",  
  roles:["readWrite","dbAdmin"]  
})
```

```
> db.createUser({
... user:"brad",
... pwd:"1234",
... roles:["readWrite","dbAdmin"]
... })
Successfully added user: { "user" : "brad", "roles" : [ "readWrite", "dbAdmin" ] }
// drop user
db.dropUser("brad", {w: "majority", wtimeout: 5000})
> db.dropUser("brad", {w: "majority", wtimeout: 5000})
true
```