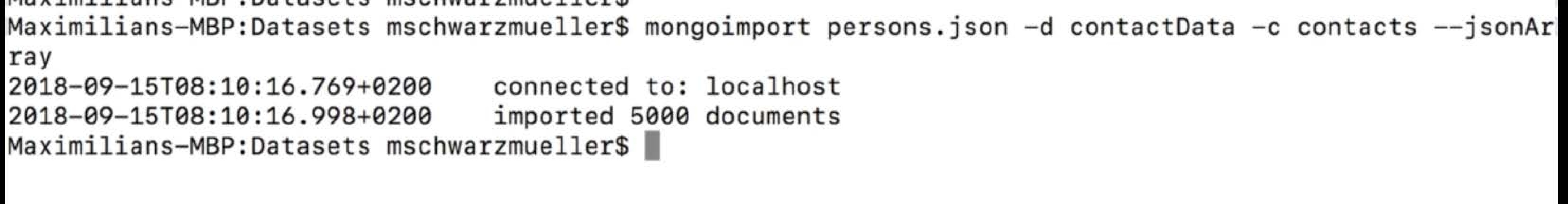
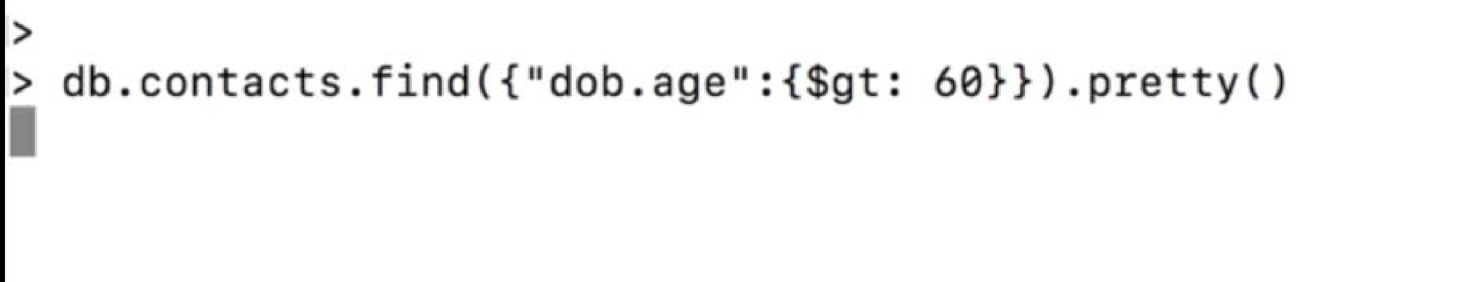
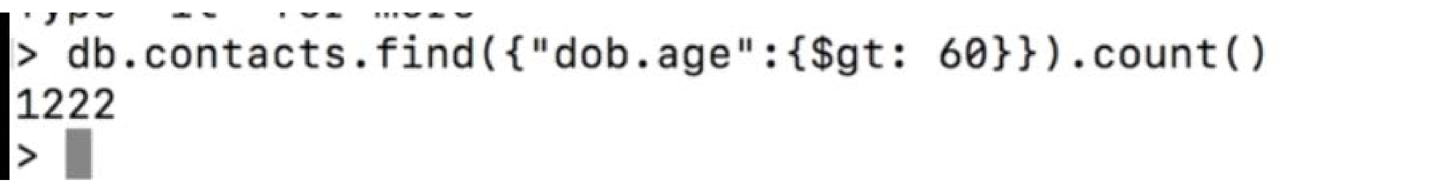


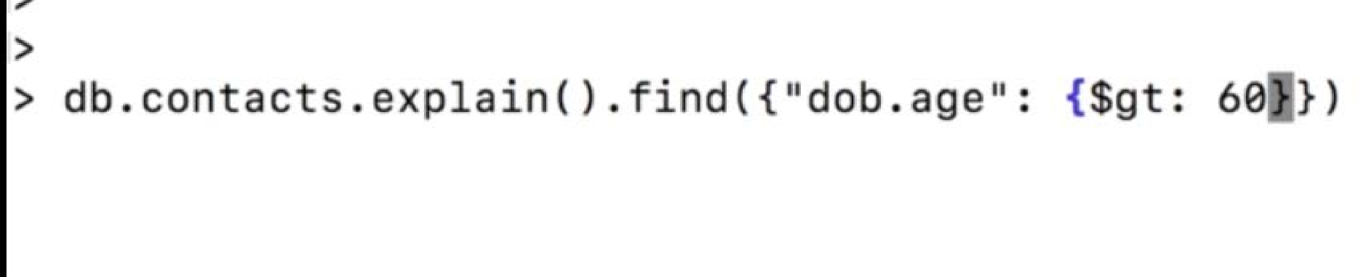
```
Maximilians-MBP:Datasets mschwarzmueller$
Maximilians-MBP:Datasets mschwarzmueller$ mongoimport persons.json -d contactData -c contacts --jsonAr
ray
2018-09-15T08:10:16.769+0200    connected to: localhost
2018-09-15T08:10:16.998+0200    imported 5000 documents
Maximilians-MBP:Datasets mschwarzmueller$ 
```



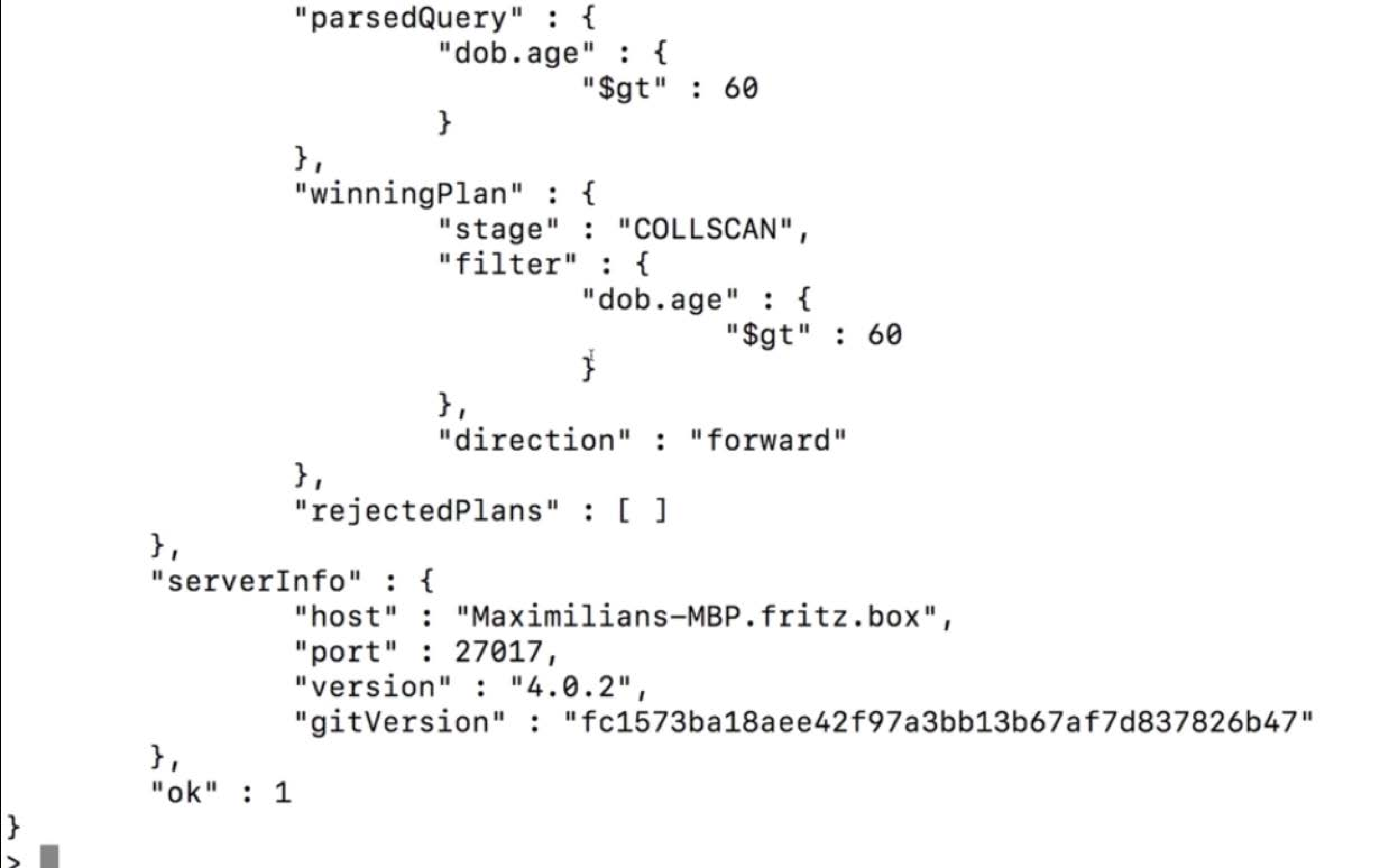
```
>
> db.contacts.find({"dob.age":{$gt: 60}}).pretty()
```



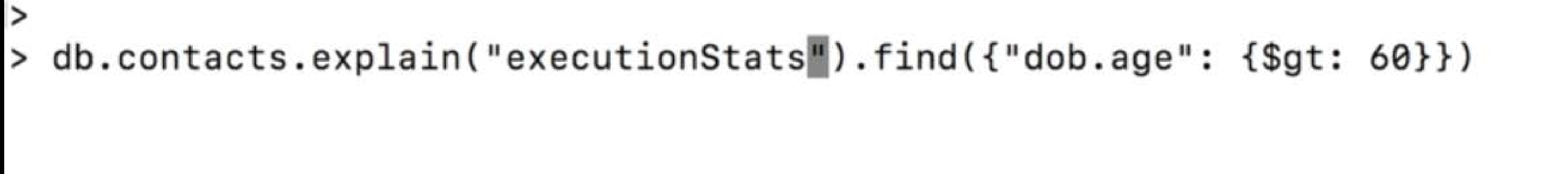
```
Type "it" for more
> db.contacts.find({"dob.age":{$gt: 60}}).count()
1222
> 
```



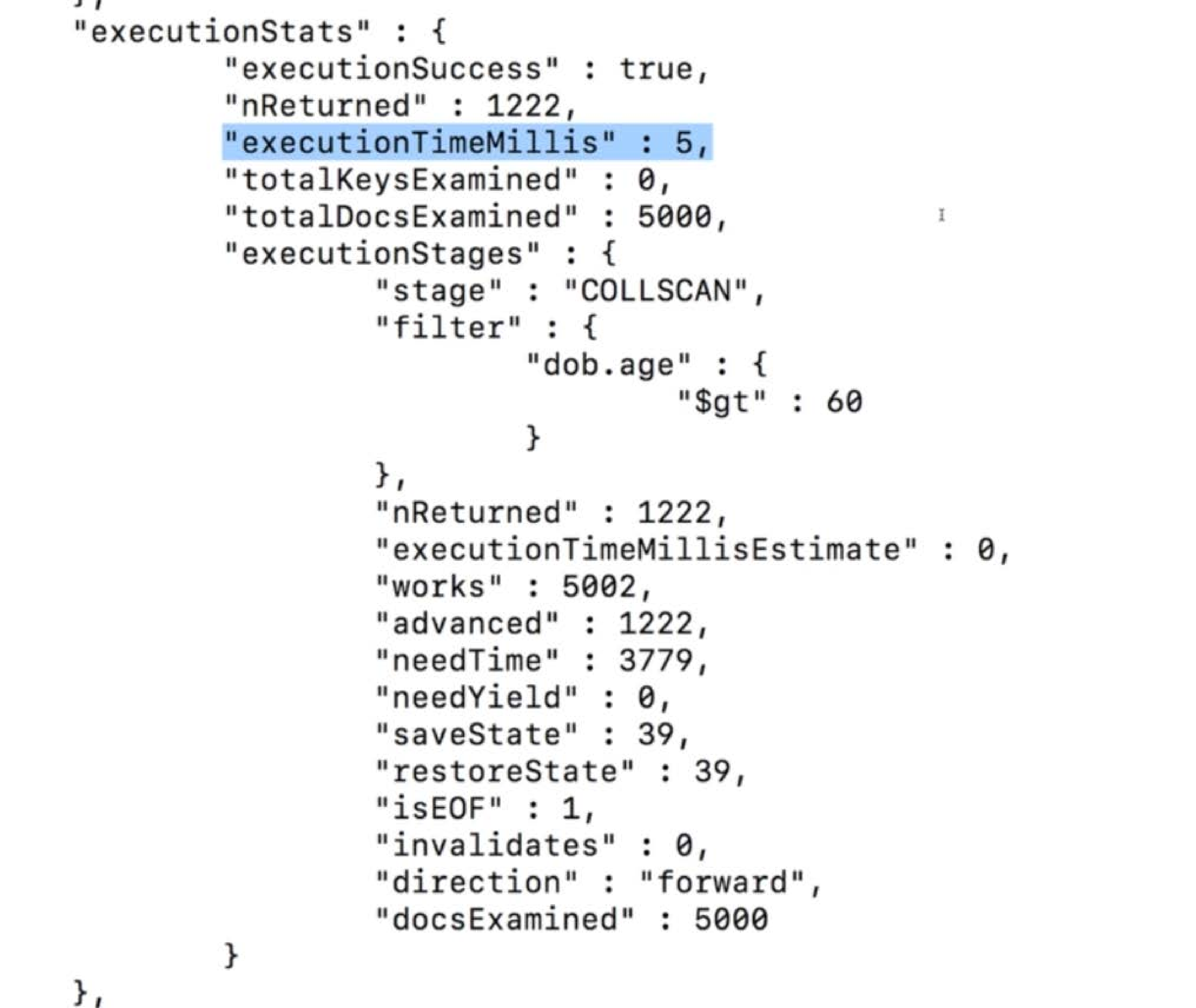
```
>
>
> db.contacts.explain().find({"dob.age": {$gt: 60}})
```



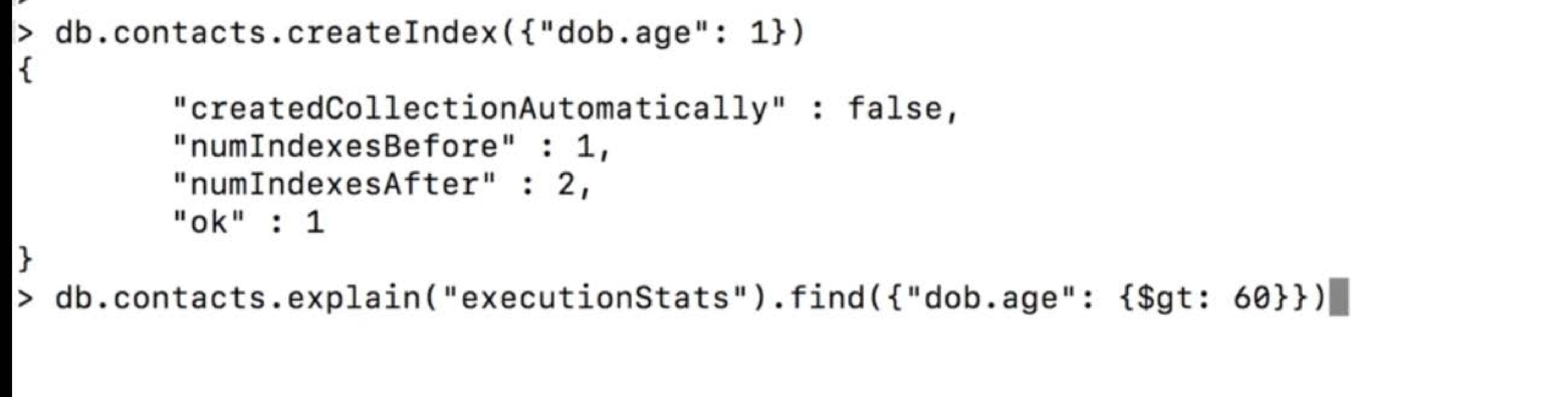
```
                "parsedQuery" : {
                        "dob.age" : {
                                "$gt" : 60
                        }
                },
                "winningPlan" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "dob.age" : {
                                        "$gt" : 60
                                }
                        },
                        "direction" : "forward"
                },
                "rejectedPlans" : [ ]
        },
        "serverInfo" : {
                "host" : "Maximilians-MBP.fritz.box",
                "port" : 27017,
                "version" : "4.0.2",
                "gitVersion" : "fc1573ba18aee42f97a3bb13b67af7d837826b47"
        },
        "ok" : 1
}
>
```



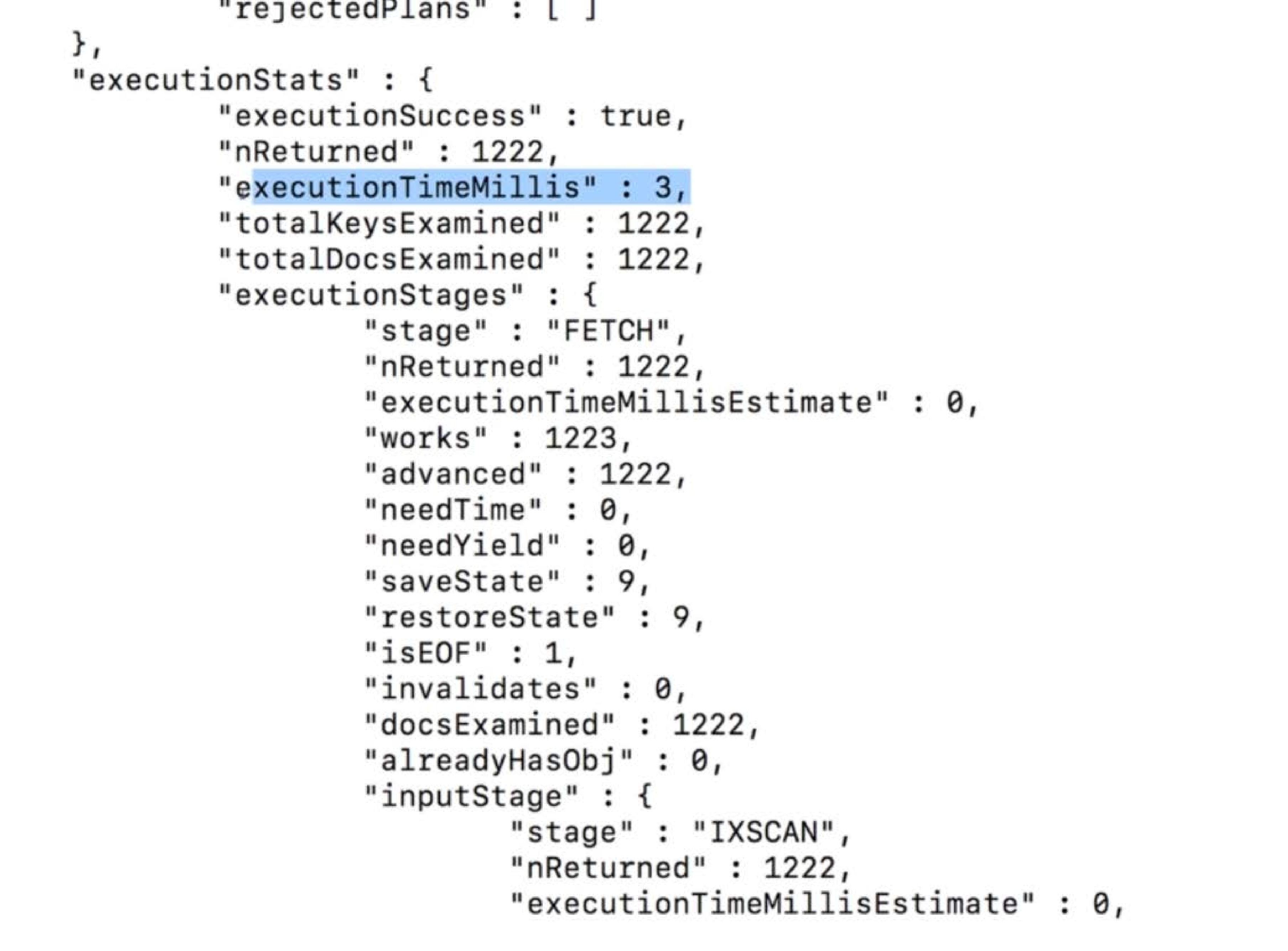
```
>
> db.contacts.explain("executionStats").find({"dob.age": {$gt: 60}})
```



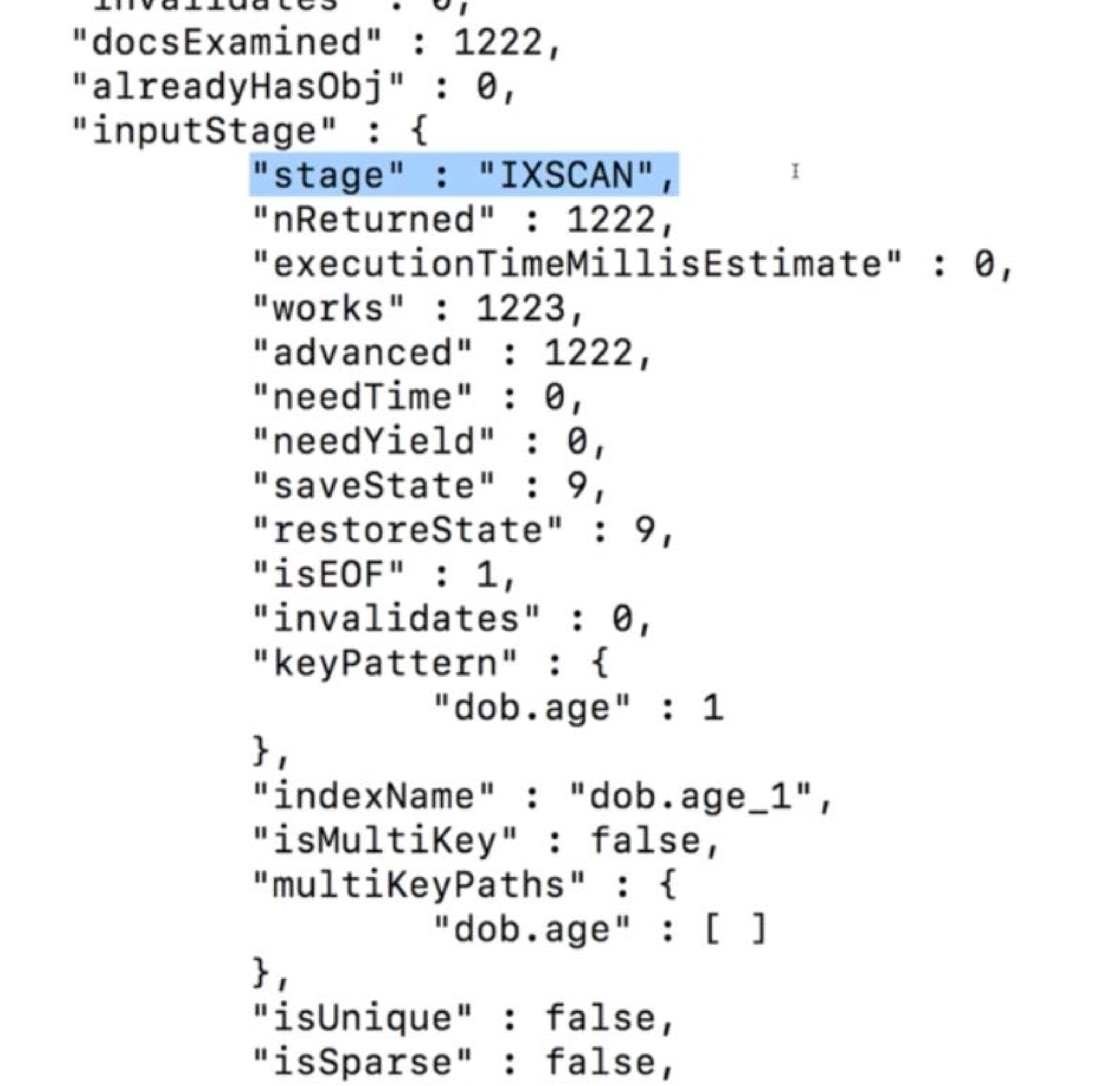
```
        },
        "executionStats" : {
                "executionSuccess" : true,
                "nReturned" : 1222,
                "executionTimeMillis" : 5,
                "totalKeysExamined" : 0,
                "totalDocsExamined" : 5000,
                "executionStages" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "dob.age" : {
                                        "$gt" : 60
                                }
                        },
                        "nReturned" : 1222,
                        "executionTimeMillisEstimate" : 0,
                        "works" : 5002,
                        "advanced" : 1222,
                        "needTime" : 3779,
                        "needYield" : 0,
                        "saveState" : 39,
                        "restoreState" : 39,
                        "isEOF" : 1,
                        "invalidates" : 0,
                        "direction" : "forward",
                        "docsExamined" : 5000
                }
        },
```



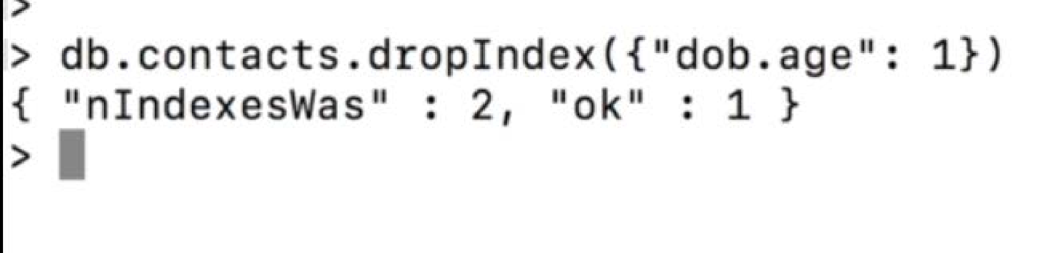
```
> db.contacts.createIndex({"dob.age": 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.contacts.explain("executionStats").find({"dob.age": {$gt: 60}})
```



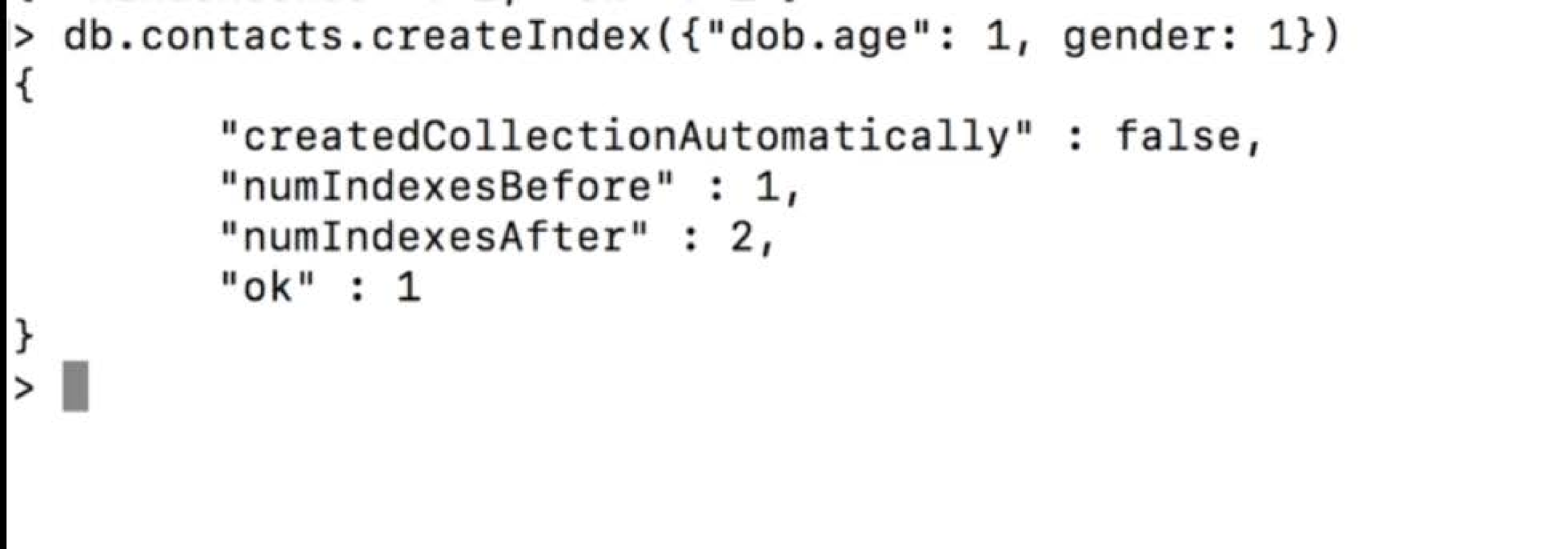
```
            "rejectedPlans" : [ ]
    },
    "executionStats" : {
            "executionSuccess" : true,
            "nReturned" : 1222,
            "executionTimeMillis" : 3,
            "totalKeysExamined" : 1222,
            "totalDocsExamined" : 1222,
            "executionStages" : {
                    "stage" : "FETCH",
                    "nReturned" : 1222,
                    "executionTimeMillisEstimate" : 0,
                    "works" : 1223,
                    "advanced" : 1222,
                    "needTime" : 0,
                    "needYield" : 0,
                    "saveState" : 9,
                    "restoreState" : 9,
                    "isEOF" : 1,
                    "invalidates" : 0,
                    "docsExamined" : 1222,
                    "alreadyHasObj" : 0,
                    "inputStage" : {
                            "stage" : "IXSCAN",
                            "nReturned" : 1222,
                            "executionTimeMillisEstimate" : 0,
```



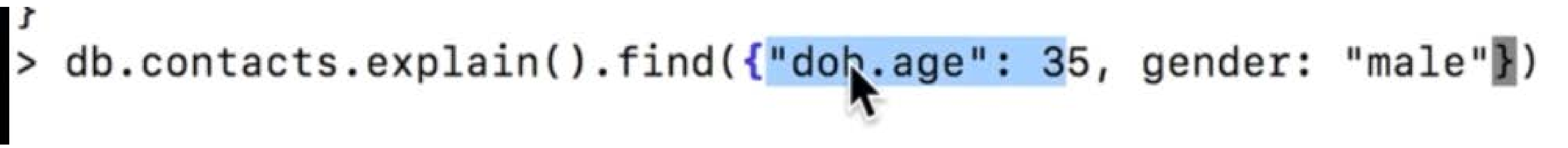
```
"invalidates" : 0,
"docsExamined" : 1222,
"alreadyHasObj" : 0,
"inputStage" : {
        "stage" : "IXSCAN",
        "nReturned" : 1222,
        "executionTimeMillisEstimate" : 0,
        "works" : 1223,
        "advanced" : 1222,
        "needTime" : 0,
        "needYield" : 0,
        "saveState" : 9,
        "restoreState" : 9,
        "isEOF" : 1,
        "invalidates" : 0,
        "keyPattern" : {
                "dob.age" : 1
        },
        "indexName" : "dob.age_1",
        "isMultiKey" : false,
        "multiKeyPaths" : {
                "dob.age" : [ ]
        },
        "isUnique" : false,
        "isSparse" : false,
```



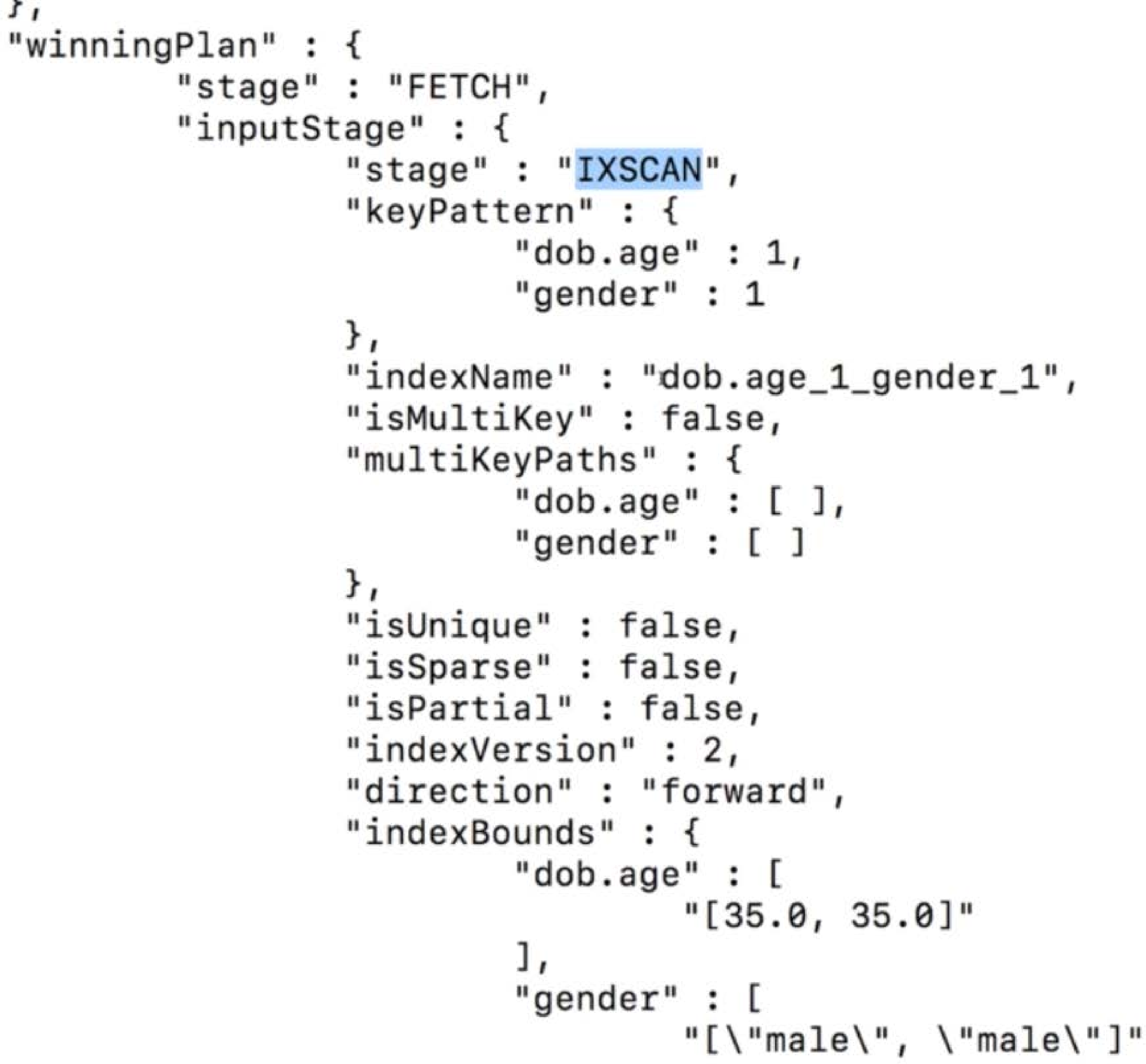
```
>
> db.contacts.dropIndex({"dob.age": 1})
{ "nIndexesWas" : 2, "ok" : 1 }
>
```



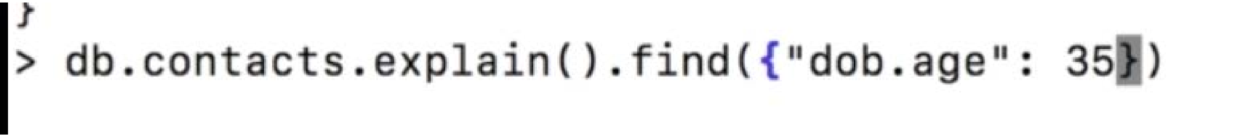
```
> db.contacts.createIndex({"dob.age": 1, gender: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> 
```



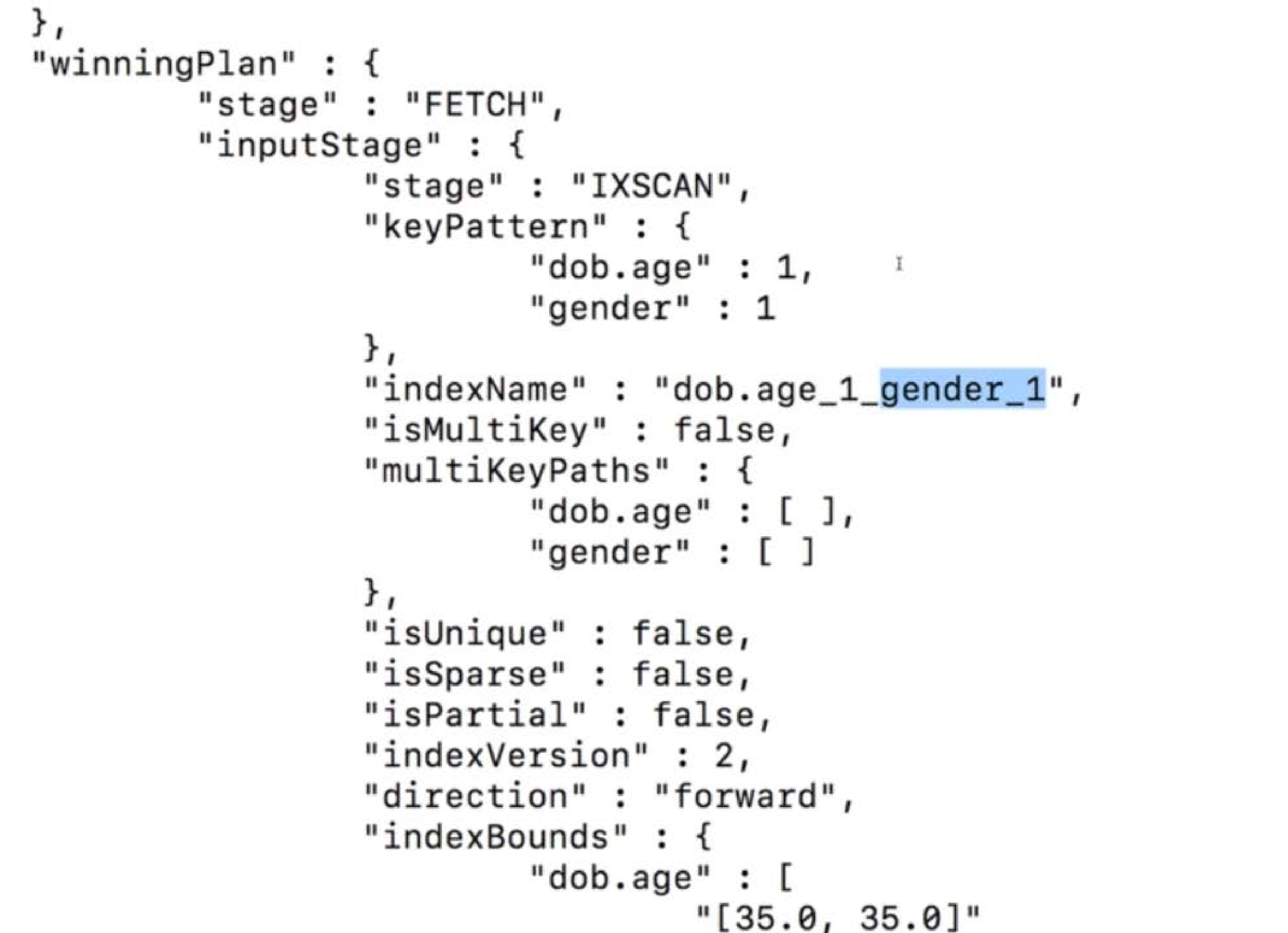
```
}
> db.contacts.explain().find({"dob.age": 35, gender: "male"})
```



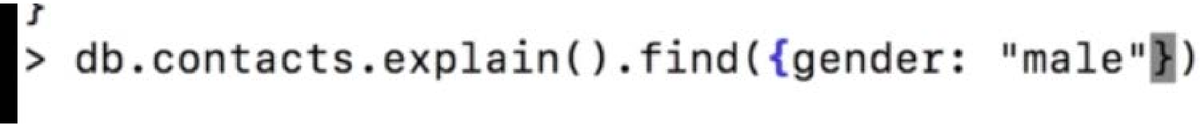
```
        },
        "winningPlan" : {
                "stage" : "FETCH",
                "inputStage" : {
                        "stage" : "IXSCAN",
                        "keyPattern" : {
                                "dob.age" : 1,
                                "gender" : 1
                        },
                        "indexName" : "dob.age_1_gender_1",
                        "isMultiKey" : false,
                        "multiKeyPaths" : {
                                "dob.age" : [ ],
                                "gender" : [ ]
                        },
                        "isUnique" : false,
                        "isSparse" : false,
                        "isPartial" : false,
                        "indexVersion" : 2,
                        "direction" : "forward",
                        "indexBounds" : {
                                "dob.age" : [
                                        "[35.0, 35.0]"
                                ],
                                "gender" : [
                                        "[\"male\", \"male\"]"
```



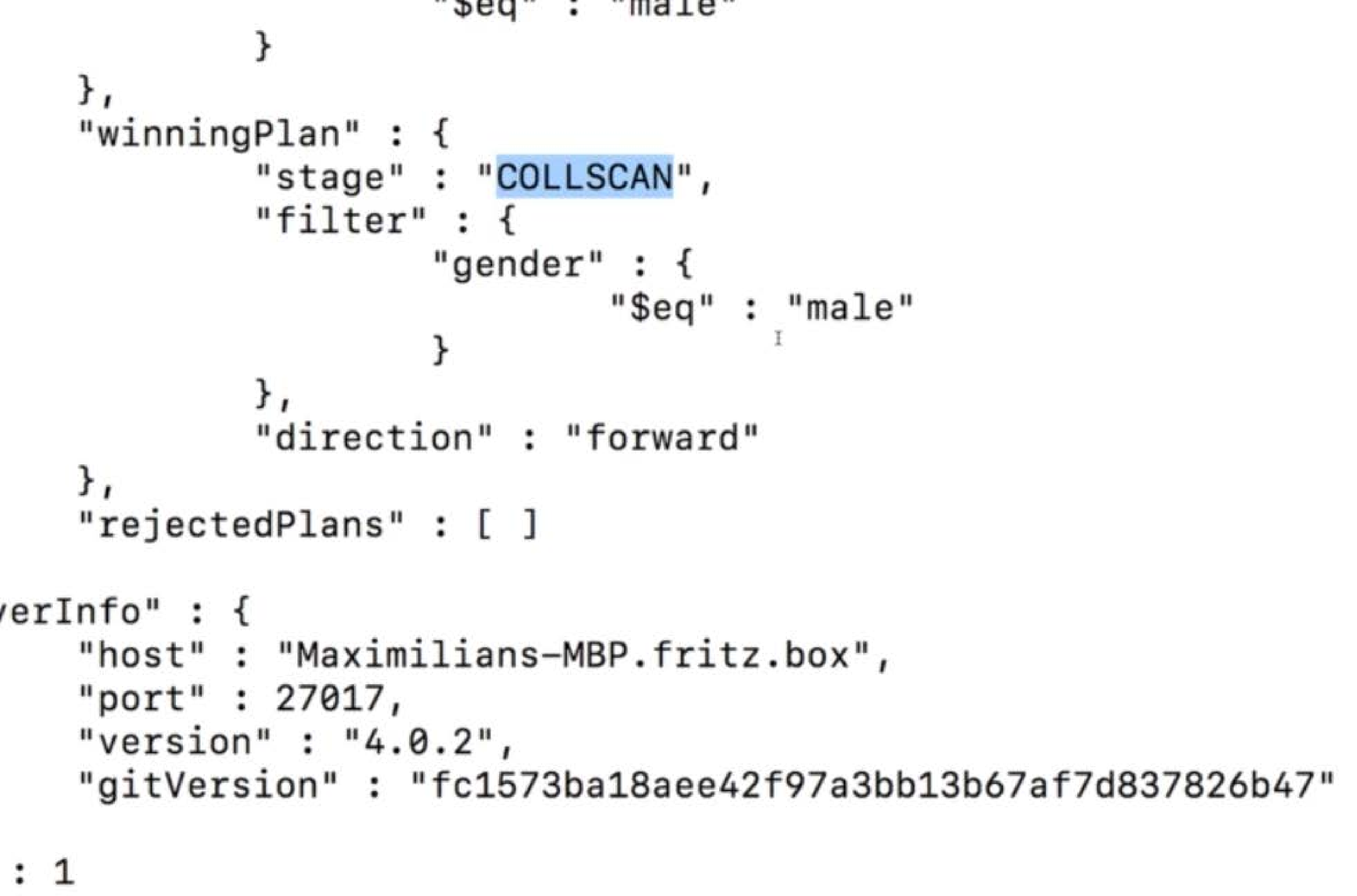
```
}
> db.contacts.explain().find({"dob.age": 35})
```



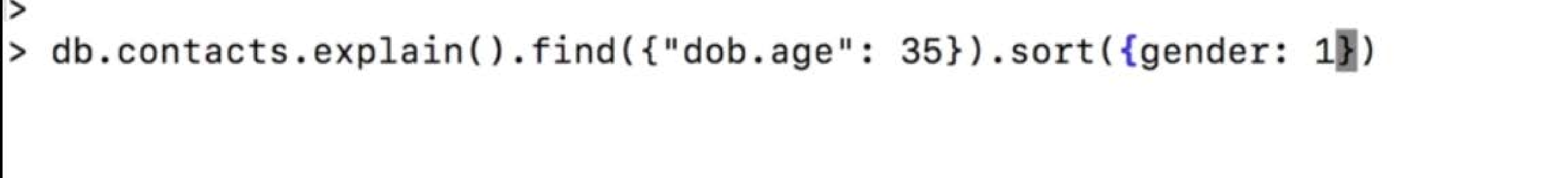
```
},
"winningPlan" : {
        "stage" : "FETCH",
        "inputStage" : {
                "stage" : "IXSCAN",
                "keyPattern" : {
                        "dob.age" : 1,
                        "gender" : 1
                },
                "indexName" : "dob.age_1_gender_1",
                "isMultiKey" : false,
                "multiKeyPaths" : {
                        "dob.age" : [ ],
                        "gender" : [ ]
                },
                "isUnique" : false,
                "isSparse" : false,
                "isPartial" : false,
                "indexVersion" : 2,
                "direction" : "forward",
                "indexBounds" : {
                        "dob.age" : [
                                "[35.0, 35.0]"
```



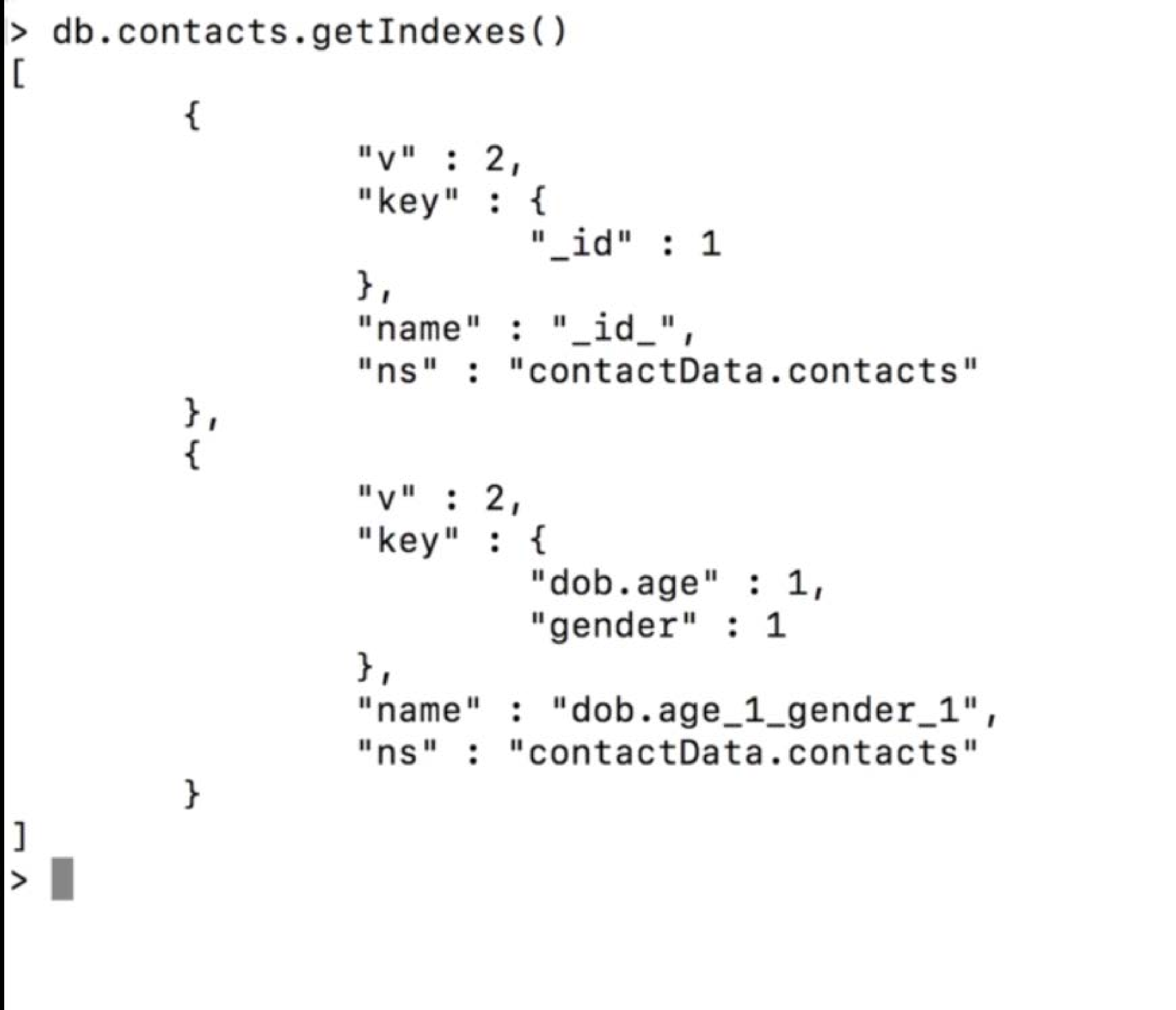
```
}
> db.contacts.explain().find({gender: "male"})
```



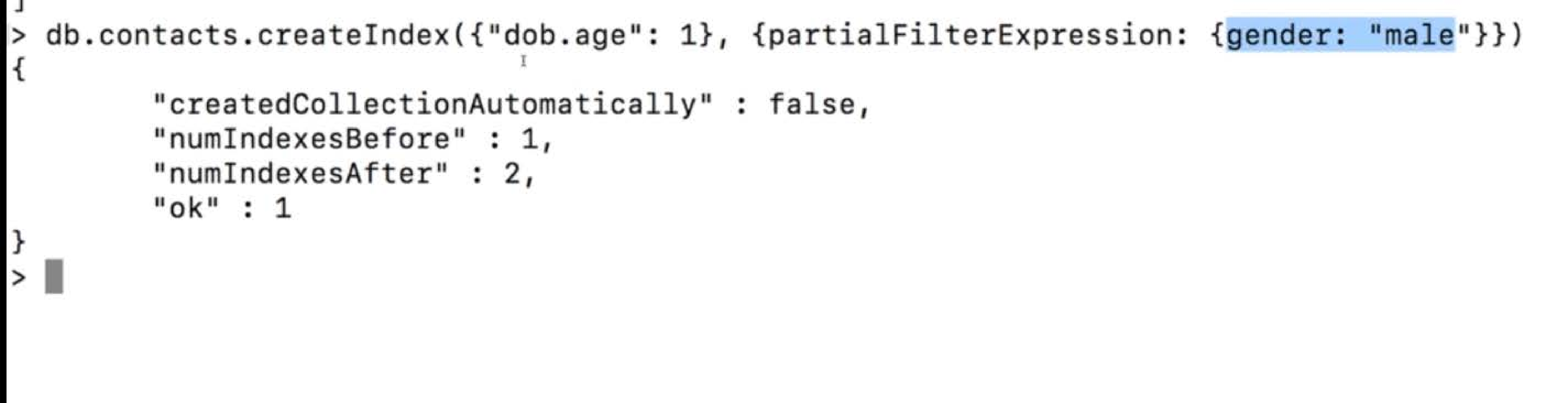
```
                            "$eq" : "male"
            }
    },
    "winningPlan" : {
            "stage" : "COLLSCAN",
            "filter" : {
                    "gender" : {
                            "$eq" : "male"
                    }
            },
            "direction" : "forward"
    },
    "rejectedPlans" : [ ]

verInfo" : {
    "host" : "Maximilians-MBP.fritz.box",
    "port" : 27017,
    "version" : "4.0.2",
    "gitVersion" : "fc1573ba18aee42f97a3bb13b67af7d837826b47"

: 1
```



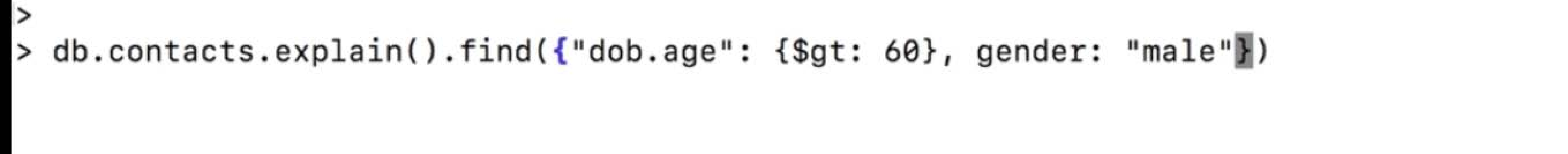
```
>
> db.contacts.explain().find({"dob.age": 35}).sort({gender: 1})
```



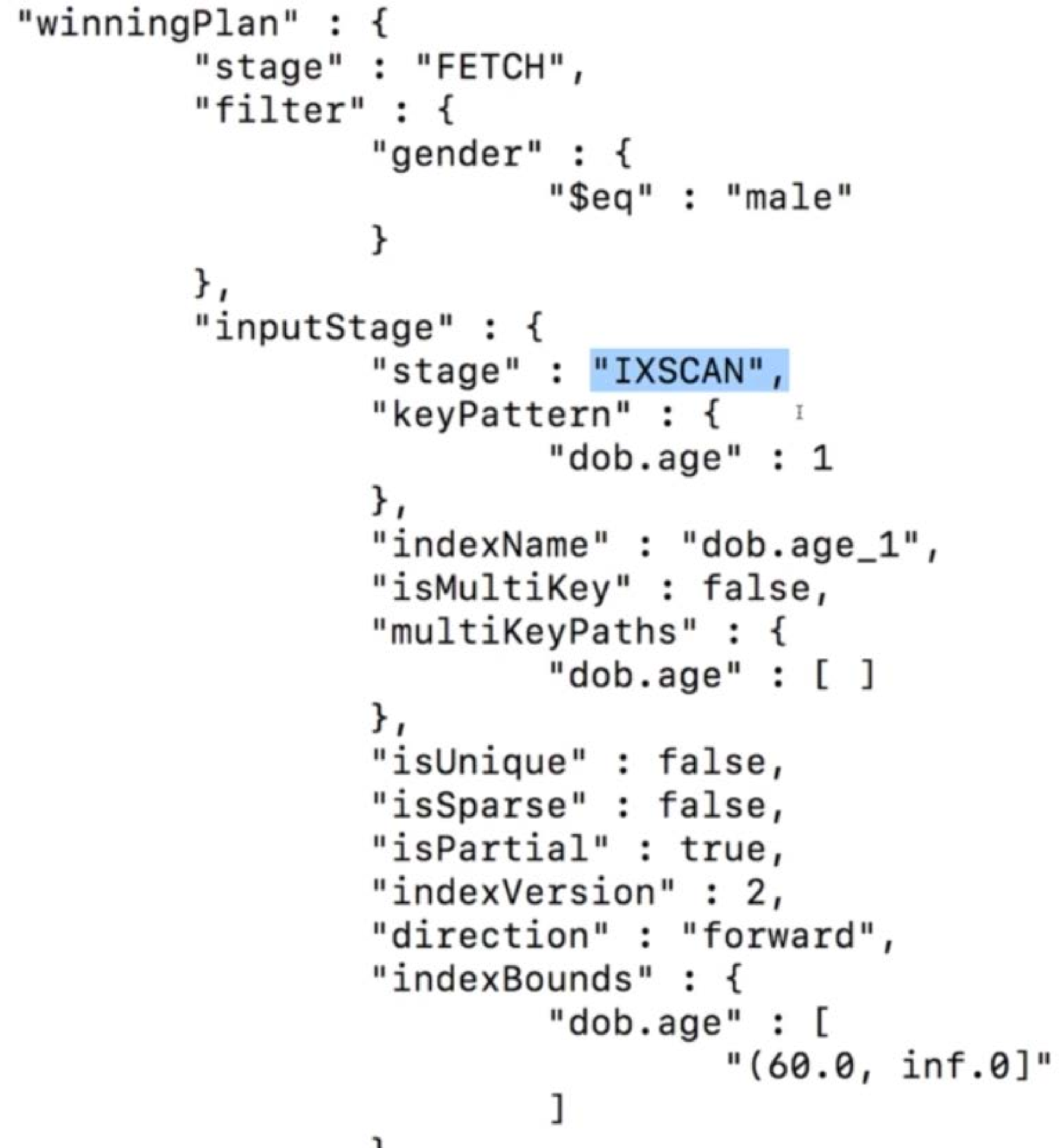
```
> db.contacts.getIndexes()
[
        {
                "v" : 2,
                "key" : {
                        "_id" : 1
                },
                "name" : "_id_",
                "ns" : "contactData.contacts"
        },
        {
                "v" : 2,
                "key" : {
                        "dob.age" : 1,
                        "gender" : 1
                },
                "name" : "dob.age_1_gender_1",
                "ns" : "contactData.contacts"
        }
]
> 
```



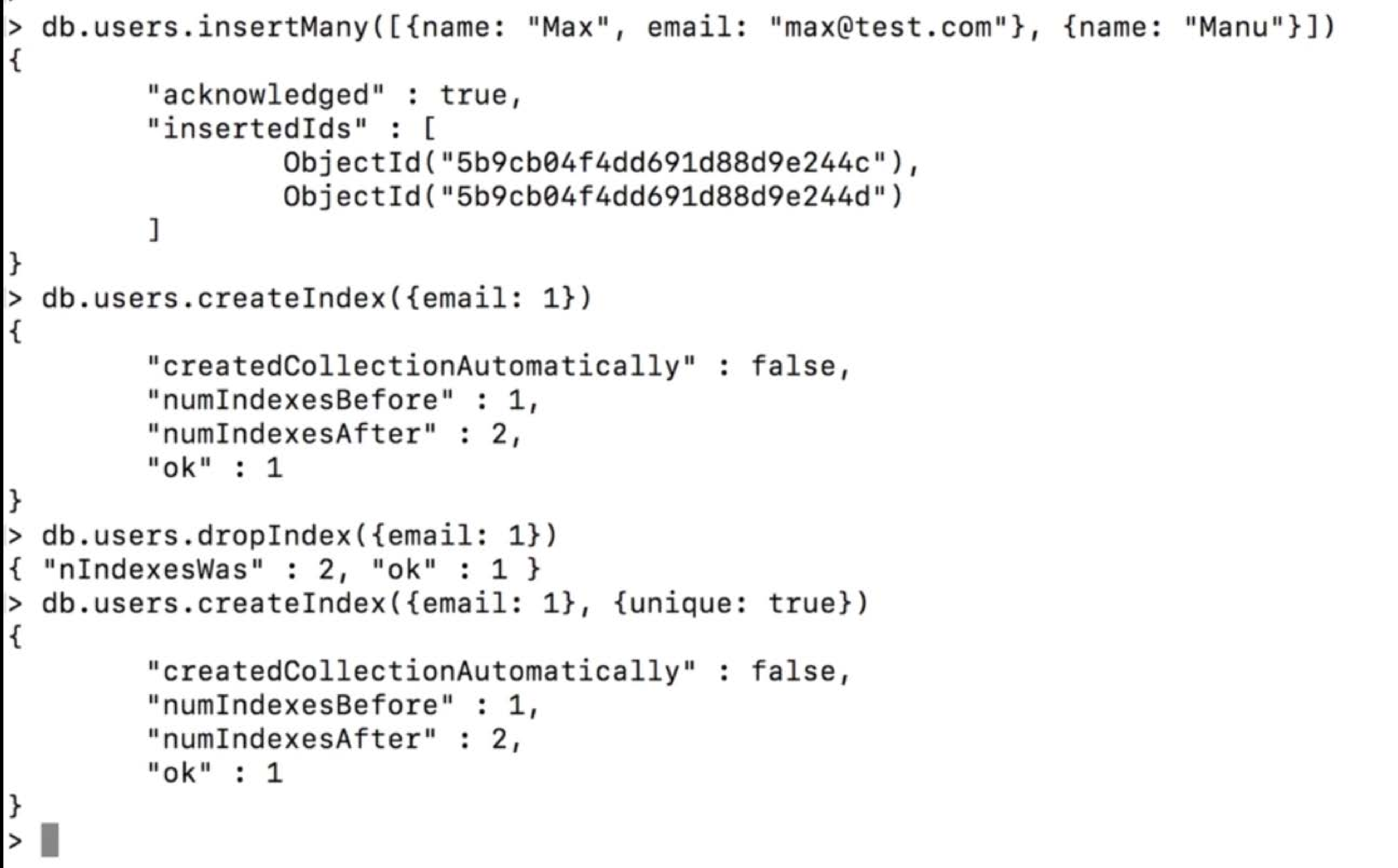
```
]
> db.contacts.createIndex({"dob.age": 1}, {partialFilterExpression: {gender: "male"}})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> 
```



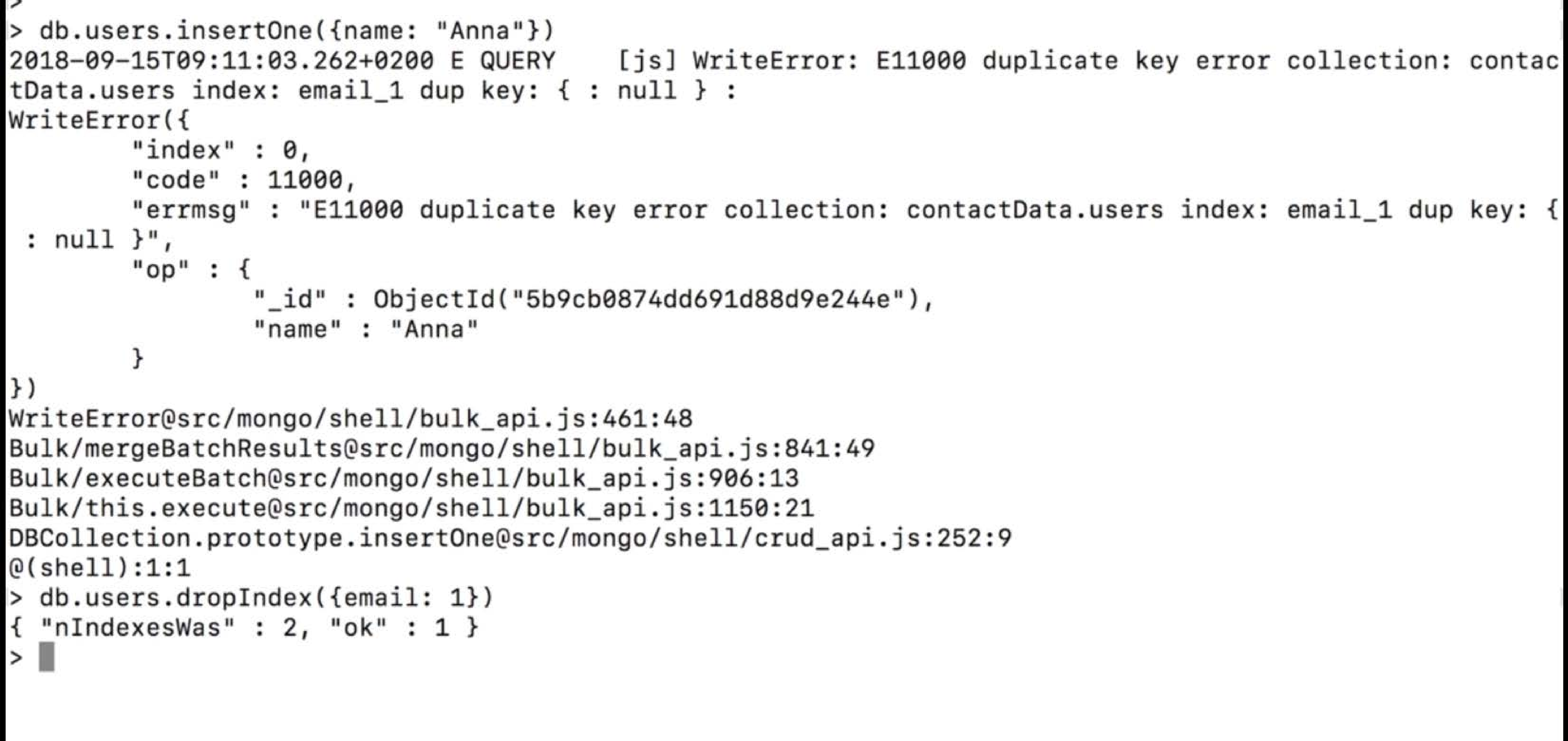
```
>
> db.contacts.explain().find({"dob.age": {$gt: 60}, gender: "male"})
```



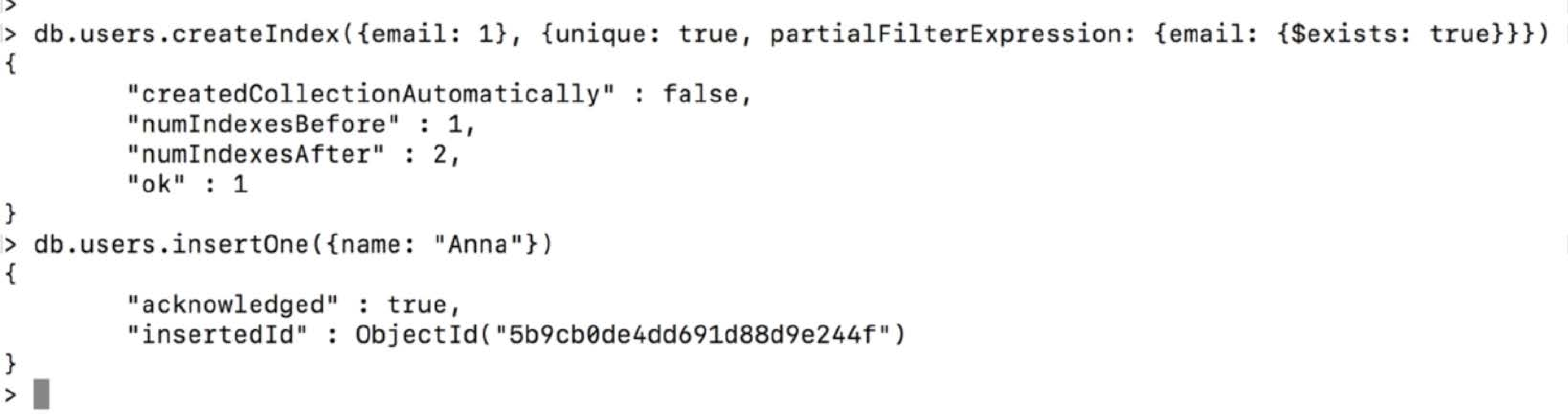
```
"winningPlan" : {
        "stage" : "FETCH",
        "filter" : {
                "gender" : {
                        "$eq" : "male"
                }
        },
        "inputStage" : {
                "stage" : "IXSCAN",
                "keyPattern" : {
                        "dob.age" : 1
                },
                "indexName" : "dob.age_1",
                "isMultiKey" : false,
                "multiKeyPaths" : {
                        "dob.age" : [ ]
                },
                "isUnique" : false,
                "isSparse" : false,
                "isPartial" : true,
                "indexVersion" : 2,
                "direction" : "forward",
                "indexBounds" : {
                        "dob.age" : [
                                "(60.0, inf.0]"
                        ]
                }
```



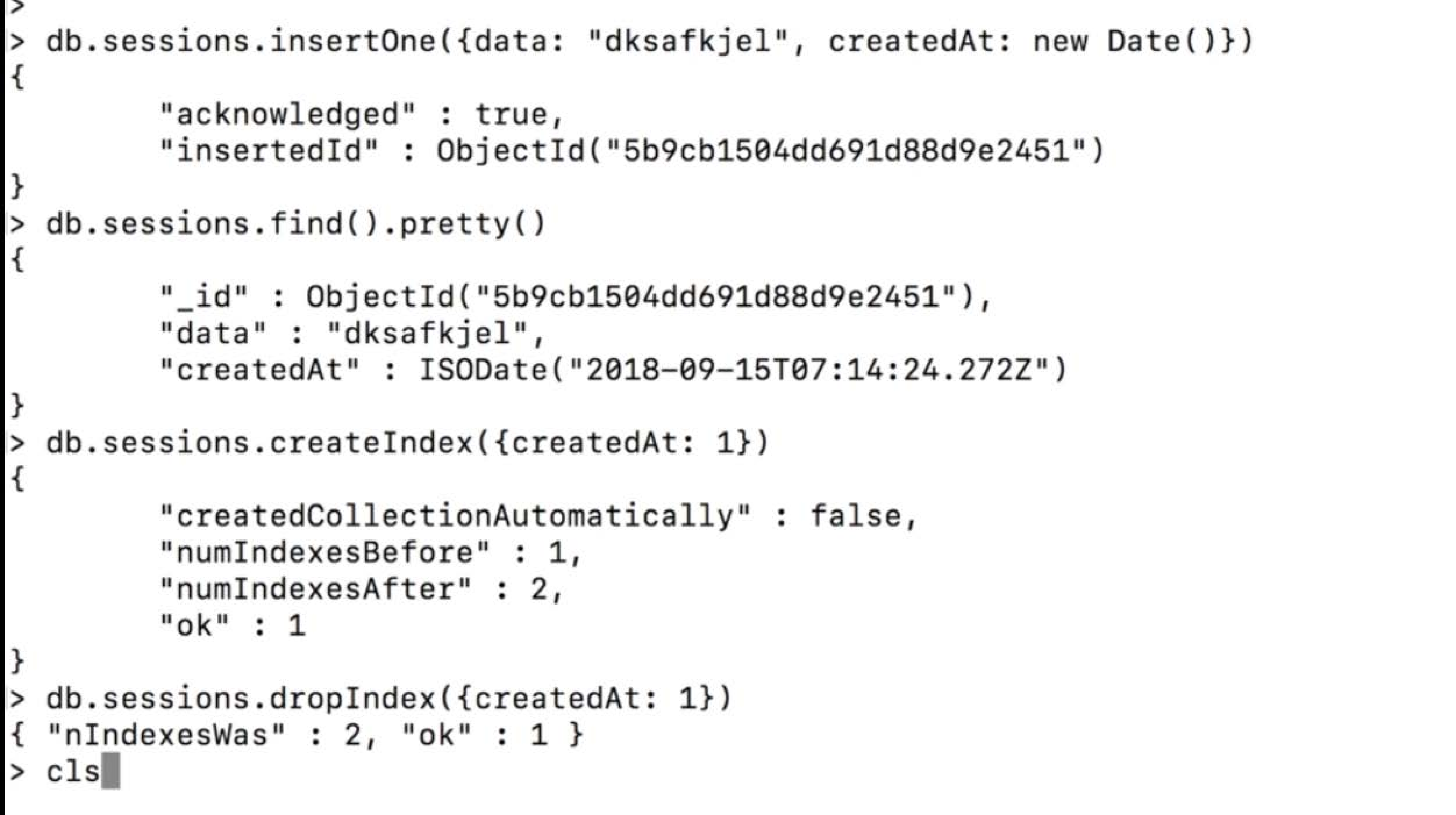
```
> db.users.insertMany([{name: "Max", email: "max@test.com"}, {name: "Manu"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("5b9cb04f4dd691d88d9e244c"),
                ObjectId("5b9cb04f4dd691d88d9e244d")
        ]
}
> db.users.createIndex({email: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.users.dropIndex({email: 1})
{ "nIndexesWas" : 2, "ok" : 1 }
> db.users.createIndex({email: 1}, {unique: true})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
>
```



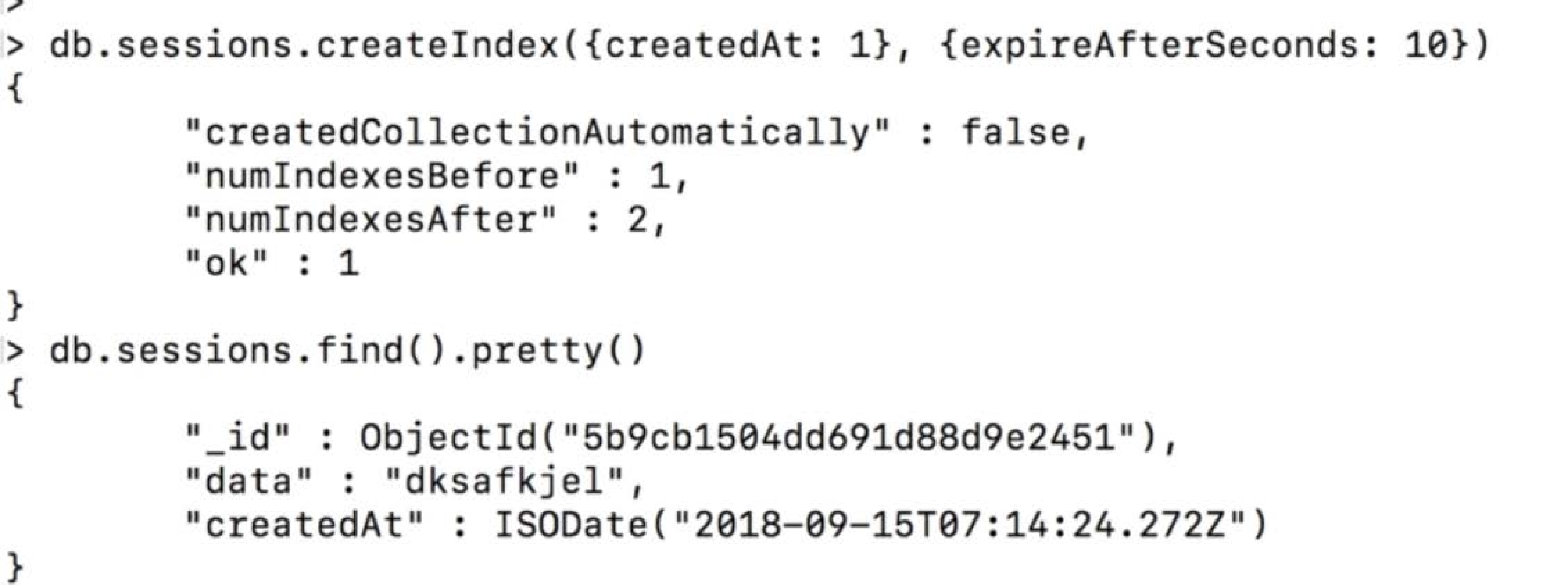
```
>
> db.users.insertOne({name: "Anna"})
2018-09-15T09:11:03.262+0200 E QUERY    [js] WriteError: E11000 duplicate key error collection: contac
tData.users index: email_1 dup key: { : null } :
WriteError({
        "index" : 0,
        "code" : 11000,
        "errmsg" : "E11000 duplicate key error collection: contactData.users index: email_1 dup key: {
 : null }",
        "op" : {
                "_id" : ObjectId("5b9cb0874dd691d88d9e244e"),
                "name" : "Anna"
        }
})
WriteError@src/mongo/shell/bulk_api.js:461:48
Bulk/mergeBatchResults@src/mongo/shell/bulk_api.js:841:49
Bulk/executeBatch@src/mongo/shell/bulk_api.js:906:13
Bulk/this.execute@src/mongo/shell/bulk_api.js:1150:21
DBCollection.prototype.insertOne@src/mongo/shell/crud_api.js:252:9
@(shell):1:1
> db.users.dropIndex({email: 1})
{ "nIndexesWas" : 2, "ok" : 1 }
>
```



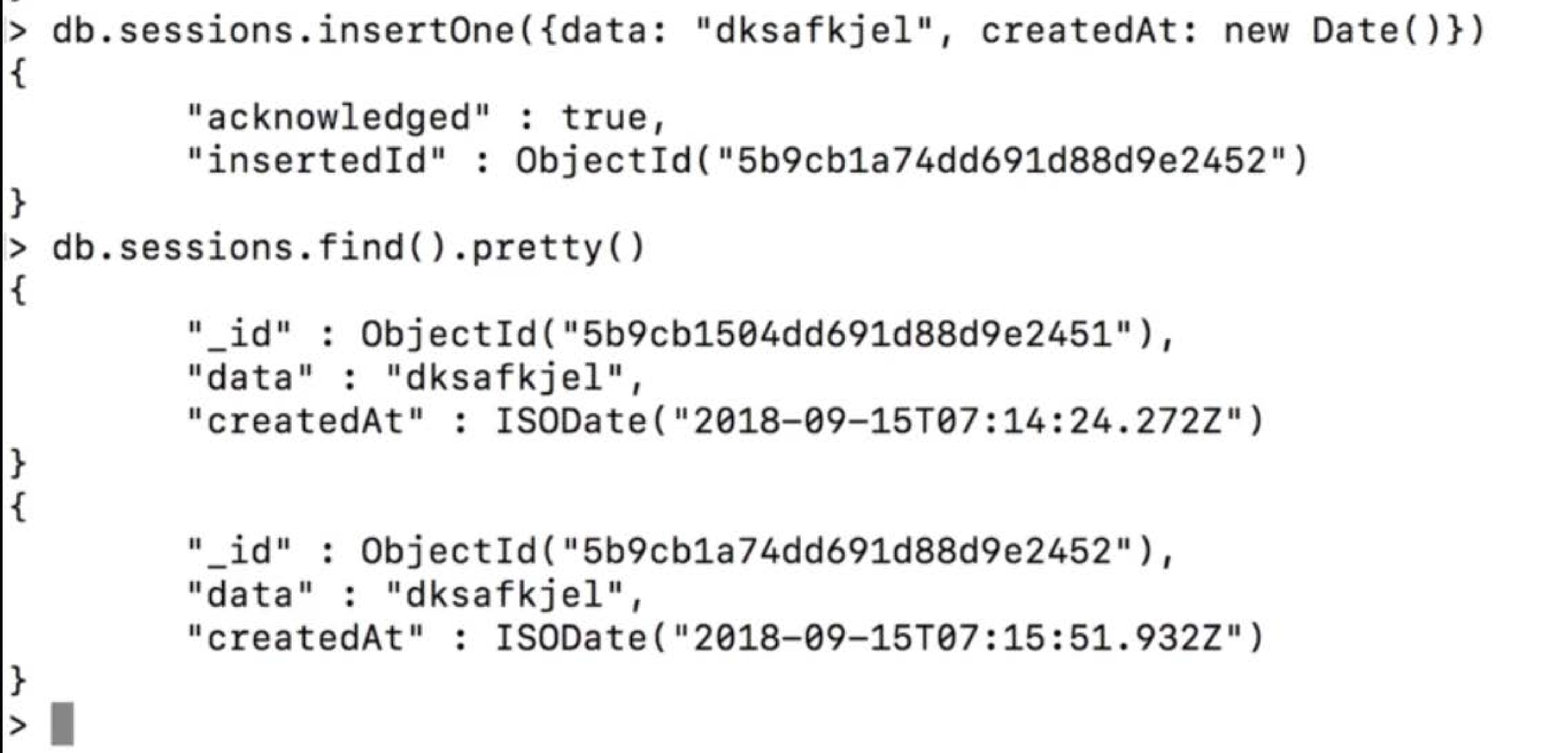
```
>
> db.users.createIndex({email: 1}, {unique: true, partialFilterExpression: {email: {$exists: true}}})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.users.insertOne({name: "Anna"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5b9cb0de4dd691d88d9e244f")
}
> 
```



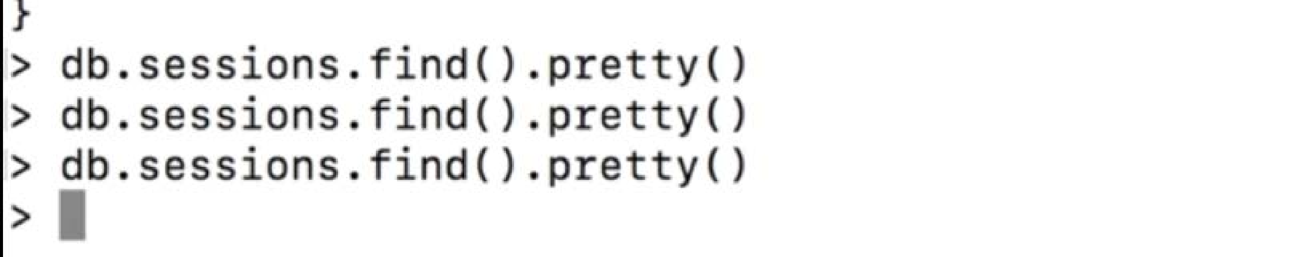
```
>
> db.sessions.insertOne({data: "dksafkjel", createdAt: new Date()})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5b9cb1504dd691d88d9e2451")
}
> db.sessions.find().pretty()
{
        "_id" : ObjectId("5b9cb1504dd691d88d9e2451"),
        "data" : "dksafkjel",
        "createdAt" : ISODate("2018-09-15T07:14:24.272Z")
}
> db.sessions.createIndex({createdAt: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.sessions.dropIndex({createdAt: 1})
{ "nIndexesWas" : 2, "ok" : 1 }
> cls
```



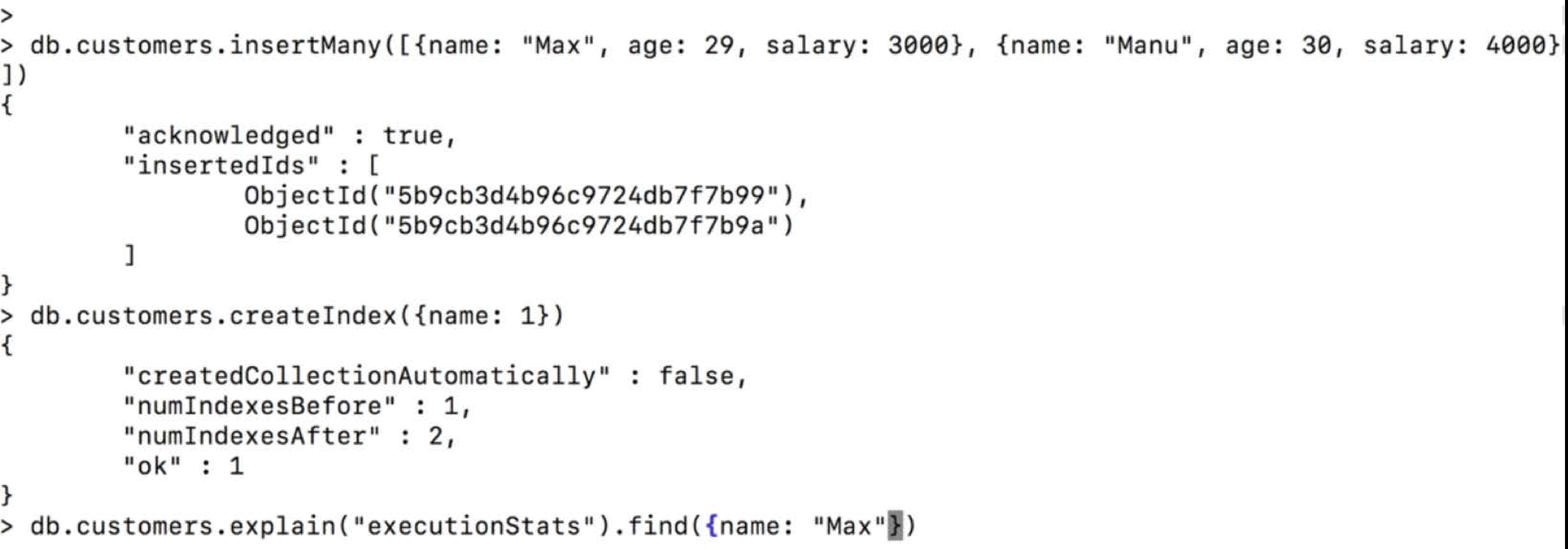
```
>
> db.sessions.createIndex({createdAt: 1}, {expireAfterSeconds: 10})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.sessions.find().pretty()
{
        "_id" : ObjectId("5b9cb1504dd691d88d9e2451"),
        "data" : "dksafkjel",
        "createdAt" : ISODate("2018-09-15T07:14:24.272Z")
}
```



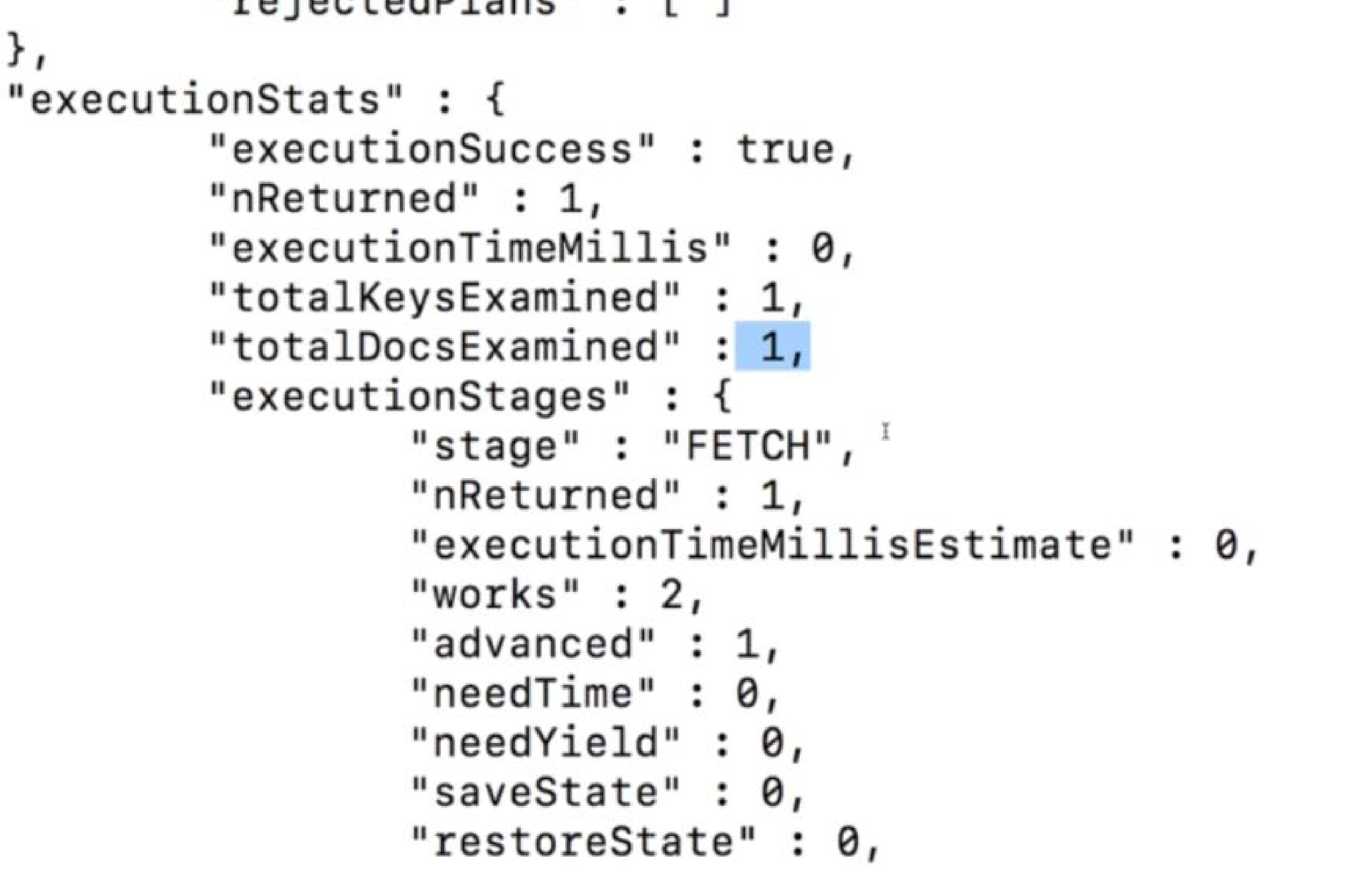
```
> db.sessions.insertOne({data: "dksafkjel", createdAt: new Date()})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5b9cb1a74dd691d88d9e2452")
}
> db.sessions.find().pretty()
{
        "_id" : ObjectId("5b9cb1504dd691d88d9e2451"),
        "data" : "dksafkjel",
        "createdAt" : ISODate("2018-09-15T07:14:24.272Z")
}
{
        "_id" : ObjectId("5b9cb1a74dd691d88d9e2452"),
        "data" : "dksafkjel",
        "createdAt" : ISODate("2018-09-15T07:15:51.932Z")
}
> 
```



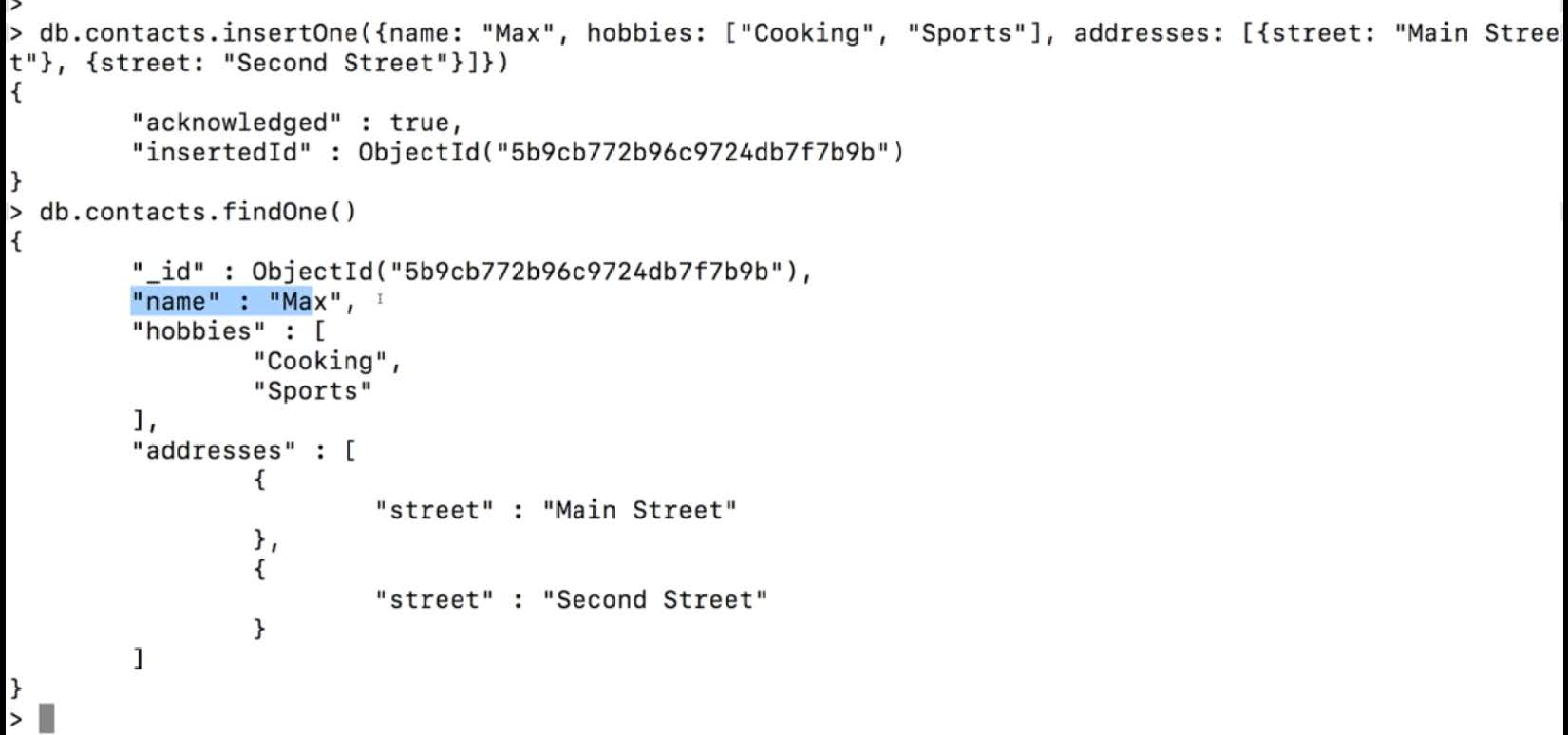
```
}
> db.sessions.find().pretty()
> db.sessions.find().pretty()
> db.sessions.find().pretty()
> 
```



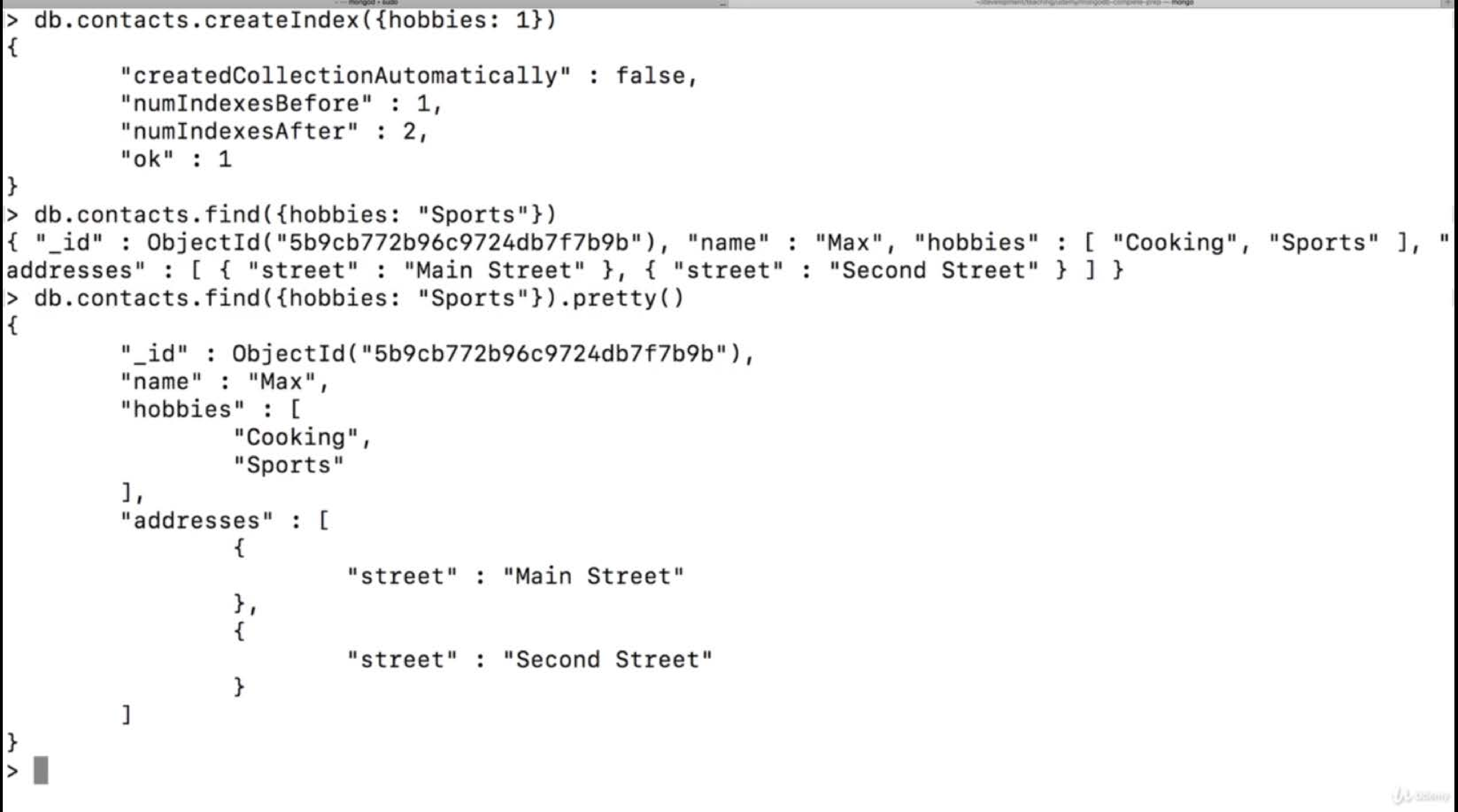
```
>
> db.customers.insertMany([{name: "Max", age: 29, salary: 3000}, {name: "Manu", age: 30, salary: 4000}
])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("5b9cb3d4b96c9724db7f7b99"),
                ObjectId("5b9cb3d4b96c9724db7f7b9a")
        ]
}
> db.customers.createIndex({name: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.customers.explain("executionStats").find({name: "Max"})
```



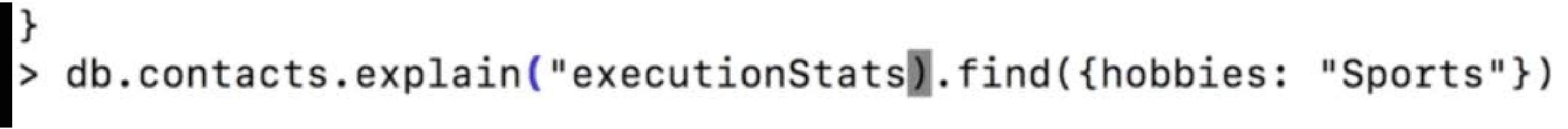
```
        "rejectedPlans" : [ ]
},
"executionStats" : {
        "executionSuccess" : true,
        "nReturned" : 1,
        "executionTimeMillis" : 0,
        "totalKeysExamined" : 1,
        "totalDocsExamined" : 1,
        "executionStages" : {
                "stage" : "FETCH",
                "nReturned" : 1,
                "executionTimeMillisEstimate" : 0,
                "works" : 2,
                "advanced" : 1,
                "needTime" : 0,
                "needYield" : 0,
                "saveState" : 0,
                "restoreState" : 0,
```



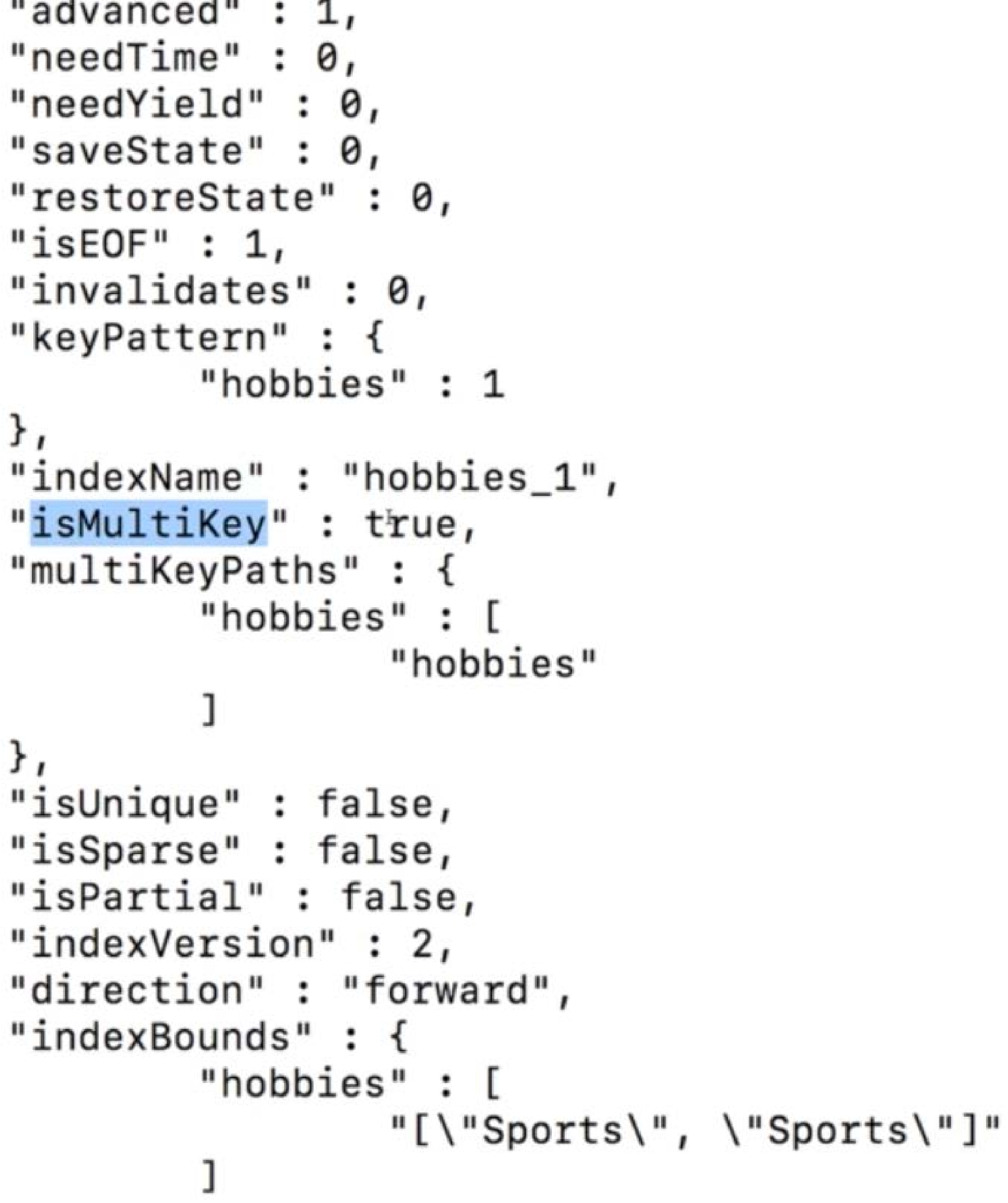
```
>
> db.contacts.insertOne({name: "Max", hobbies: ["Cooking", "Sports"], addresses: [{street: "Main Stree
t"}, {street: "Second Street"}]})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5b9cb772b96c9724db7f7b9b")
}
> db.contacts.findOne()
{
        "_id" : ObjectId("5b9cb772b96c9724db7f7b9b"),
        "name" : "Max",
        "hobbies" : [
                "Cooking",
                "Sports"
        ],
        "addresses" : [
                {
                        "street" : "Main Street"
                },
                {
                        "street" : "Second Street"
                }
        ]
}
>
```



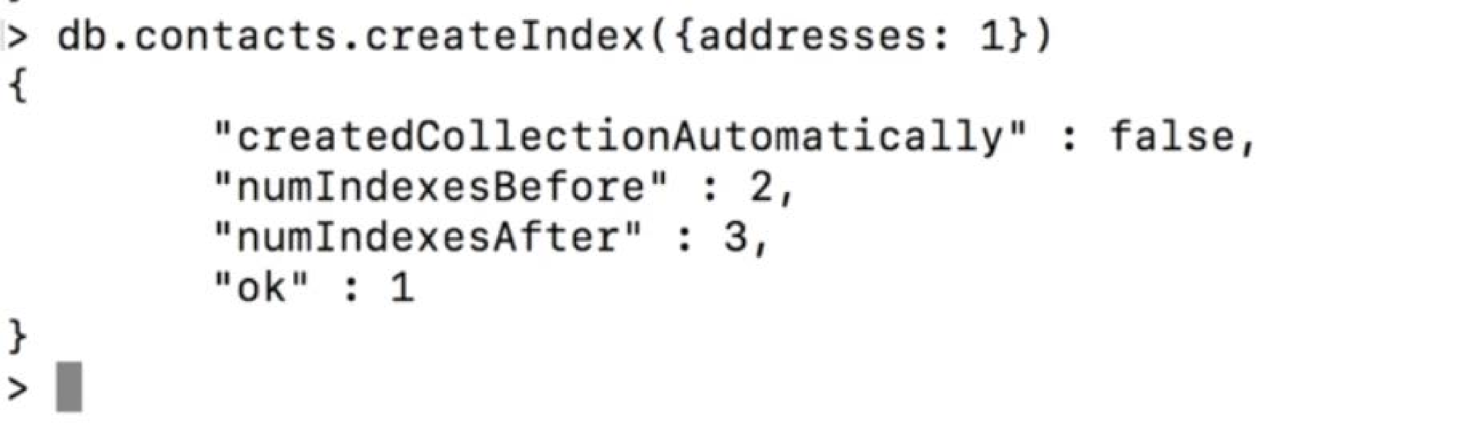
```
> db.contacts.createIndex({hobbies: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.contacts.find({hobbies: "Sports"})
{ "_id" : ObjectId("5b9cb772b96c9724db7f7b9b"), "name" : "Max", "hobbies" : [ "Cooking", "Sports" ], "
addresses" : [ { "street" : "Main Street" }, { "street" : "Second Street" } ] }
> db.contacts.find({hobbies: "Sports"}).pretty()
{
        "_id" : ObjectId("5b9cb772b96c9724db7f7b9b"),
        "name" : "Max",
        "hobbies" : [
                "Cooking",
                "Sports"
        ],
        "addresses" : [
                {
                        "street" : "Main Street"
                },
                {
                        "street" : "Second Street"
                }
        ]
}
> 
```



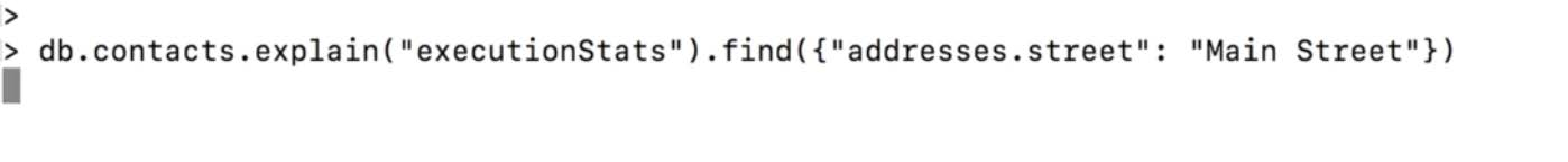
```
}
> db.contacts.explain("executionStats).find({hobbies: "Sports"})
```



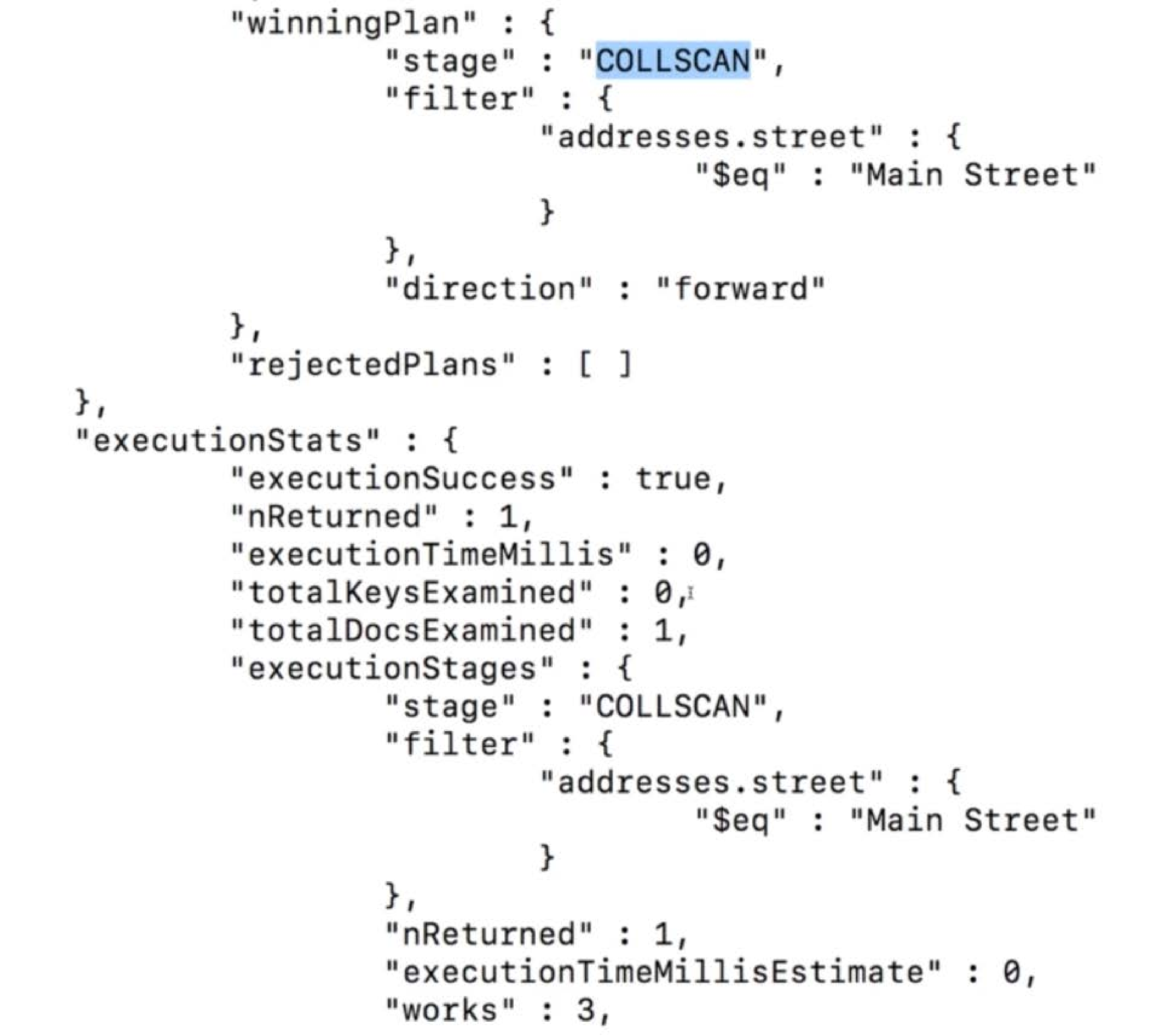
```
"advanced" : 1,
"needTime" : 0,
"needYield" : 0,
"saveState" : 0,
"restoreState" : 0,
"isEOF" : 1,
"invalidates" : 0,
"keyPattern" : {
        "hobbies" : 1
},
"indexName" : "hobbies_1",
"isMultiKey" : true,
"multiKeyPaths" : {
        "hobbies" : [
                "hobbies"
        ]
},
"isUnique" : false,
"isSparse" : false,
"isPartial" : false,
"indexVersion" : 2,
"direction" : "forward",
"indexBounds" : {
        "hobbies" : [
                "[\"Sports\", \"Sports\"]"
        ]
```



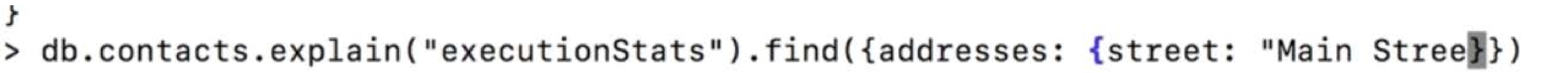
```
> db.contacts.createIndex({addresses: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 2,
        "numIndexesAfter" : 3,
        "ok" : 1
}
>
```



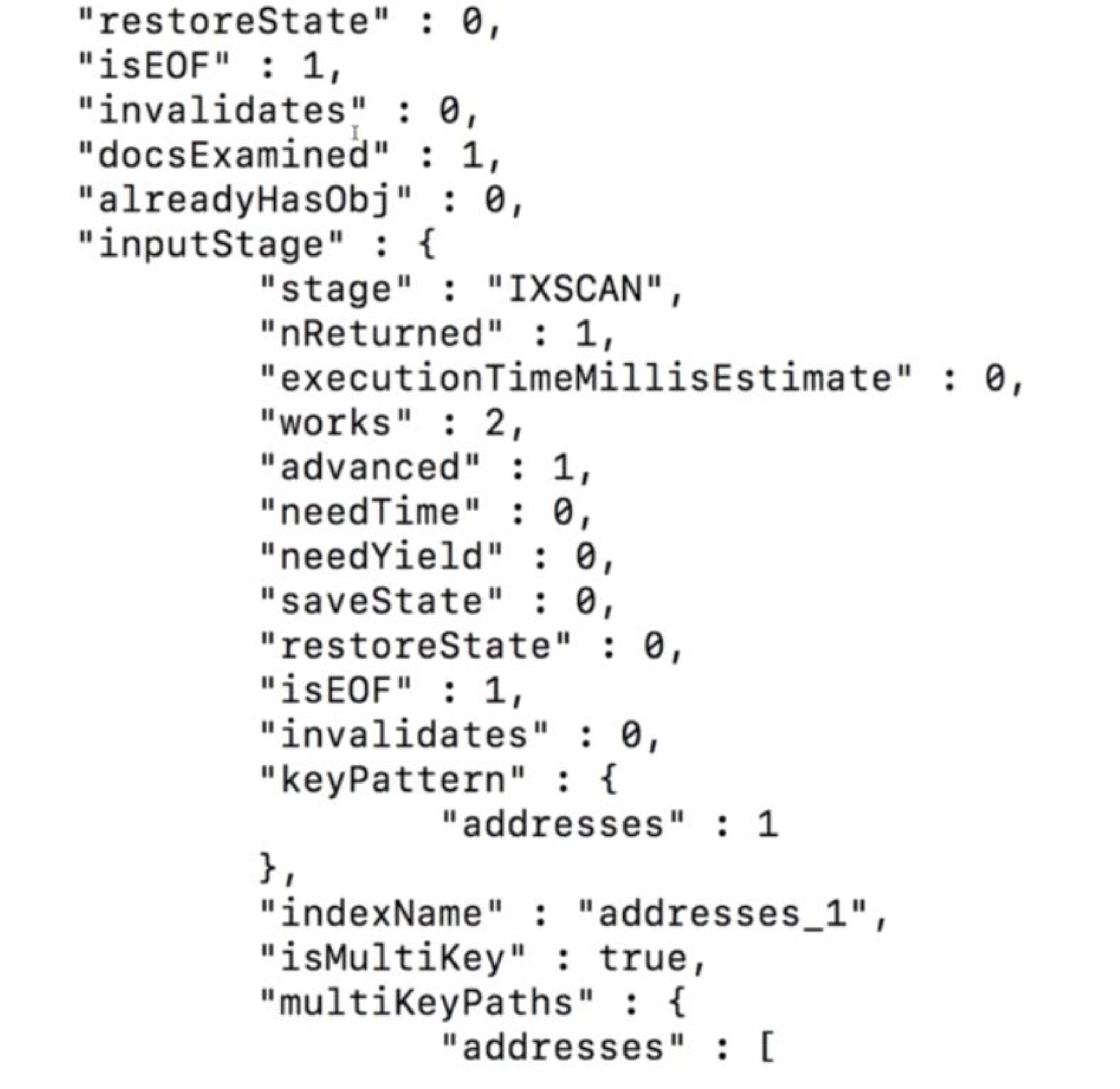
```
>
> db.contacts.explain("executionStats").find({"addresses.street": "Main Street"})
```



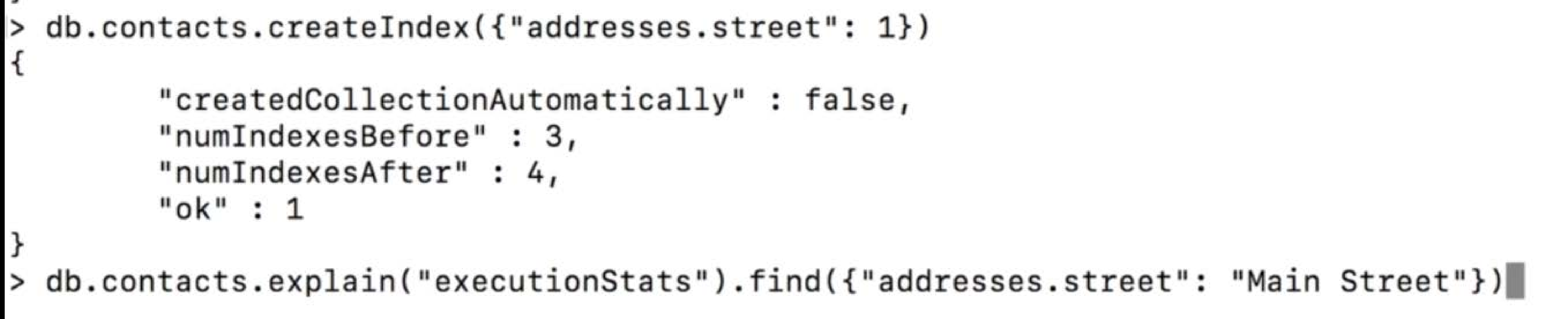
```
                "winningPlan" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "addresses.street" : {
                                        "$eq" : "Main Street"
                                }
                        },
                        "direction" : "forward"
                },
                "rejectedPlans" : [ ]
        },
        "executionStats" : {
                "executionSuccess" : true,
                "nReturned" : 1,
                "executionTimeMillis" : 0,
                "totalKeysExamined" : 0,
                "totalDocsExamined" : 1,
                "executionStages" : {
                        "stage" : "COLLSCAN",
                        "filter" : {
                                "addresses.street" : {
                                        "$eq" : "Main Street"
                                }
                        },
                        "nReturned" : 1,
                        "executionTimeMillisEstimate" : 0,
                        "works" : 3,
```



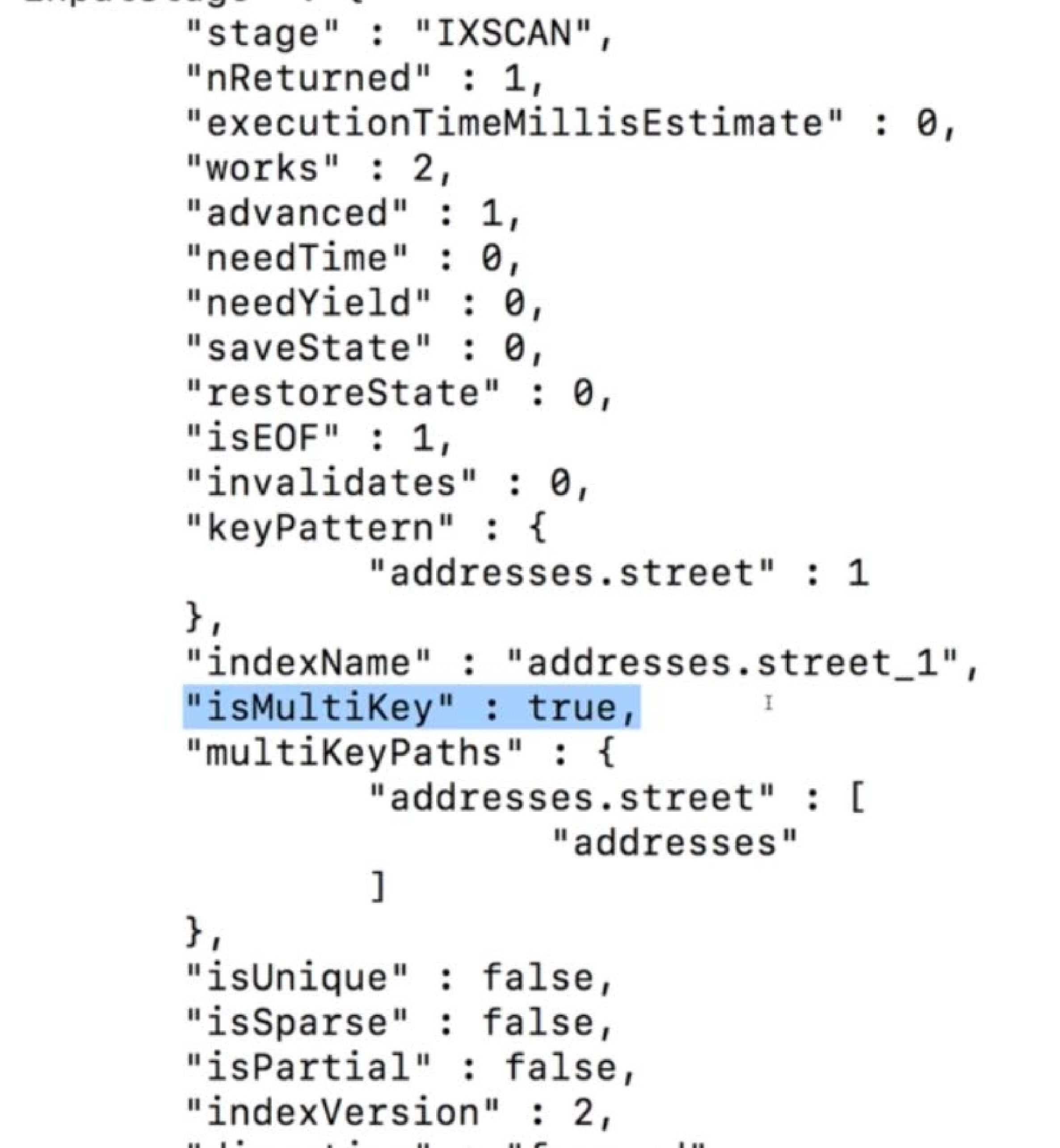
```
}
> db.contacts.explain("executionStats").find({addresses: {street: "Main Stree}})
```



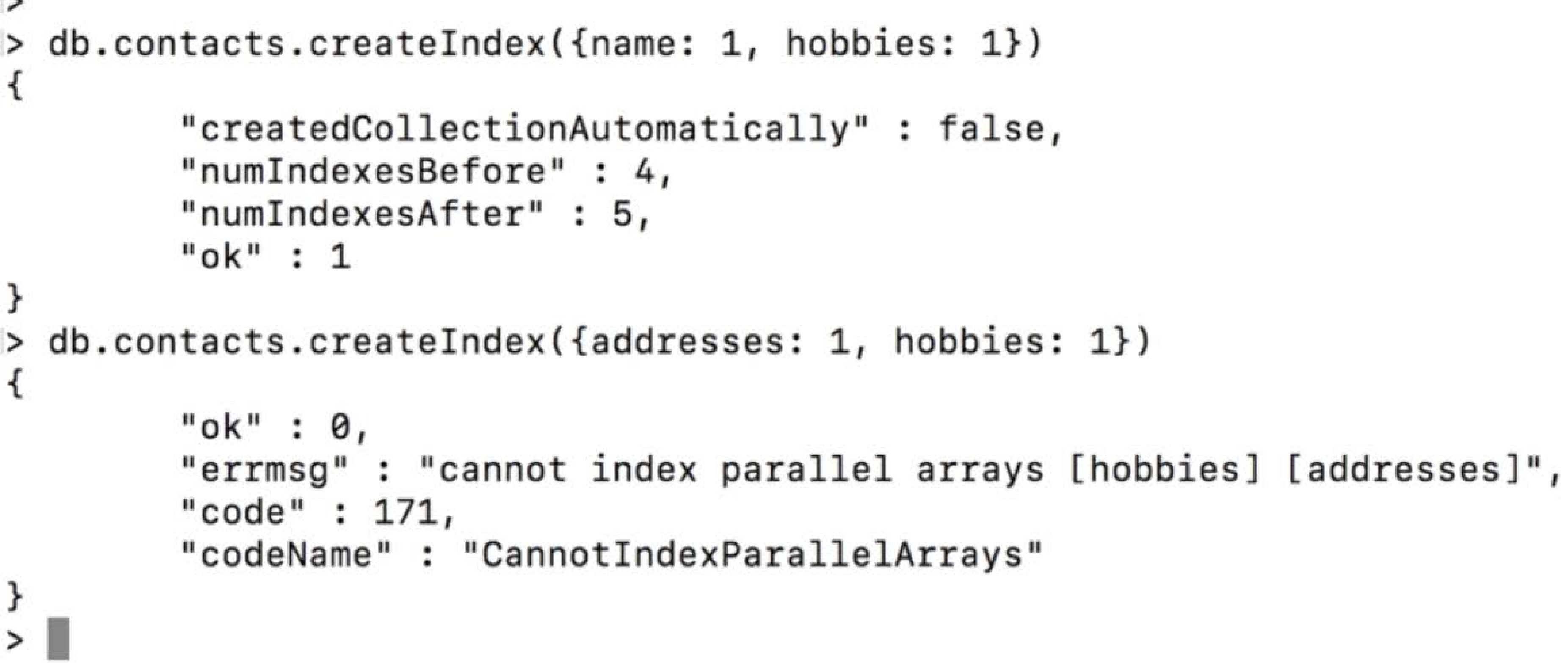
```
	"restoreState" : 0,
	"isEOF" : 1,
	"invalidates" : 0,
	"docsExamined" : 1,
	"alreadyHasObj" : 0,
	"inputStage" : {
		"stage" : "IXSCAN",
		"nReturned" : 1,
		"executionTimeMillisEstimate" : 0,
		"works" : 2,
		"advanced" : 1,
		"needTime" : 0,
		"needYield" : 0,
		"saveState" : 0,
		"restoreState" : 0,
		"isEOF" : 1,
		"invalidates" : 0,
		"keyPattern" : {
			"addresses" : 1
		},
		"indexName" : "addresses_1",
		"isMultiKey" : true,
		"multiKeyPaths" : {
			"addresses" : [
```



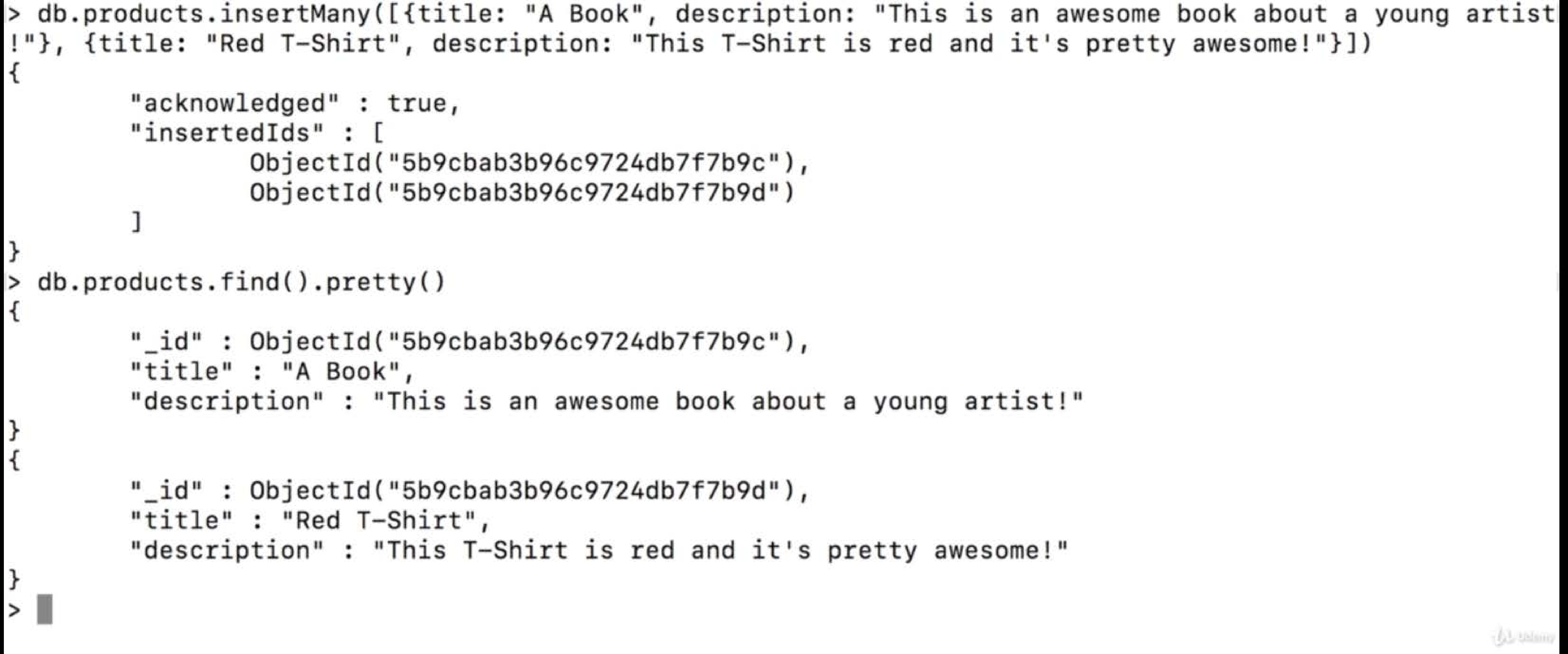
```
> db.contacts.createIndex({"addresses.street": 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 3,
        "numIndexesAfter" : 4,
        "ok" : 1
}
> db.contacts.explain("executionStats").find({"addresses.street": "Main Street"})
```



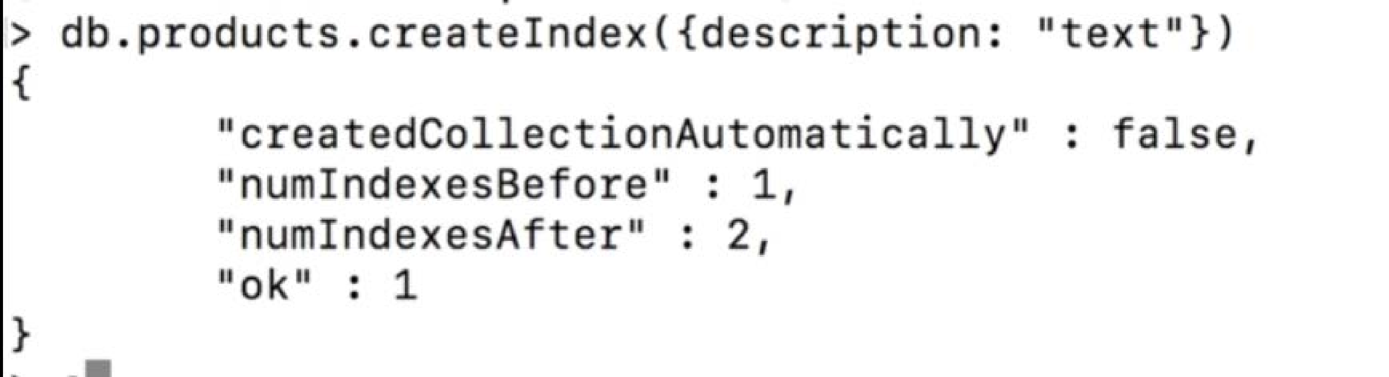
```
"inputStage" : {
        "stage" : "IXSCAN",
        "nReturned" : 1,
        "executionTimeMillisEstimate" : 0,
        "works" : 2,
        "advanced" : 1,
        "needTime" : 0,
        "needYield" : 0,
        "saveState" : 0,
        "restoreState" : 0,
        "isEOF" : 1,
        "invalidates" : 0,
        "keyPattern" : {
                "addresses.street" : 1
        },
        "indexName" : "addresses.street_1",
        "isMultiKey" : true,
        "multiKeyPaths" : {
                "addresses.street" : [
                        "addresses"
                ]
        },
        "isUnique" : false,
        "isSparse" : false,
        "isPartial" : false,
        "indexVersion" : 2,
        "direction" : "forward",
```



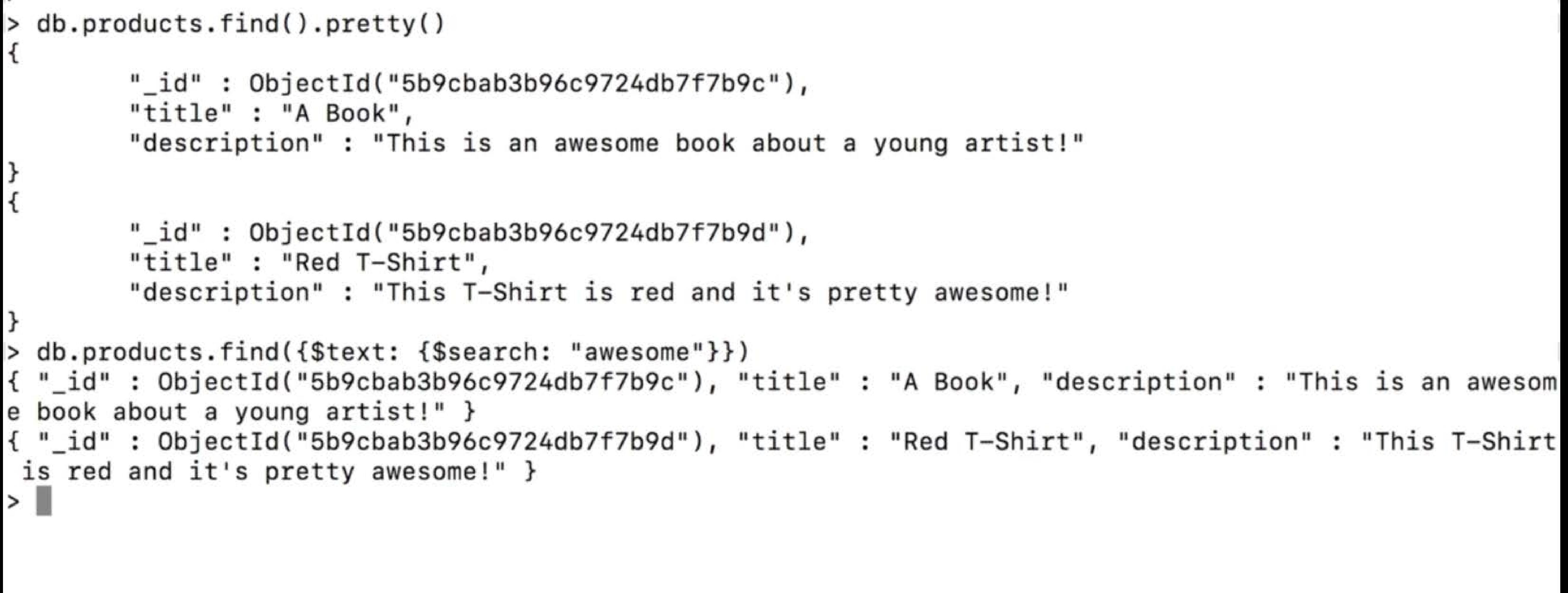
```
>
> db.contacts.createIndex({name: 1, hobbies: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 4,
        "numIndexesAfter" : 5,
        "ok" : 1
}
> db.contacts.createIndex({addresses: 1, hobbies: 1})
{
        "ok" : 0,
        "errmsg" : "cannot index parallel arrays [hobbies] [addresses]",
        "code" : 171,
        "codeName" : "CannotIndexParallelArrays"
}
> 
```



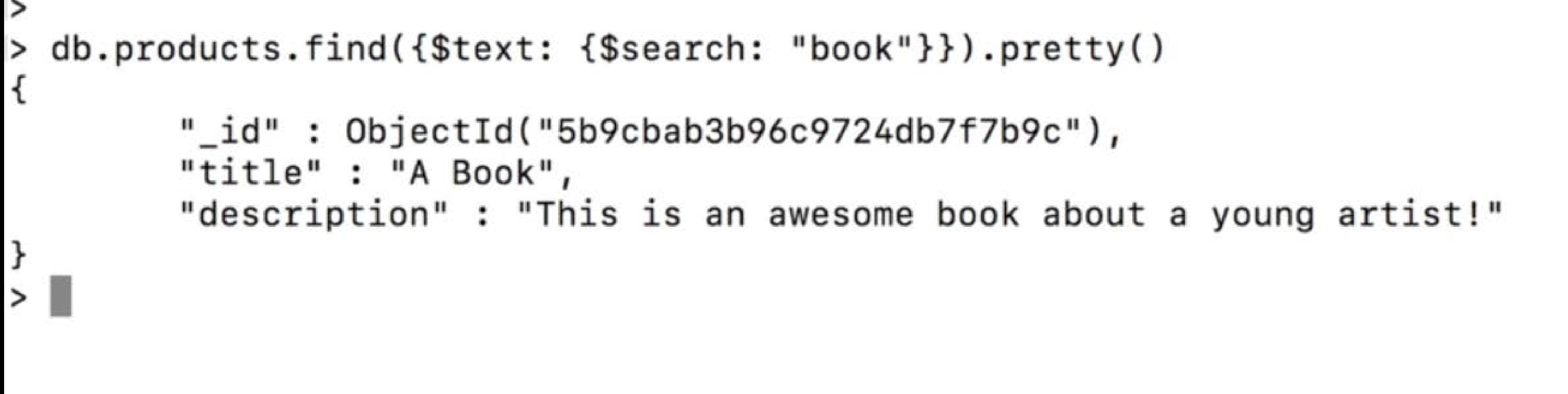
```
> db.products.insertMany([{title: "A Book", description: "This is an awesome book about a young artist
!"}, {title: "Red T-Shirt", description: "This T-Shirt is red and it's pretty awesome!"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("5b9cbab3b96c9724db7f7b9c"),
                ObjectId("5b9cbab3b96c9724db7f7b9d")
        ]
}
> db.products.find().pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
> 
```



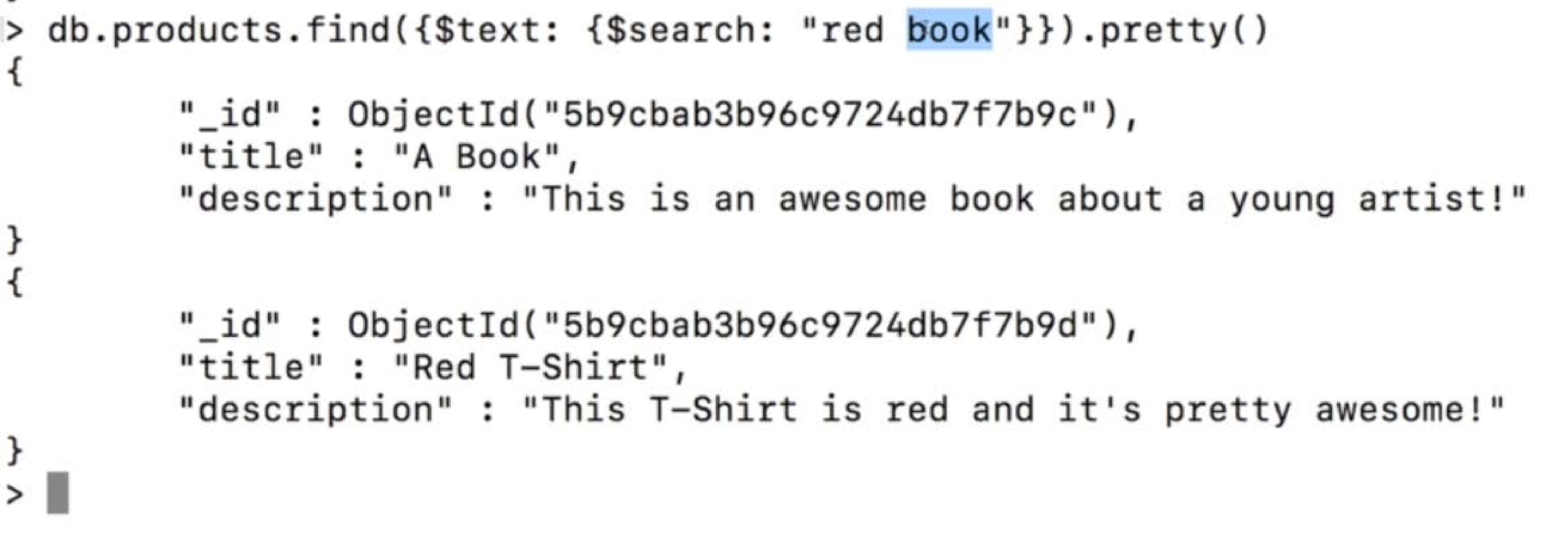
```
> db.products.createIndex({description: "text"})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
>
```



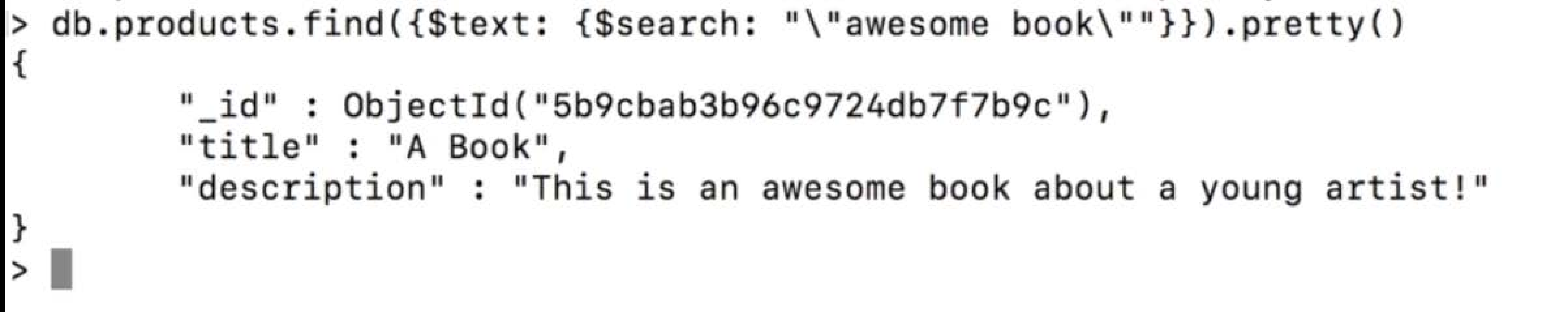
```
> db.products.find().pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
> db.products.find({$text: {$search: "awesome"}})
{ "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"), "title" : "A Book", "description" : "This is an awesom
e book about a young artist!" }
{ "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"), "title" : "Red T-Shirt", "description" : "This T-Shirt
 is red and it's pretty awesome!" }
> 
```



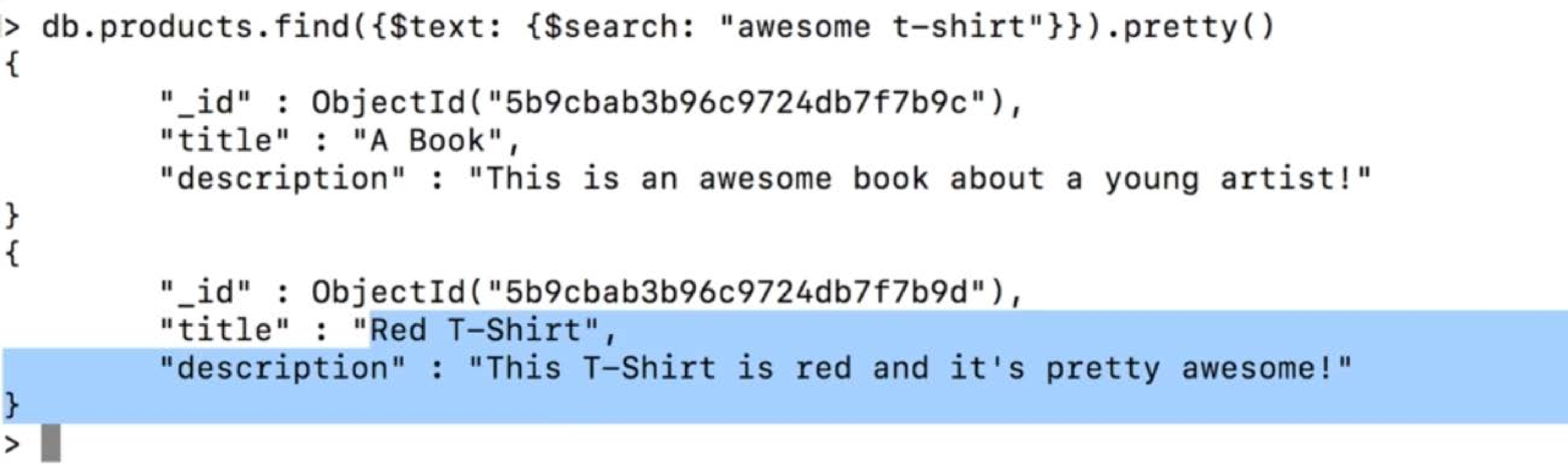
```
>
> db.products.find({$text: {$search: "book"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
>
```



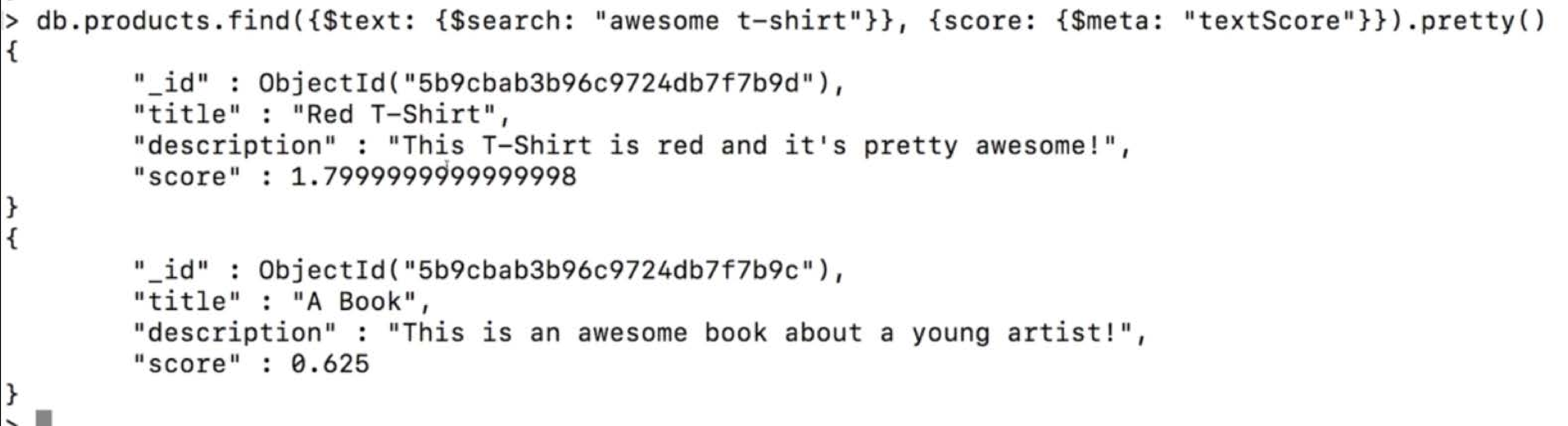
```
> db.products.find({$text: {$search: "red book"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
> 
```



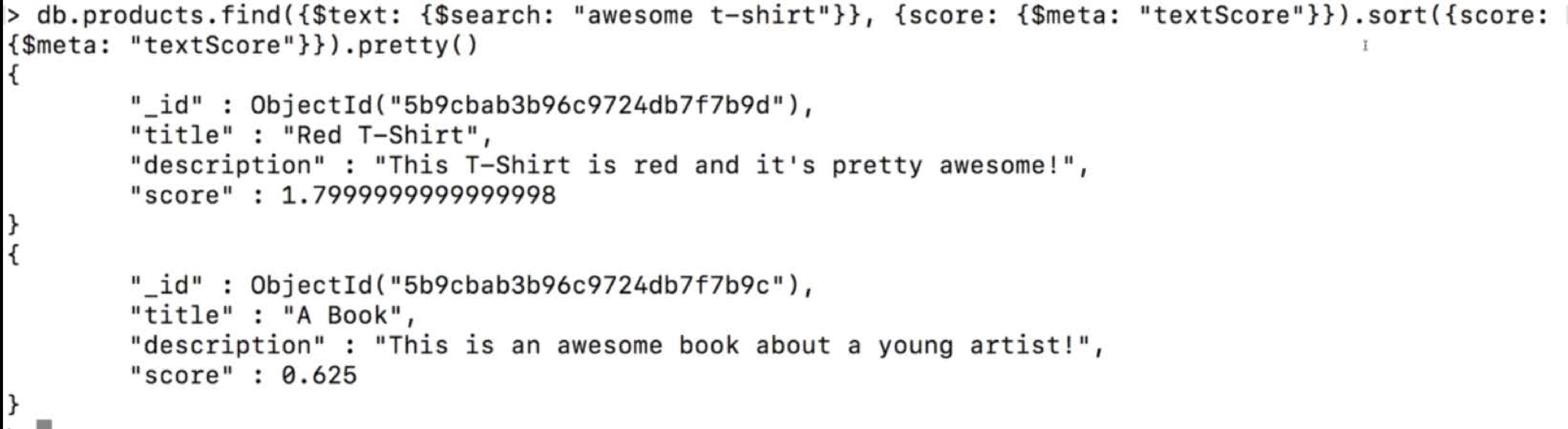
```
> db.products.find({$text: {$search: "\"awesome book\""}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
> 
```



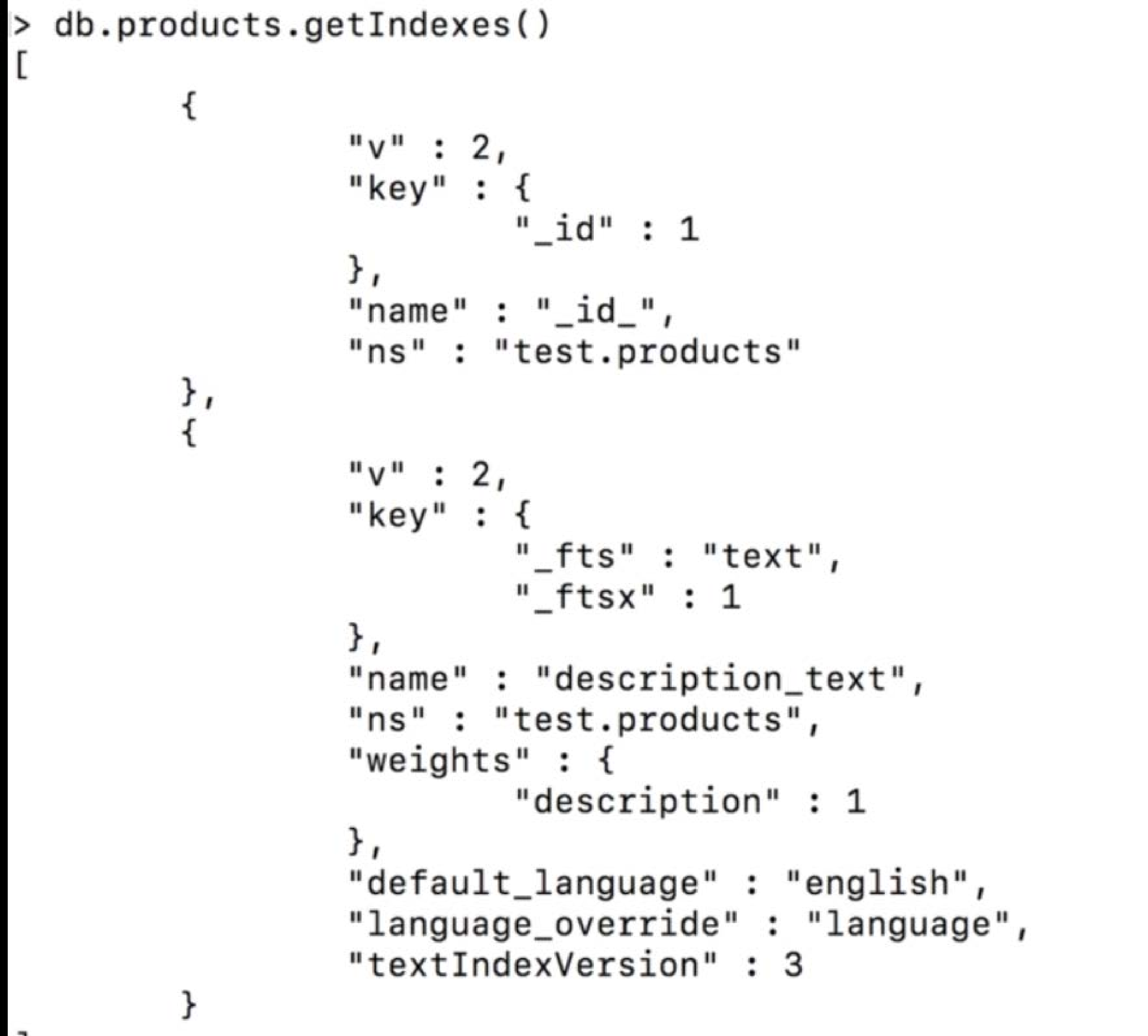
```
> db.products.find({$text: {$search: "awesome t-shirt"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
> 
```



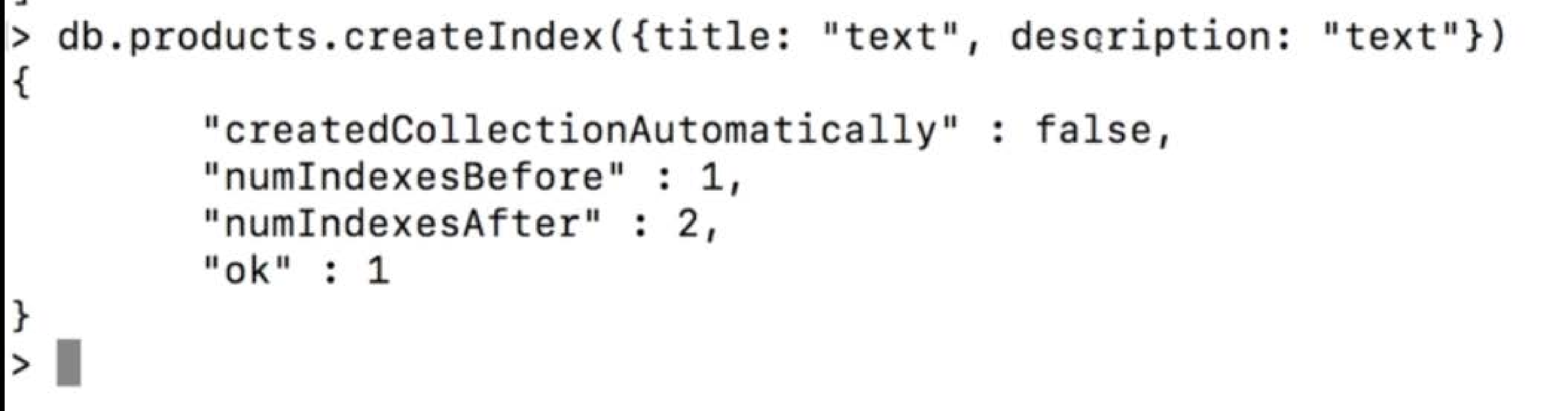
```
> db.products.find({$text: {$search: "awesome t-shirt"}}, {score: {$meta: "textScore"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!",
        "score" : 1.7999999999999998
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!",
        "score" : 0.625
}
>
```



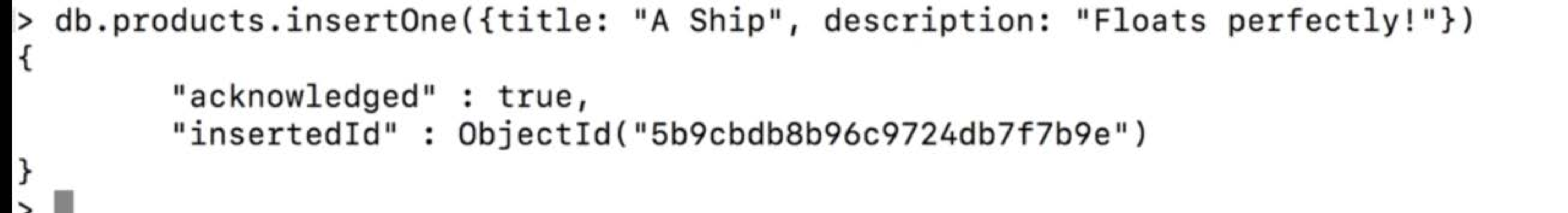
```
> db.products.find({$text: {$search: "awesome t-shirt"}}, {score: {$meta: "textScore"}}).sort({score:
{$meta: "textScore"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!",
        "score" : 1.7999999999999998
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!",
        "score" : 0.625
}
```



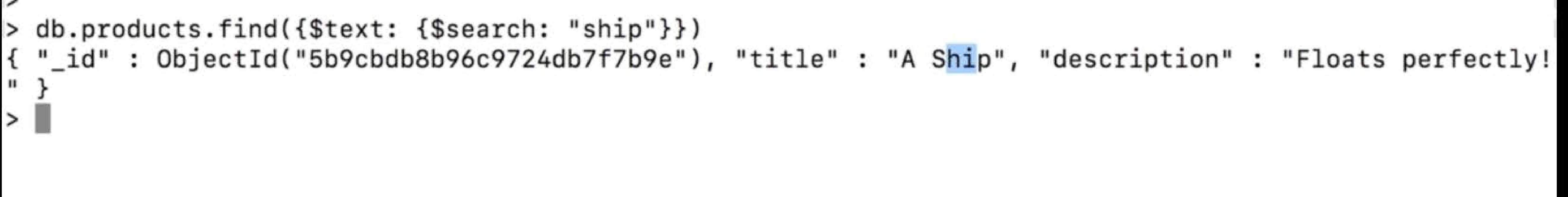
```
> db.products.getIndexes()
[
        {
                "v" : 2,
                "key" : {
                        "_id" : 1
                },
                "name" : "_id_",
                "ns" : "test.products"
        },
        {
                "v" : 2,
                "key" : {
                        "_fts" : "text",
                        "_ftsx" : 1
                },
                "name" : "description_text",
                "ns" : "test.products",
                "weights" : {
                        "description" : 1
                },
                "default_language" : "english",
                "language_override" : "language",
                "textIndexVersion" : 3
        }
]
```



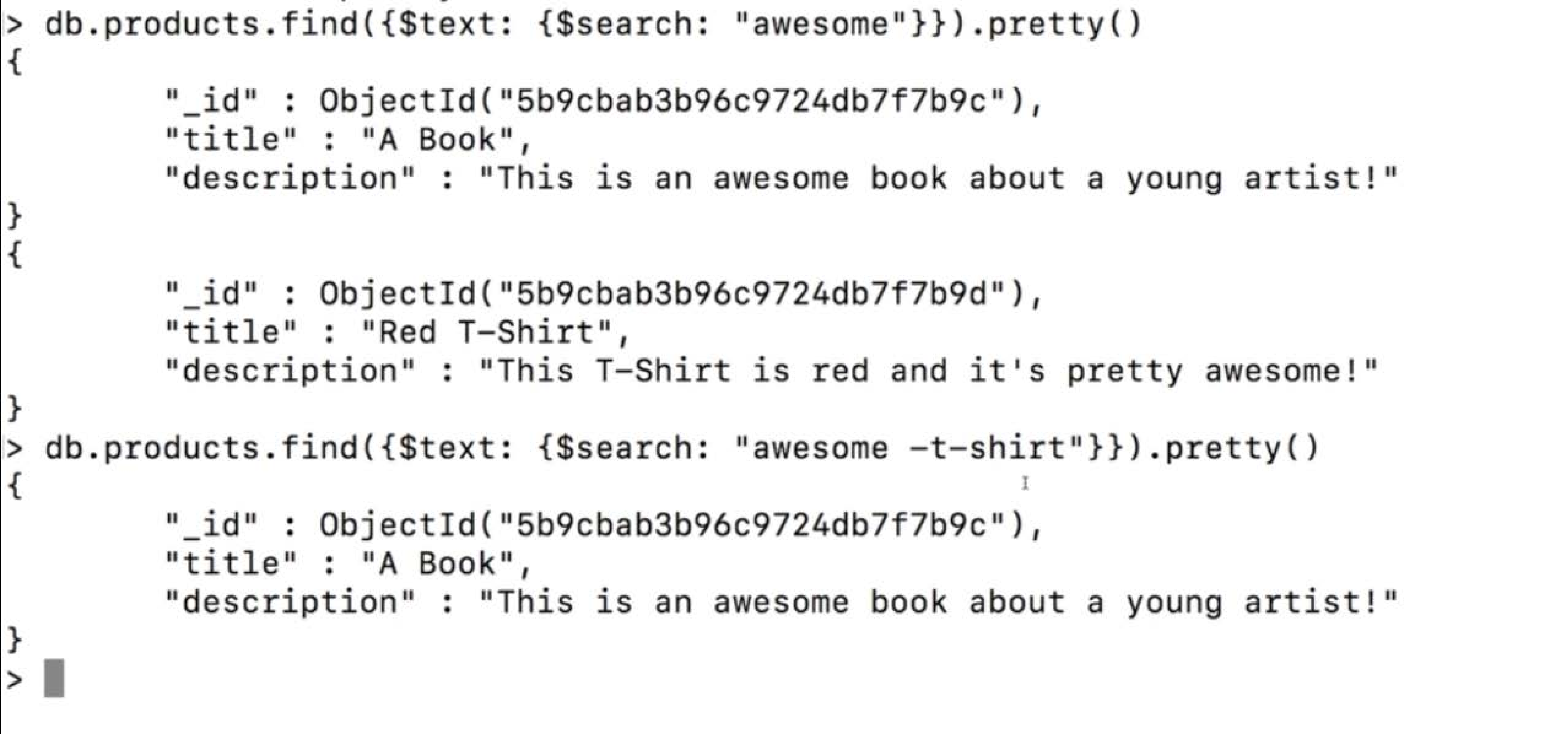
```
> db.products.createIndex({title: "text", description: "text"})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> 
```



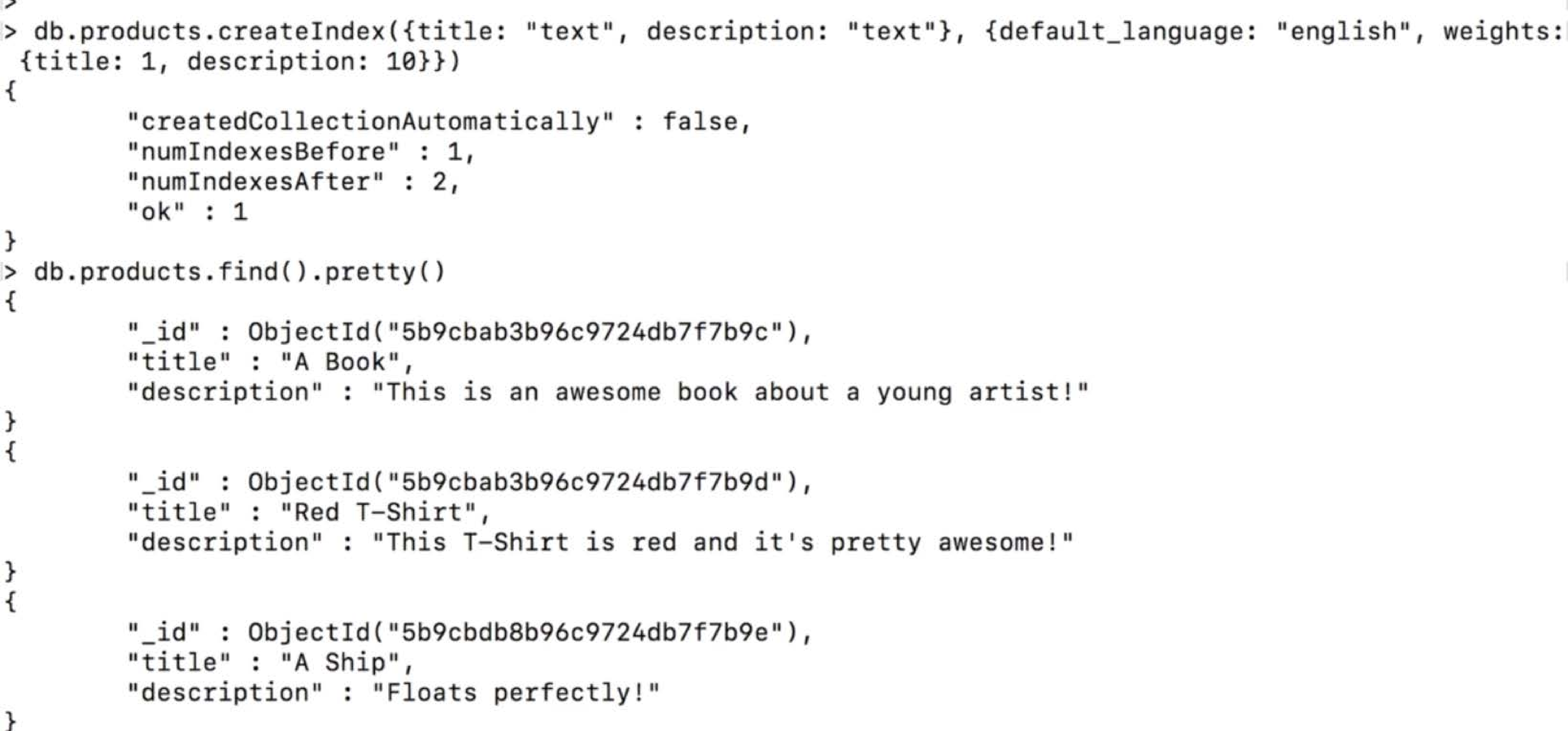
```
> db.products.insertOne({title: "A Ship", description: "Floats perfectly!"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5b9cbdb8b96c9724db7f7b9e")
}
> 
```



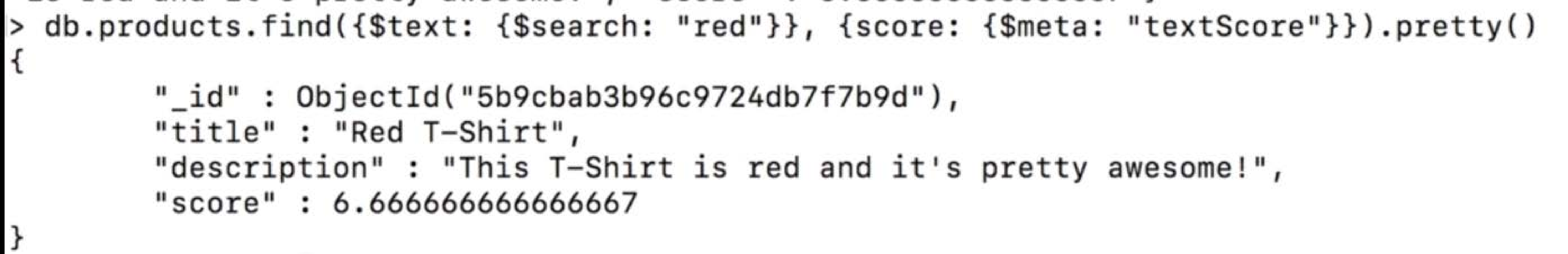
```
> db.products.find({$text: {$search: "ship"}})
{ "_id" : ObjectId("5b9cbdb8b96c9724db7f7b9e"), "title" : "A Ship", "description" : "Floats perfectly!
" }
> 
```



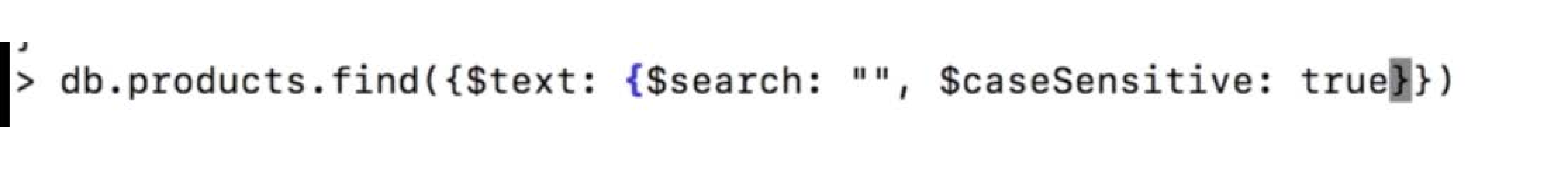
```
> db.products.find({$text: {$search: "awesome"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
> db.products.find({$text: {$search: "awesome -t-shirt"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
> 
```



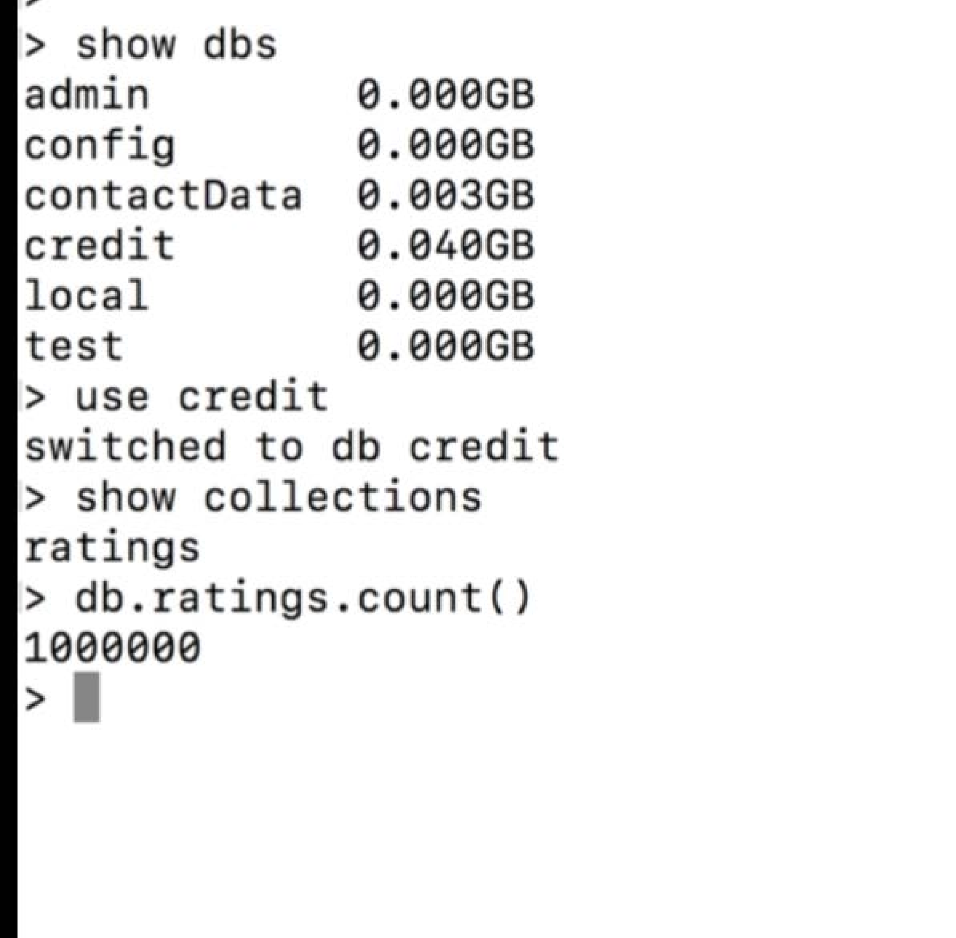
```
>
> db.products.createIndex({title: "text", description: "text"}, {default_language: "english", weights:
 {title: 1, description: 10}})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> db.products.find().pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9c"),
        "title" : "A Book",
        "description" : "This is an awesome book about a young artist!"
}
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!"
}
{
        "_id" : ObjectId("5b9cbdb8b96c9724db7f7b9e"),
        "title" : "A Ship",
        "description" : "Floats perfectly!"
}
```



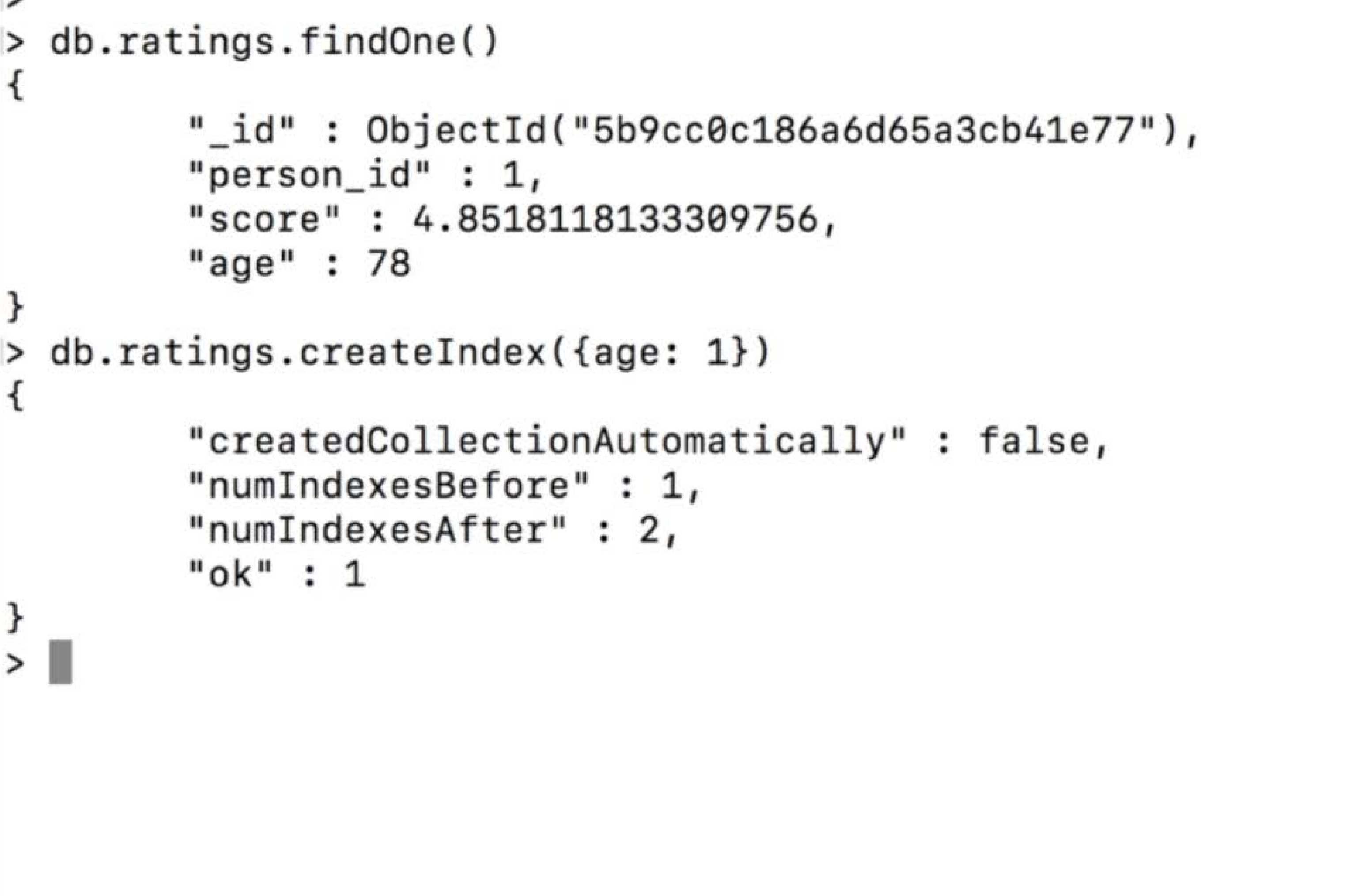
```
is red and it's pretty awesome!", "score" : 0.6666666666666666 }
> db.products.find({$text: {$search: "red"}}, {score: {$meta: "textScore"}}).pretty()
{
        "_id" : ObjectId("5b9cbab3b96c9724db7f7b9d"),
        "title" : "Red T-Shirt",
        "description" : "This T-Shirt is red and it's pretty awesome!",
        "score" : 6.666666666666667
}
```



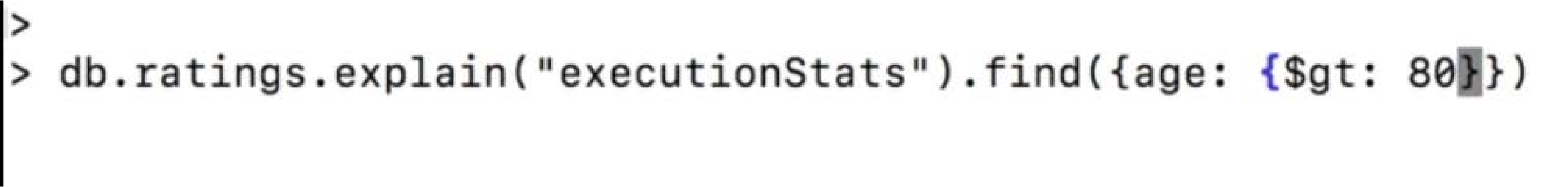
```
,
> db.products.find({$text: {$search: "", $caseSensitive: true}})
```



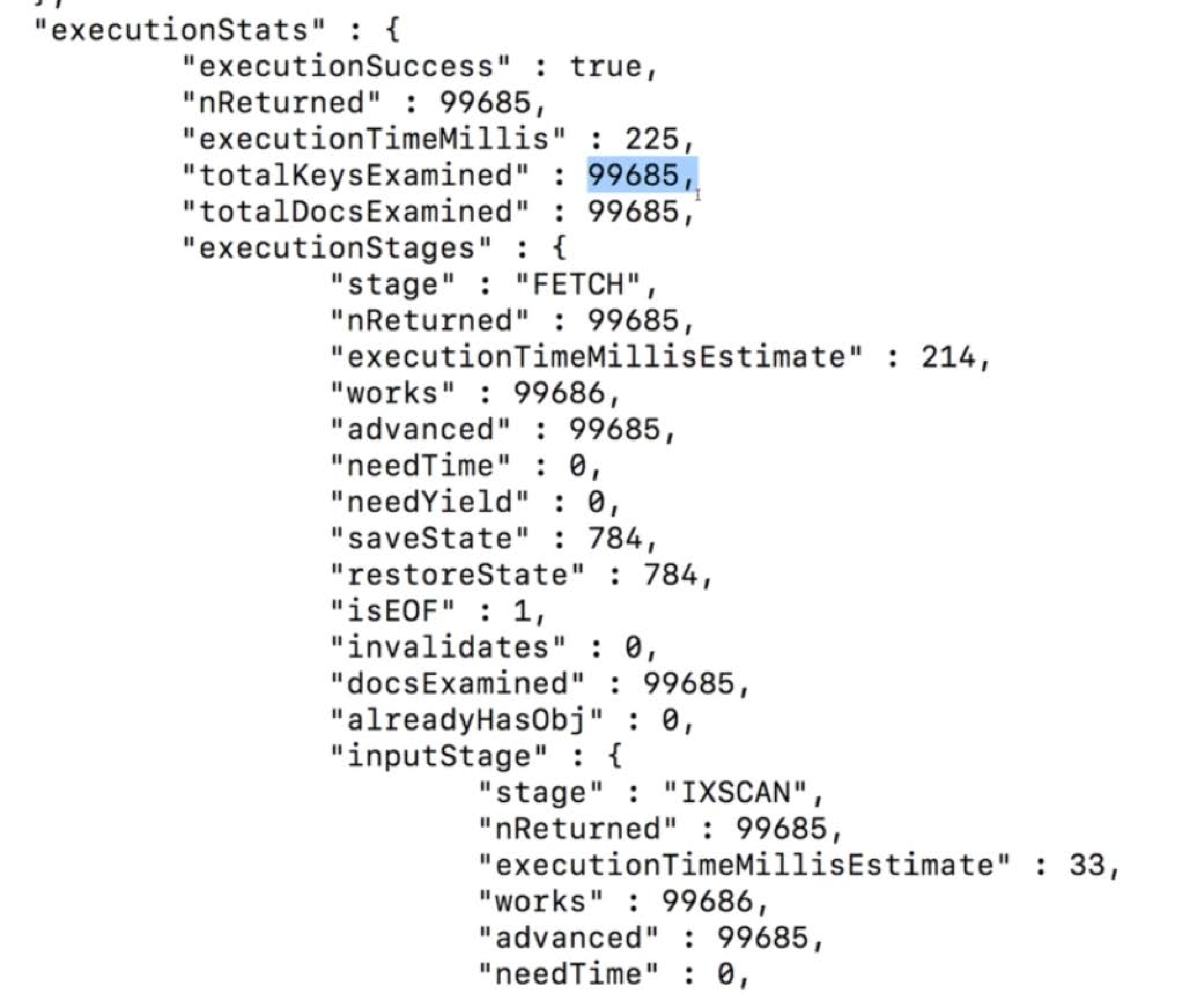
```
>
> show dbs
admin        0.000GB
config       0.000GB
contactData  0.003GB
credit       0.040GB
local        0.000GB
test         0.000GB
> use credit
switched to db credit
> show collections
ratings
> db.ratings.count()
1000000
> 
```



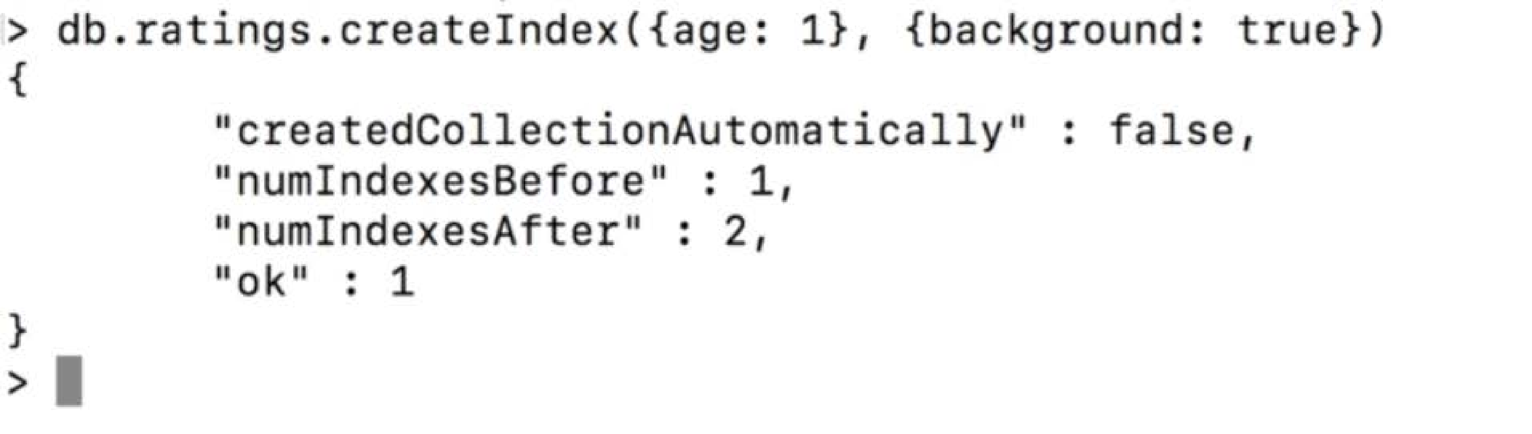
```
>
> db.ratings.findOne()
{
        "_id" : ObjectId("5b9cc0c186a6d65a3cb41e77"),
        "person_id" : 1,
        "score" : 4.8518118133309756,
        "age" : 78
}
> db.ratings.createIndex({age: 1})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> 
```



```
>
> db.ratings.explain("executionStats").find({age: {$gt: 80}})
```



```
},
"executionStats" : {
        "executionSuccess" : true,
        "nReturned" : 99685,
        "executionTimeMillis" : 225,
        "totalKeysExamined" : 99685,
        "totalDocsExamined" : 99685,
        "executionStages" : {
                "stage" : "FETCH",
                "nReturned" : 99685,
                "executionTimeMillisEstimate" : 214,
                "works" : 99686,
                "advanced" : 99685,
                "needTime" : 0,
                "needYield" : 0,
                "saveState" : 784,
                "restoreState" : 784,
                "isEOF" : 1,
                "invalidates" : 0,
                "docsExamined" : 99685,
                "alreadyHasObj" : 0,
                "inputStage" : {
                        "stage" : "IXSCAN",
                        "nReturned" : 99685,
                        "executionTimeMillisEstimate" : 33,
                        "works" : 99686,
                        "advanced" : 99685,
                        "needTime" : 0,
```



```
> db.ratings.createIndex({age: 1}, {background: true})
{
        "createdCollectionAutomatically" : false,
        "numIndexesBefore" : 1,
        "numIndexesAfter" : 2,
        "ok" : 1
}
> 
```