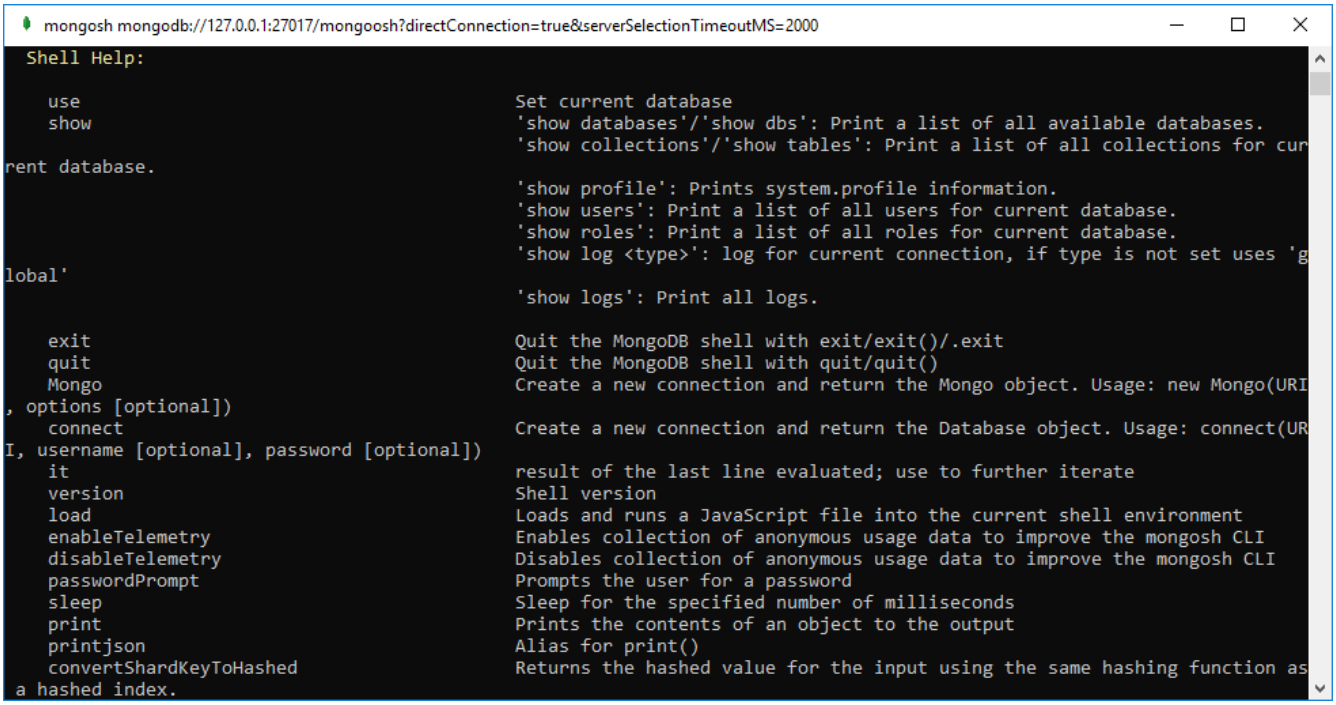
MongoDB_Lab1

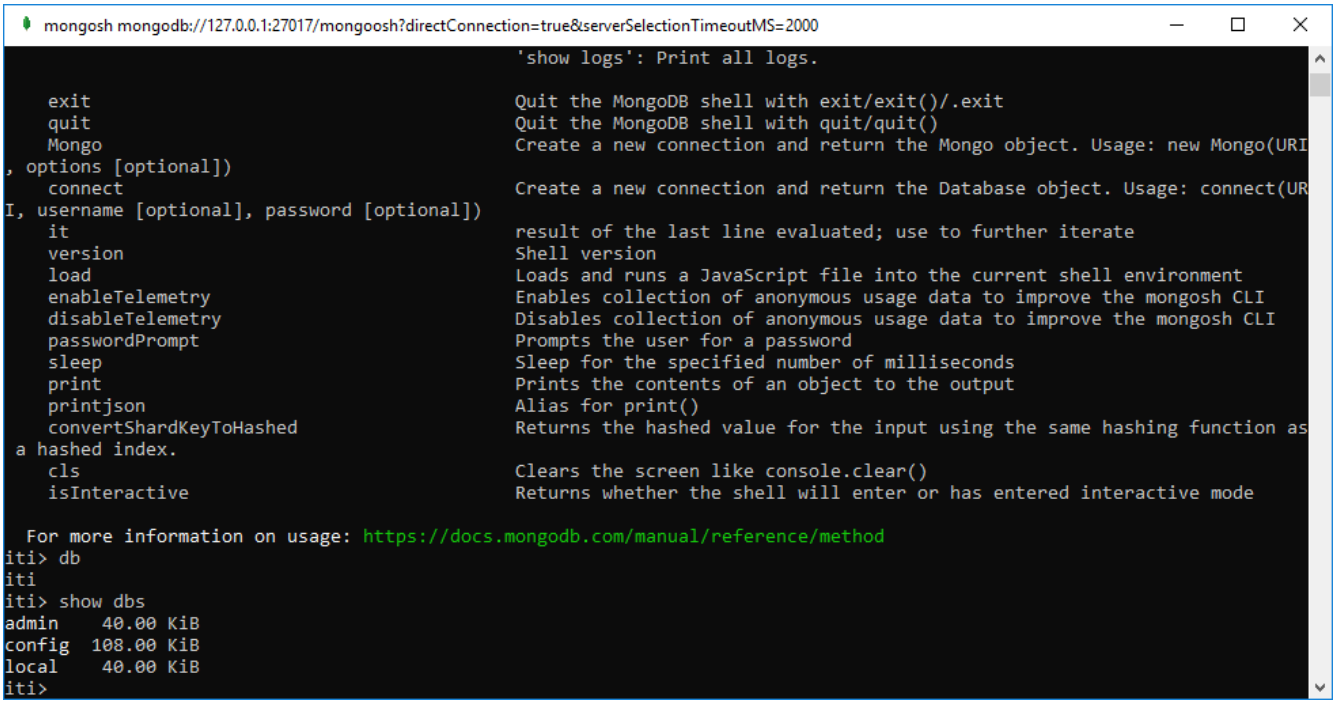
1 – open mongo shell and view the help

```
Help
```



2 – identify your current working database and show list of available databases

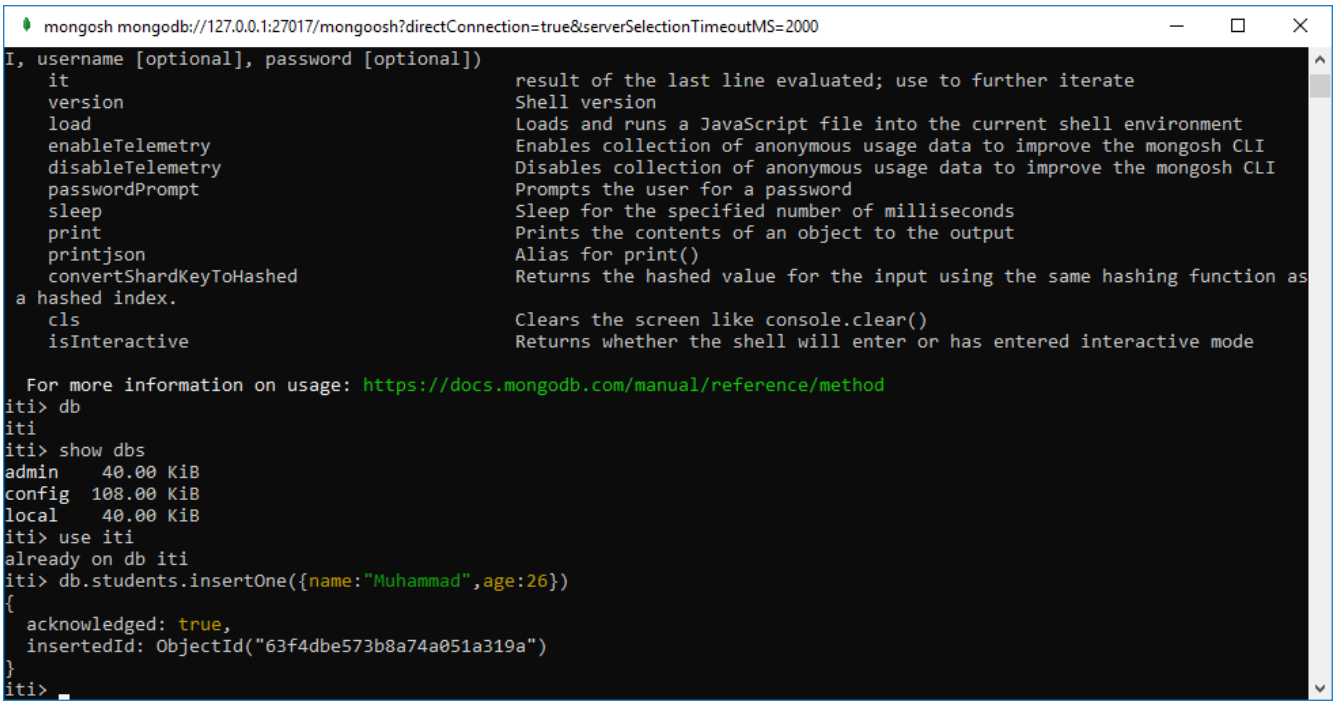
```
db
show dbs
```



3 – create a new database called iti and create a collection named “students”. Insert whatever data you want about yourself (include name and age in your details).

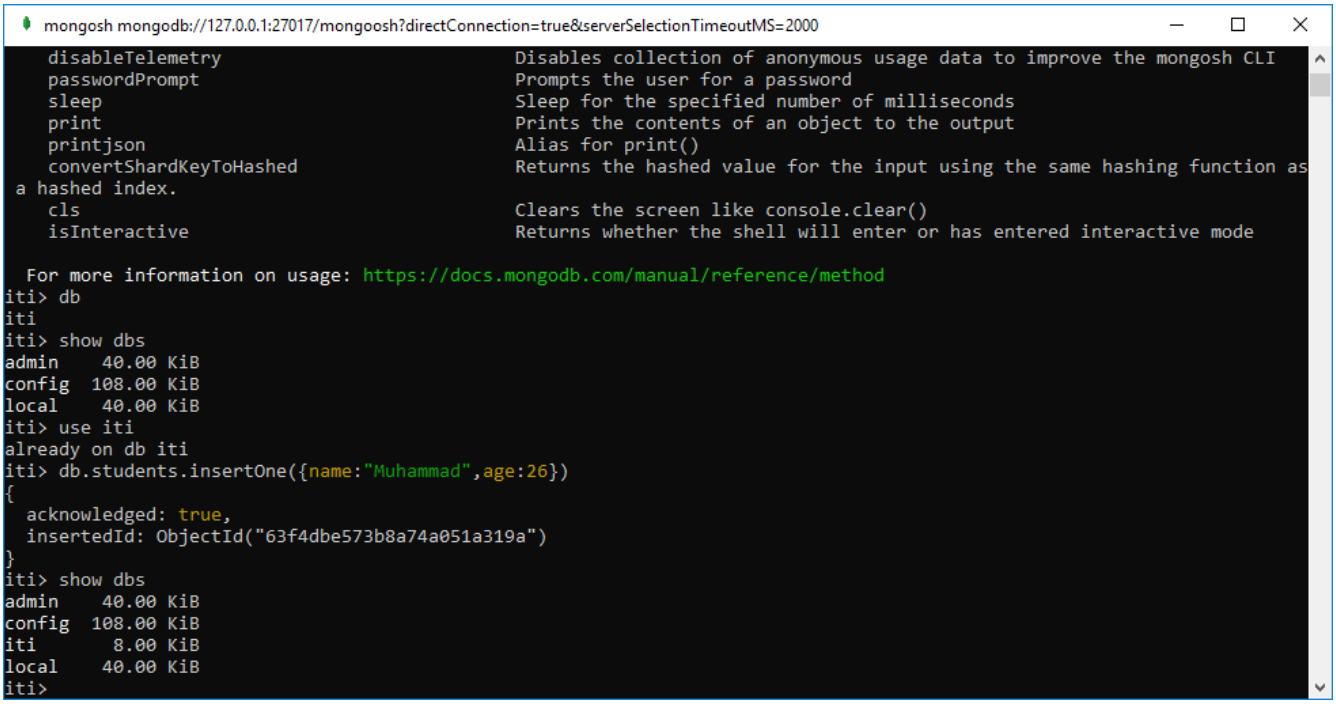
Use iti

db.students.insertOne({name:"Muhammad",age:26})



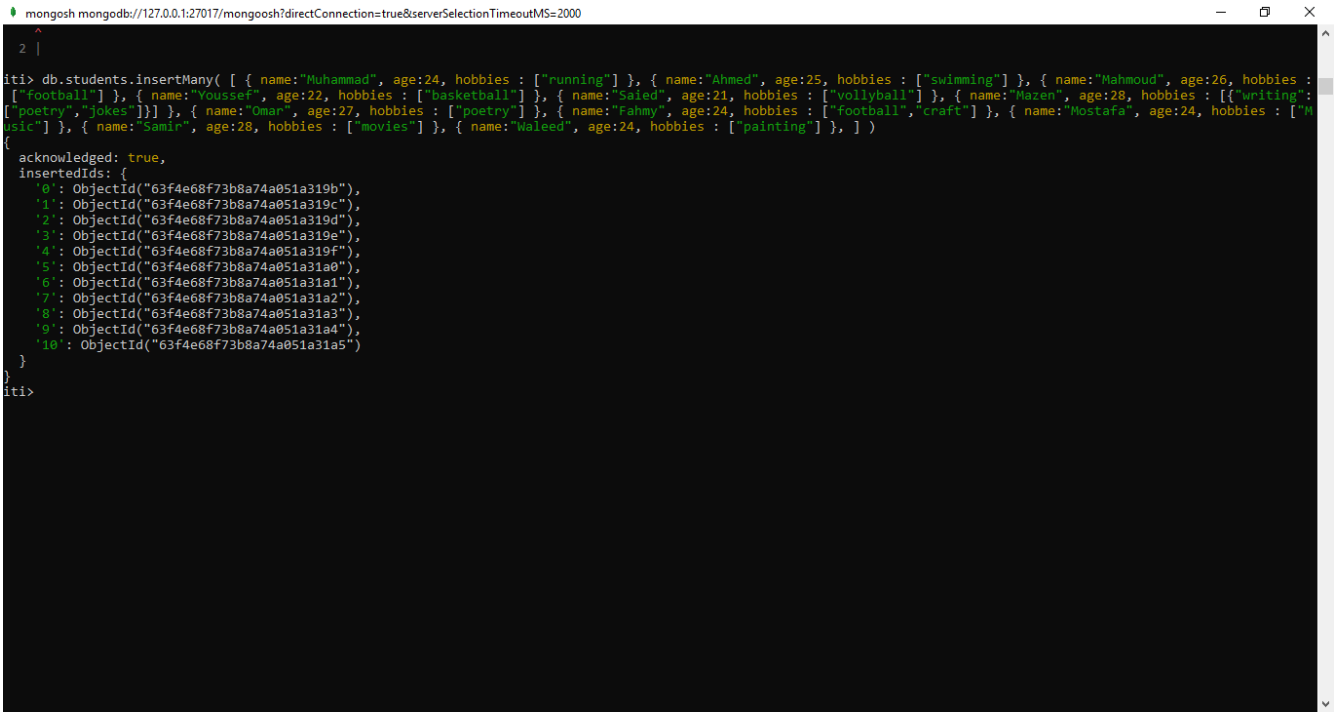
4– show list of available databases. What did you notice ?

Show dbs



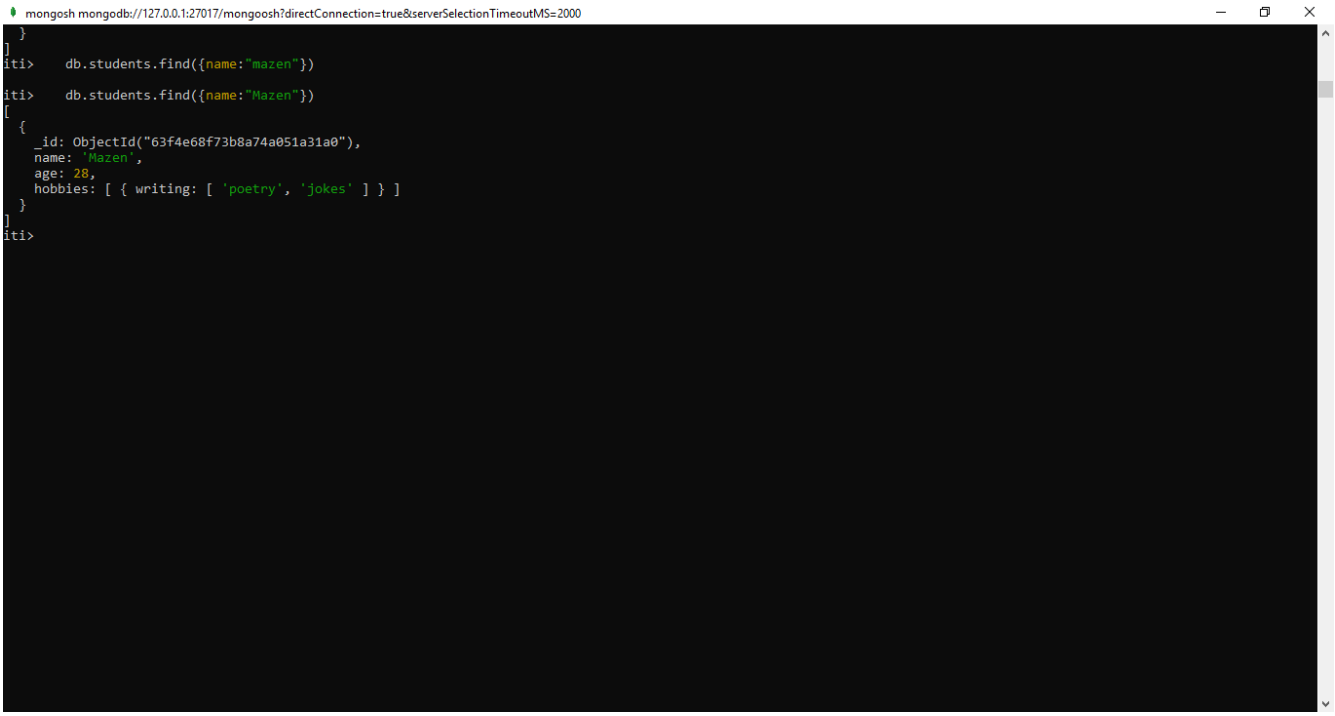
5 – Insert un-structured or semi-structured data for 10 of your friends (include name and age in your details. The documents should have different types of data i.e. arrays, strings, documents, integers).

```
db.students.insertMany( [ { name:"Muhammad", age:24, hobbies : ["running"] }, { name:"Ahmed", age:25, hobbies : ["swimming"] }, { name:"Mahmoud", age:26, hobbies : ["football"] }, { name:"Youssef", age:22, hobbies : ["basketball"] }, { name:"Saied", age:21, hobbies : ["vollyball"] }, { name:"Mazen", age:28, hobbies : [{"writing":["poetry","jokes"]}] }, { name:"Omar", age:27, hobbies : ["poetry"] }, { name:"Fahmy", age:24, hobbies : ["football","craft"] }, { name:"Mostafa", age:24, hobbies : ["Music"] }, { name:"Samir", age:28, hobbies : ["movies"] }, { name:"Waleed", age:24, hobbies : ["painting"] }, ] )
```



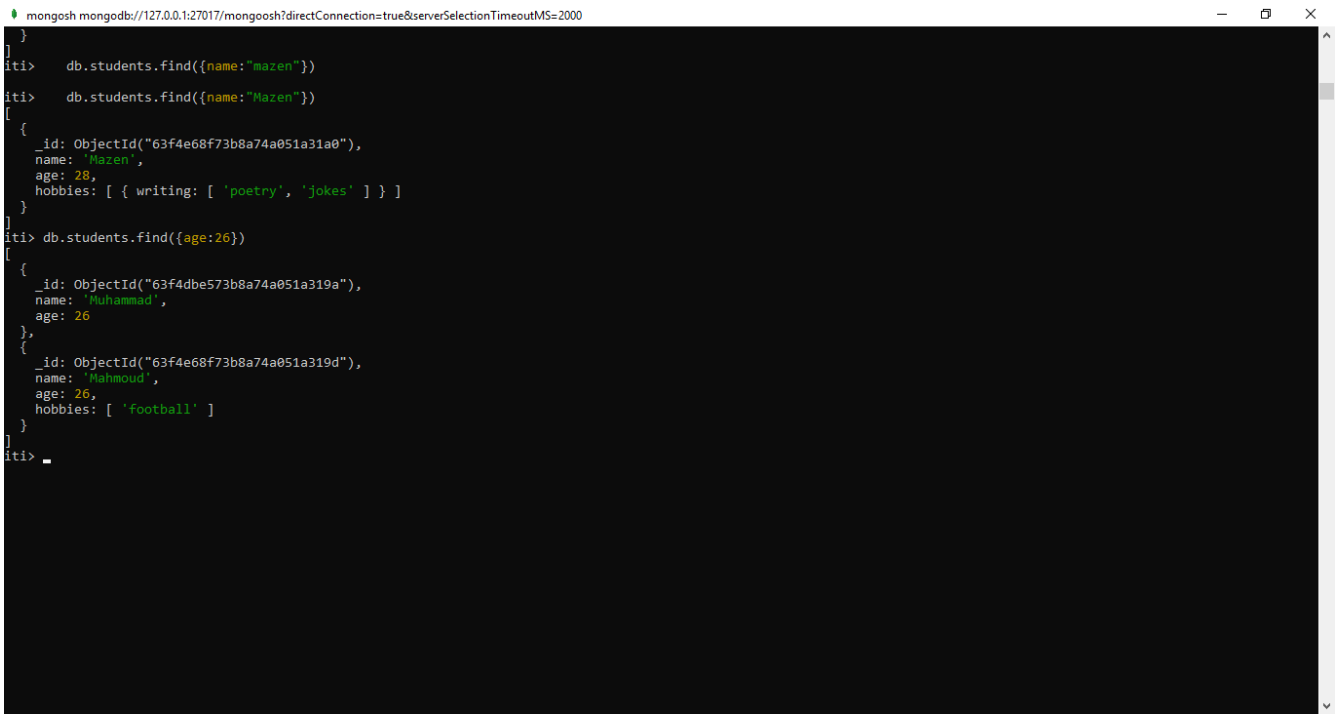
6 – Search for your object by name.

```
db.students.find({name:"Mazen"})
```



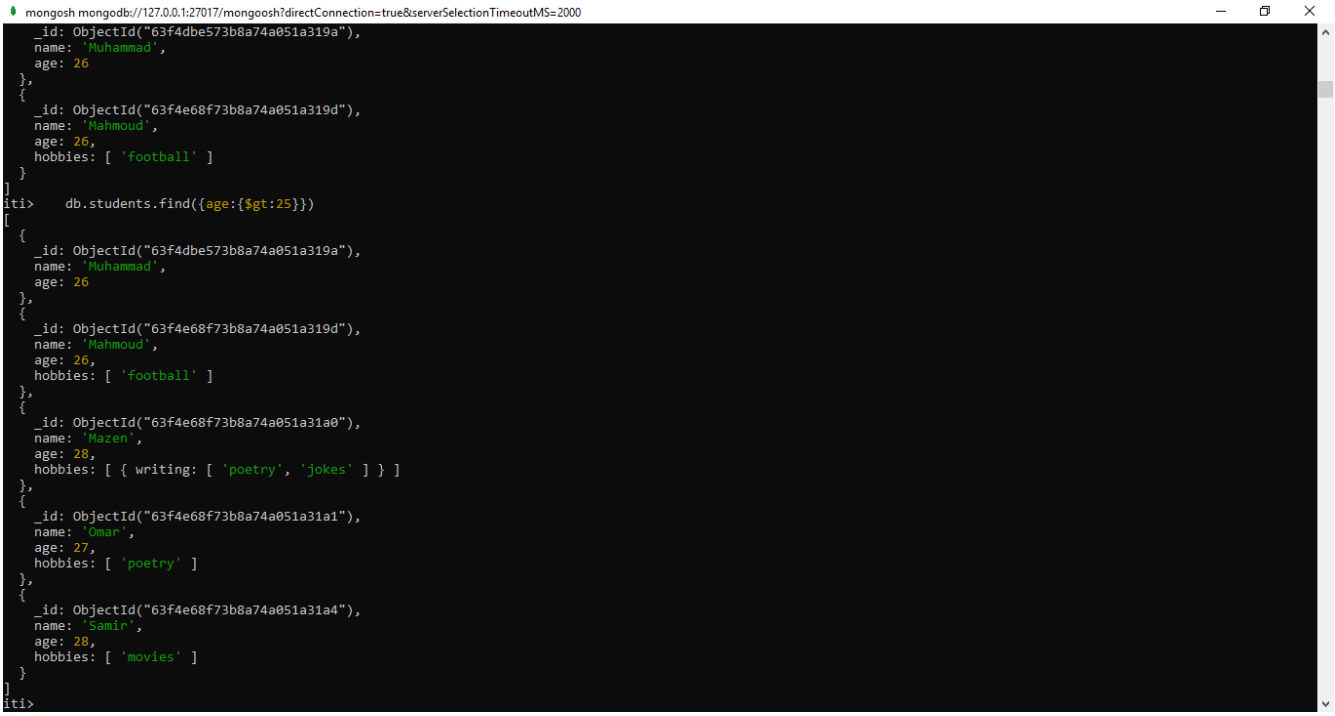
7– Search for your friend(s) by age.

```
db.students.find({age:26})
```



8 – Search for all of your friends whose age is older than yours.

```
db.students.find({age:{$gt:25}})
```

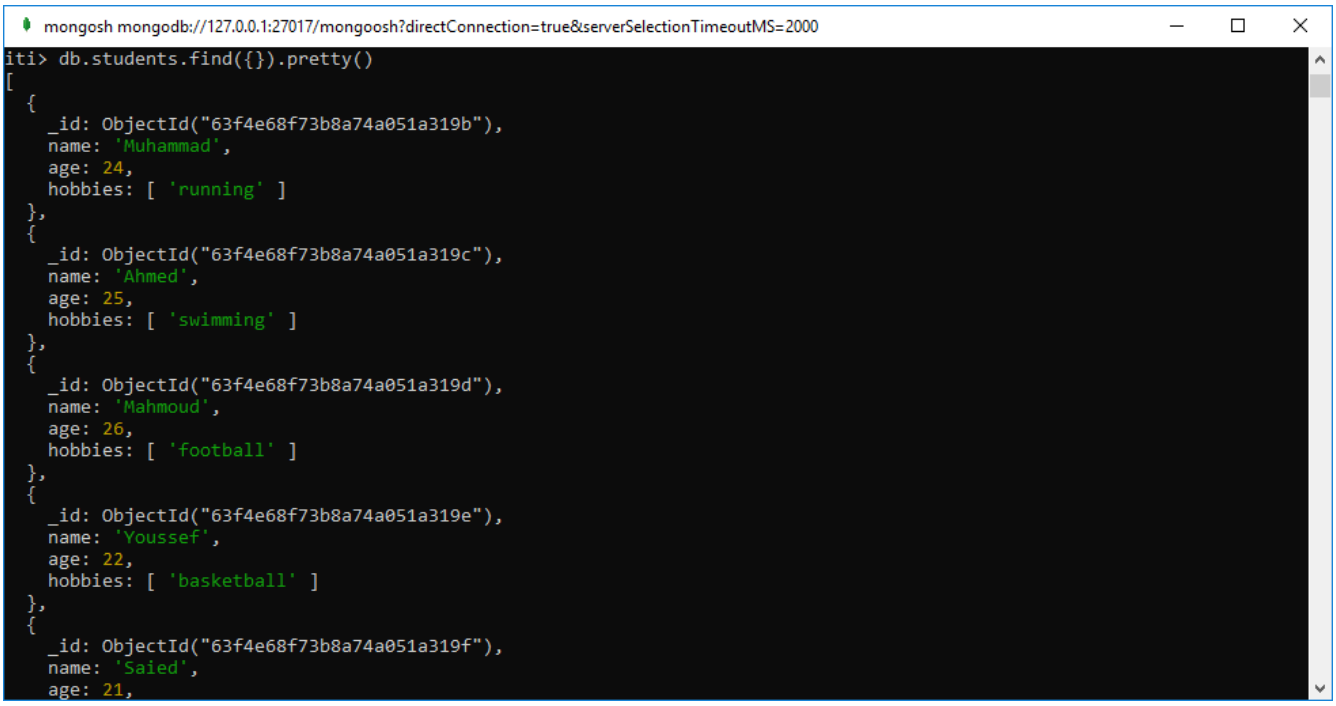


9 – delete any of your friends by id.

```
db.students.deleteOne({_id:ObjectId("63f4dbe573b8a74a051a319a")})
```

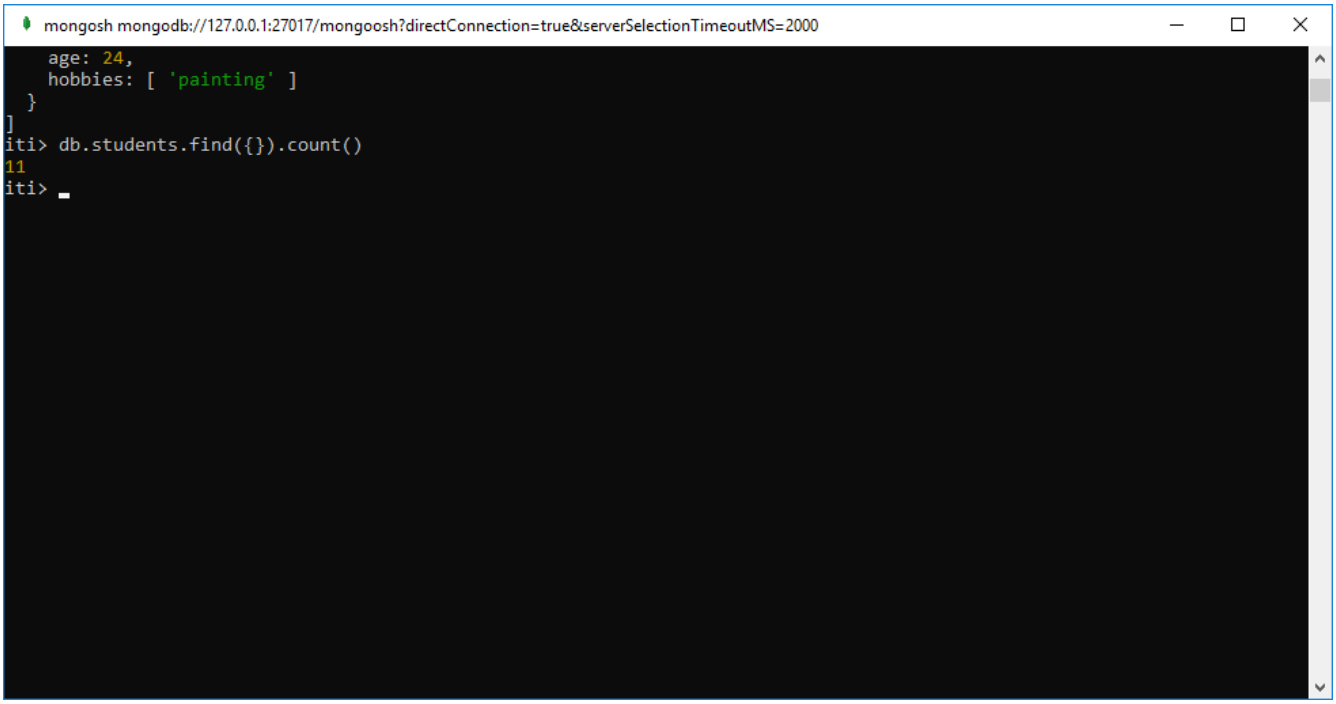
10 – view all documents in students collection in a prettified format.

```
db.students.find({}).pretty()
```



11 – count all documents in students collection.

```
db.students.find({}).count()
```



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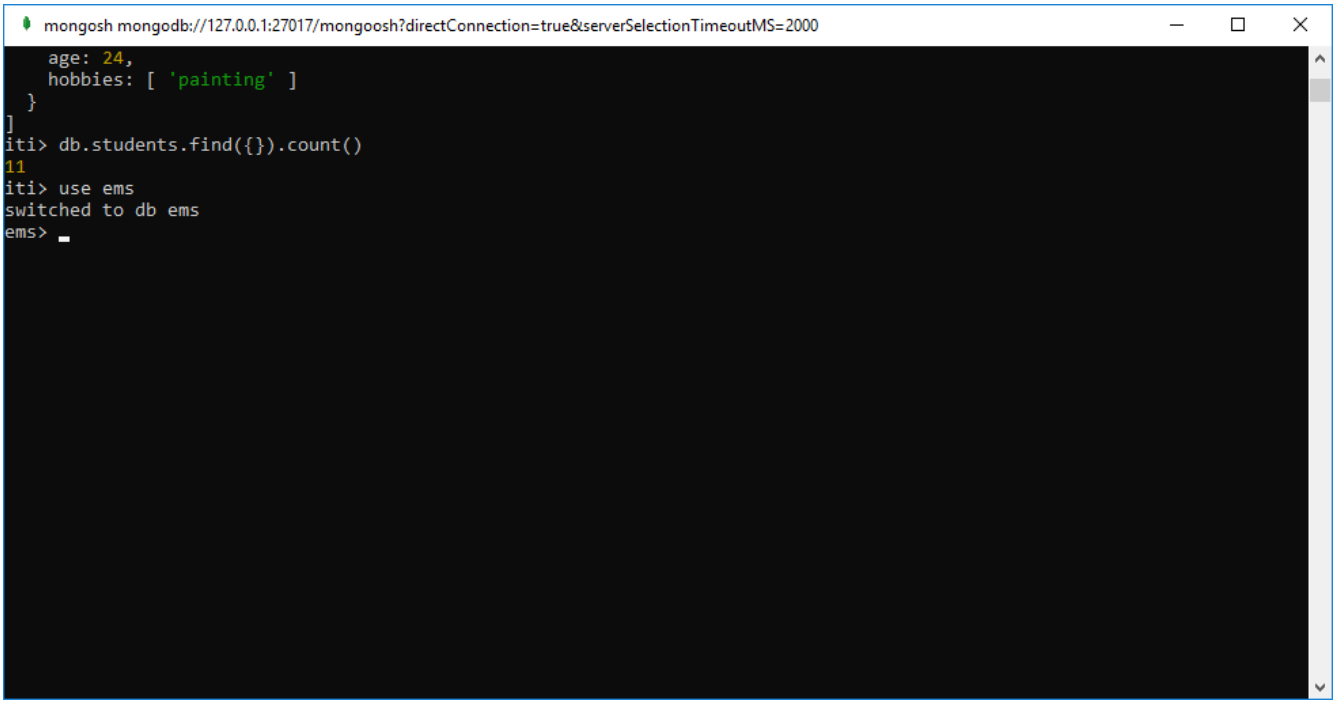
part 2

1- Create database with name ems

```
use ems
```



2- Insert the following data into "faculty" collection

{ "name":"Krish", "age":35,"gender":"M","exp":10,subjects:["DS","C","OS"],"type":"Full Time","qualification":"M.Tech" },

{ "name":"Manoj", "age":38,"gender":"M","exp":12,subjects:["JAVA","DBMS"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Anush", "age":32,"gender":"F","exp":8,subjects:["C","CPP"],"type":"Part Time","qualification":"M.Tech" },

{ "name":"Suresh", "age":40,"gender":"M","exp":9,subjects:["JAVA","DBMS","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Rajesh", "age":35,"gender":"M","exp":7,subjects:["DS","C","OS"],"type":"Full Time","qualification":"M.Tech" },

{ "name":"Mani", "age":38,"gender":"F","exp":10,subjects:["JAVA","DBMS","OS"],"type":"Part Time", "qualification":"Ph.D"},

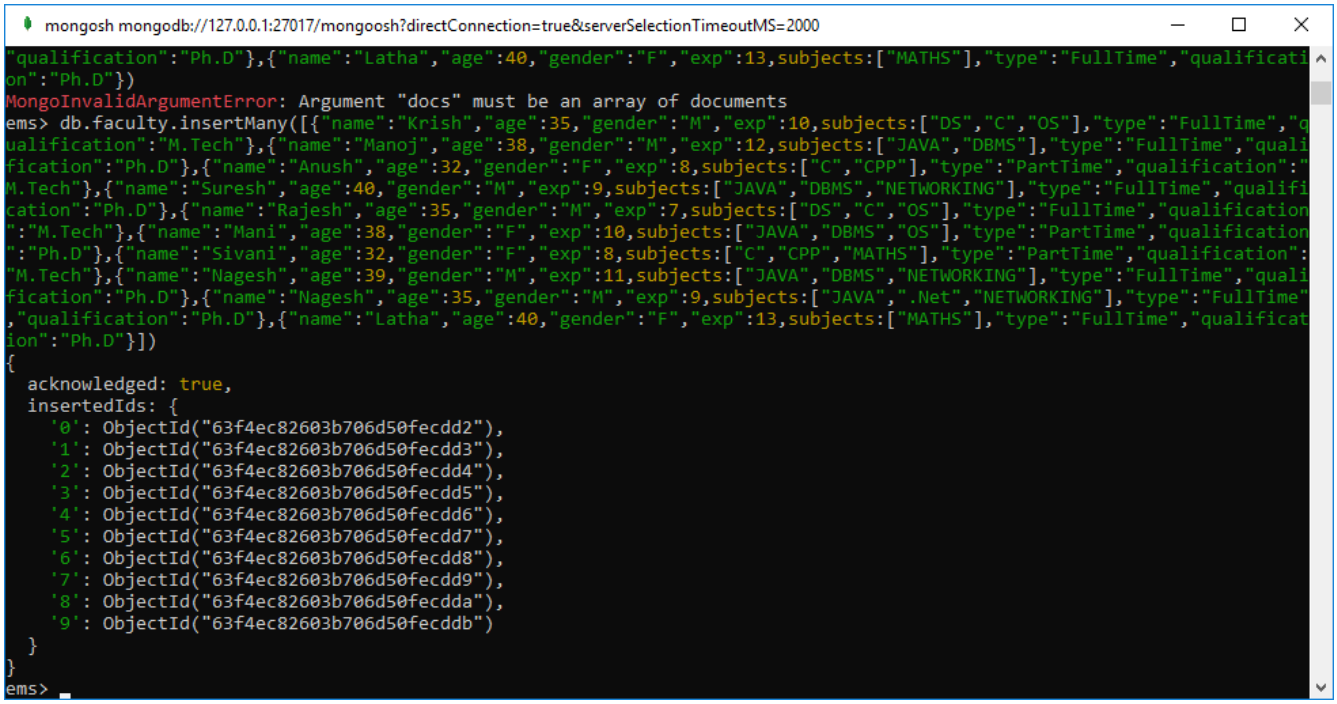
{ "name":"Sivani", "age":32,"gender":"F","exp":8,subjects:["C","CPP","MATHS"],"type":"Part Time","qualification":"M.Tech" },

{ "name":"Nagesh", "age":39,"gender":"M","exp":11,subjects:["JAVA","DBMS","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

{ "name":"Nagesh", "age":35,"gender":"M","exp":9,subjects:["JAVA",".Net","NETWORKING"],"type":"Full Time", "qualification":"Ph.D"},

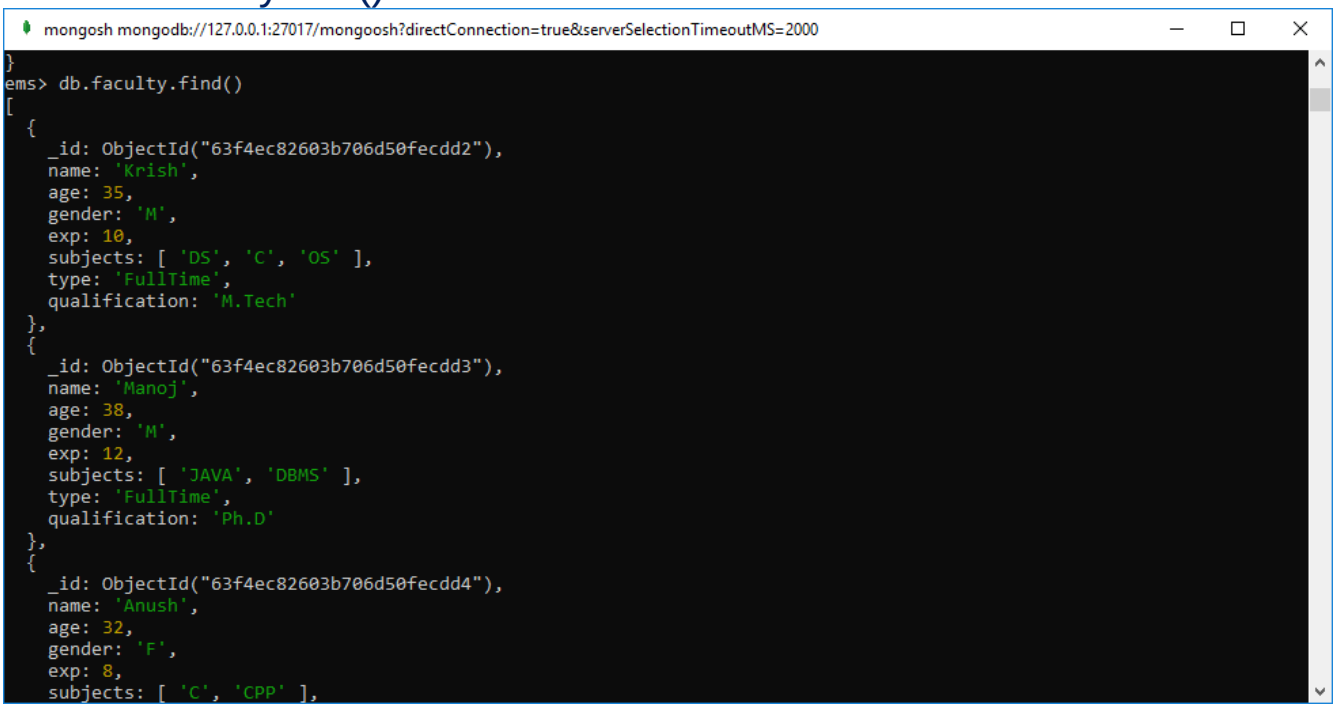
{ "name":"Latha", "age":40,"gender":"F","exp":13,subjects:["MATHS"],"type":"Full Time", "qualification":"Ph.D"}

db.createCollection("faculty")



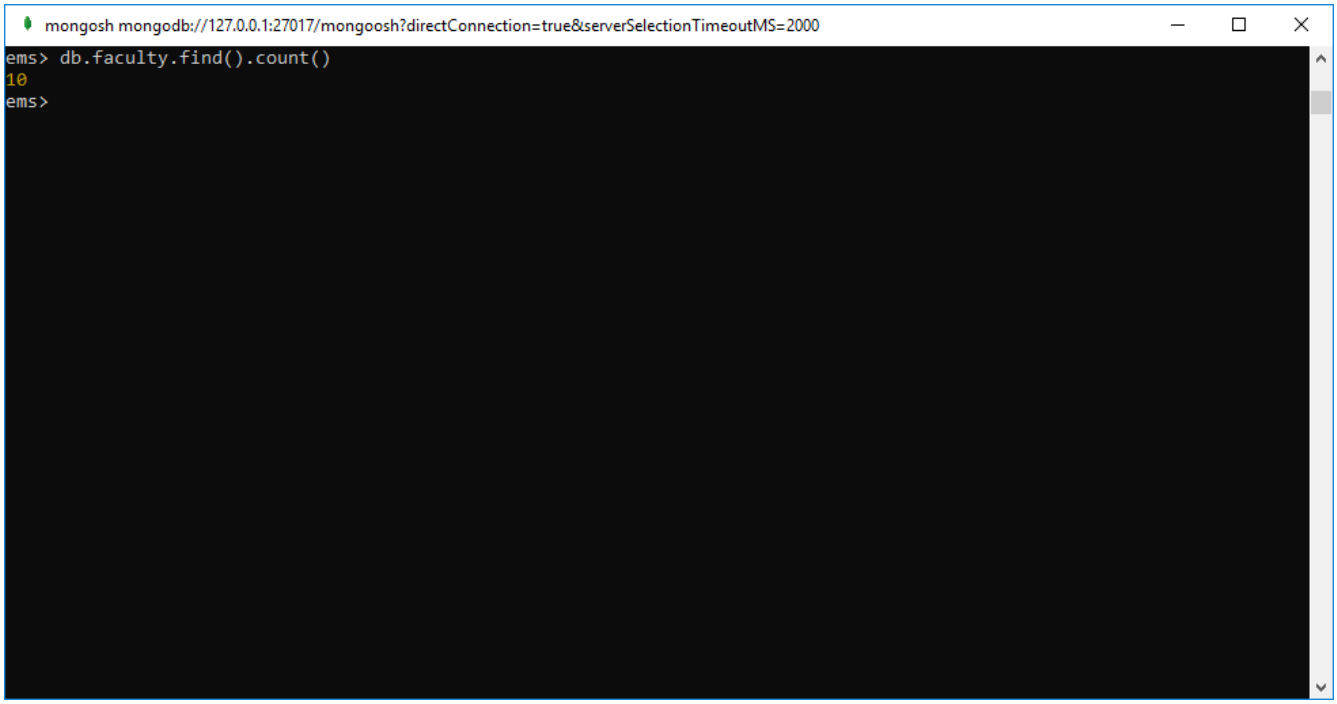
1. Get the details of all the faculty.

db.faculty.find()



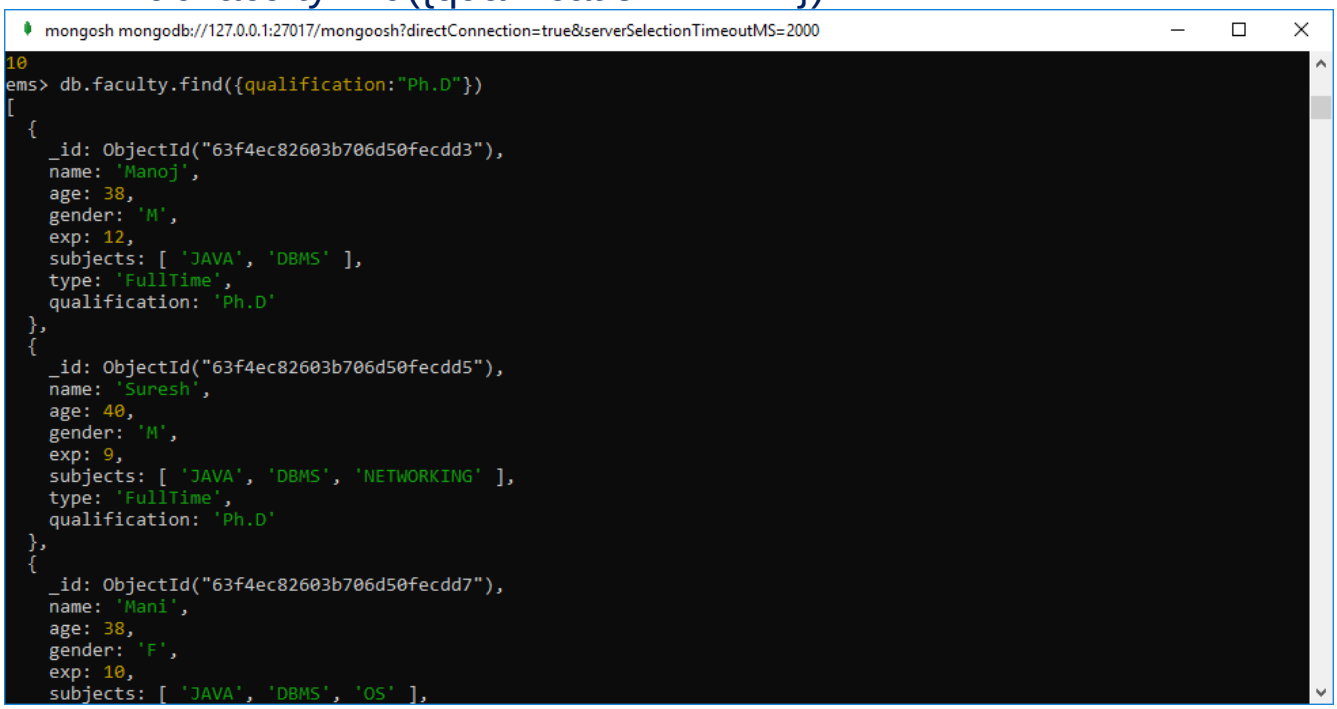
2. Get the count of all faculty members.

db.faculty.find().count()



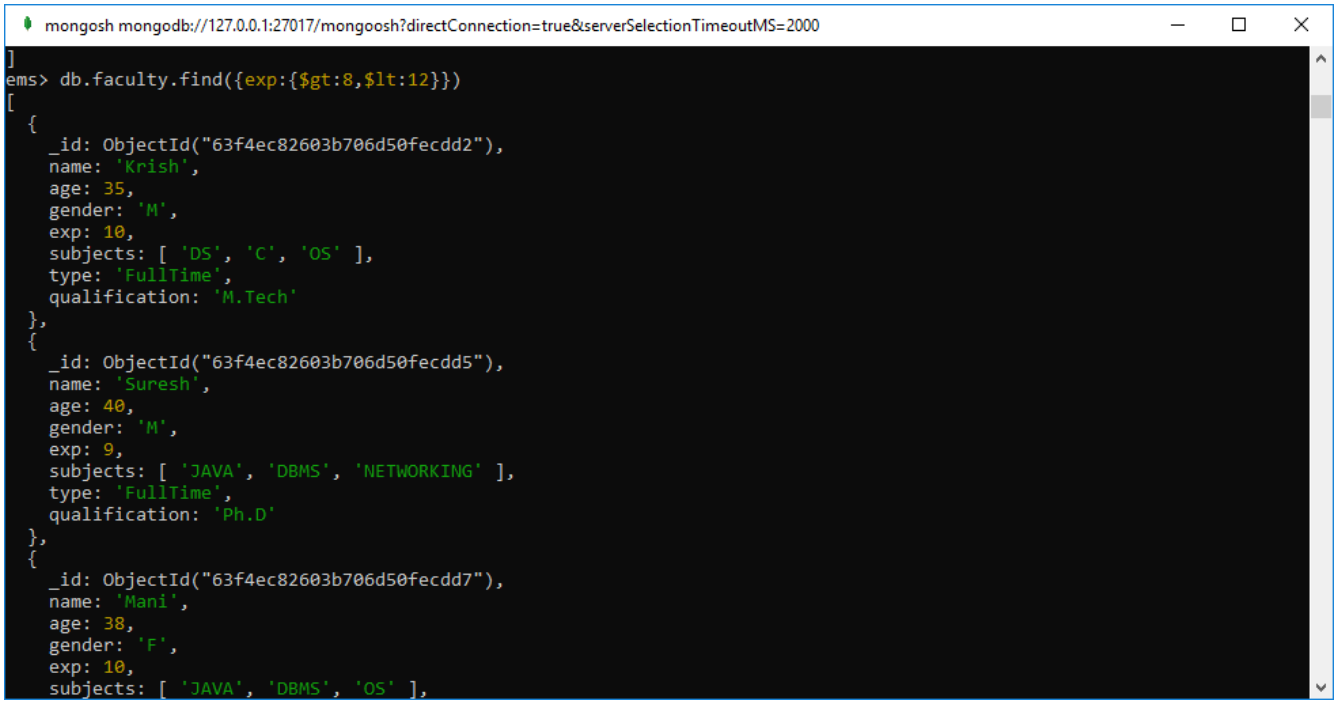
3. Get all the faculty members whose qualification is “Ph.D”.

```
db.faculty.find({qualification:"Ph.D"})
```

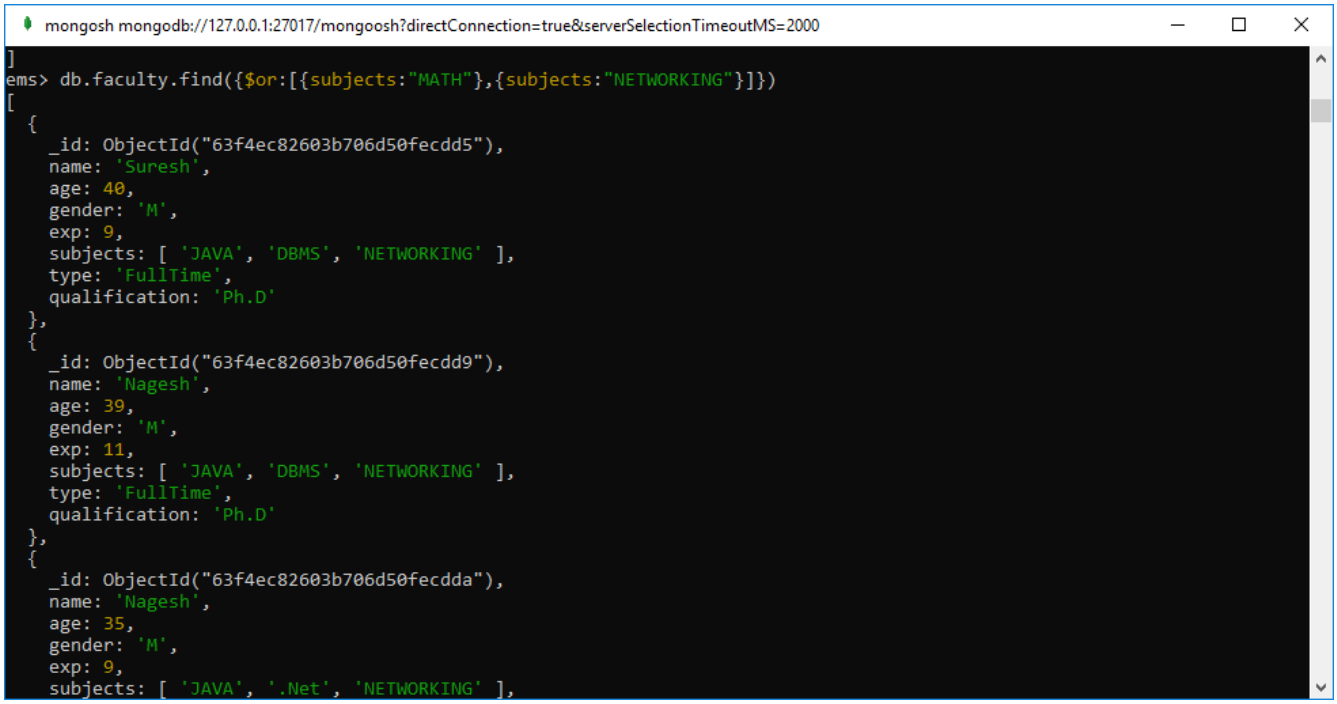


4. Get all the faculty members whose experience is between 8 to 12 years.

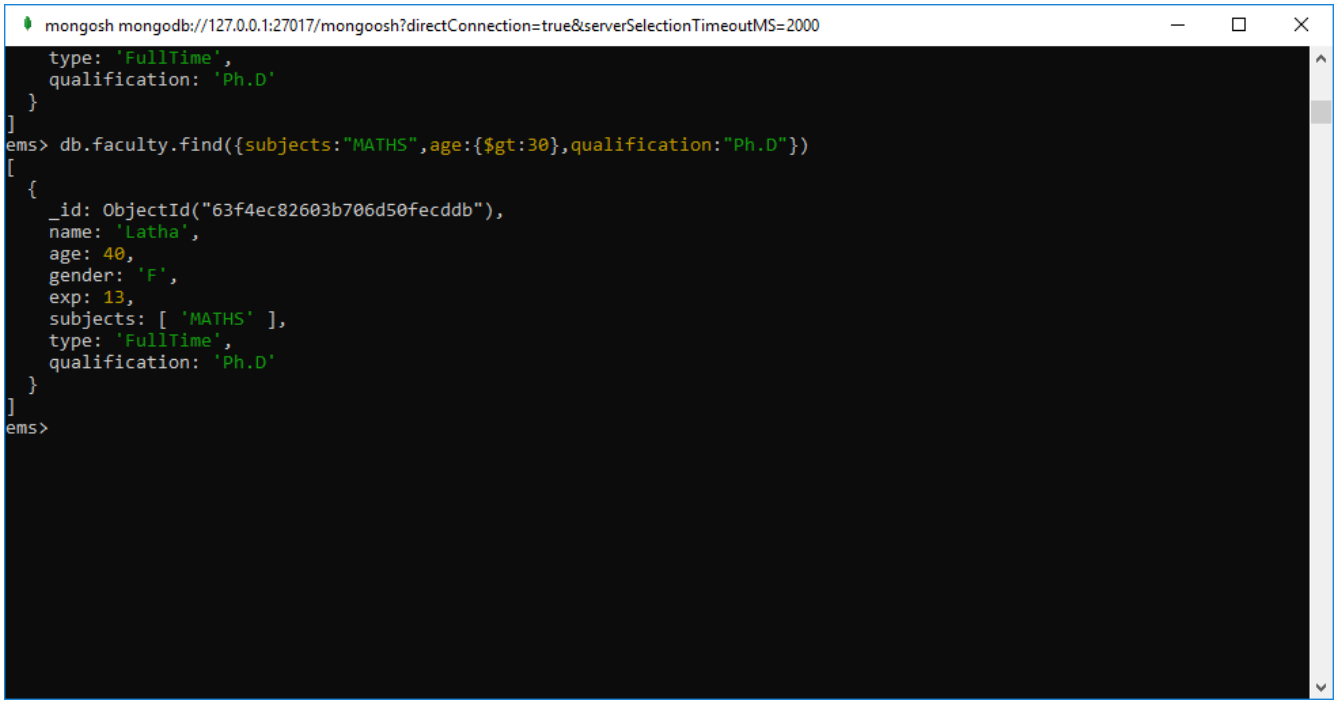
```
db.faculty.find({exp:{$gt:8,$lt:12}})
```



5. Get all the faculty members who teach “MATHS” or “NETWORKING”.
   db.faculty.find({$or:[{subjects:"MATH"},{subjects:"NETWORKING"}]})

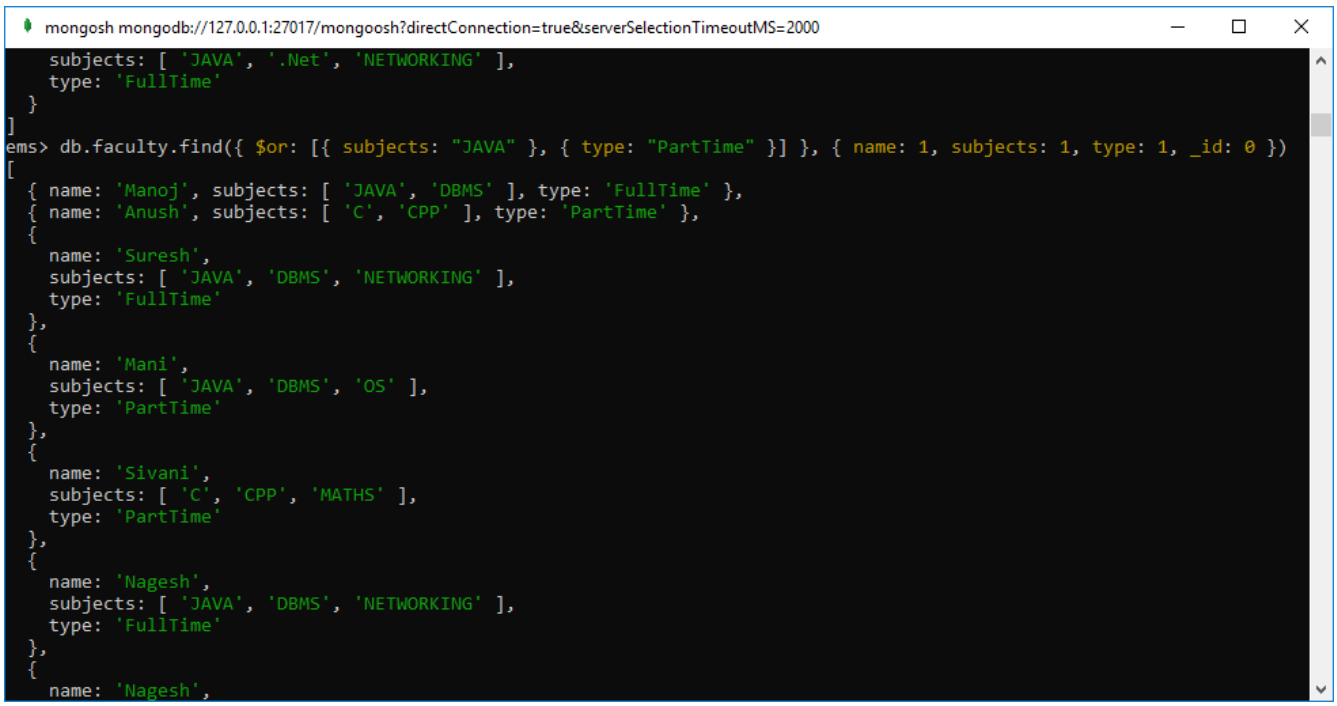


6. Get all the faculty members who teach “MATHS” and whose age is more than 30 years and qualification must be “Ph.D”.
   db.faculty.find({subjects:"MATHS",age:{$gt:30},qualification:"Ph.D"})



7. Get all the faculty members who are working part-time or who teach “JAVA”.

db.faculty.find({ $or: [{ subjects: "JAVA" }, { type: "PartTime" }] }, { name: 1, subjects: 1, type: 1, _id: 0 })



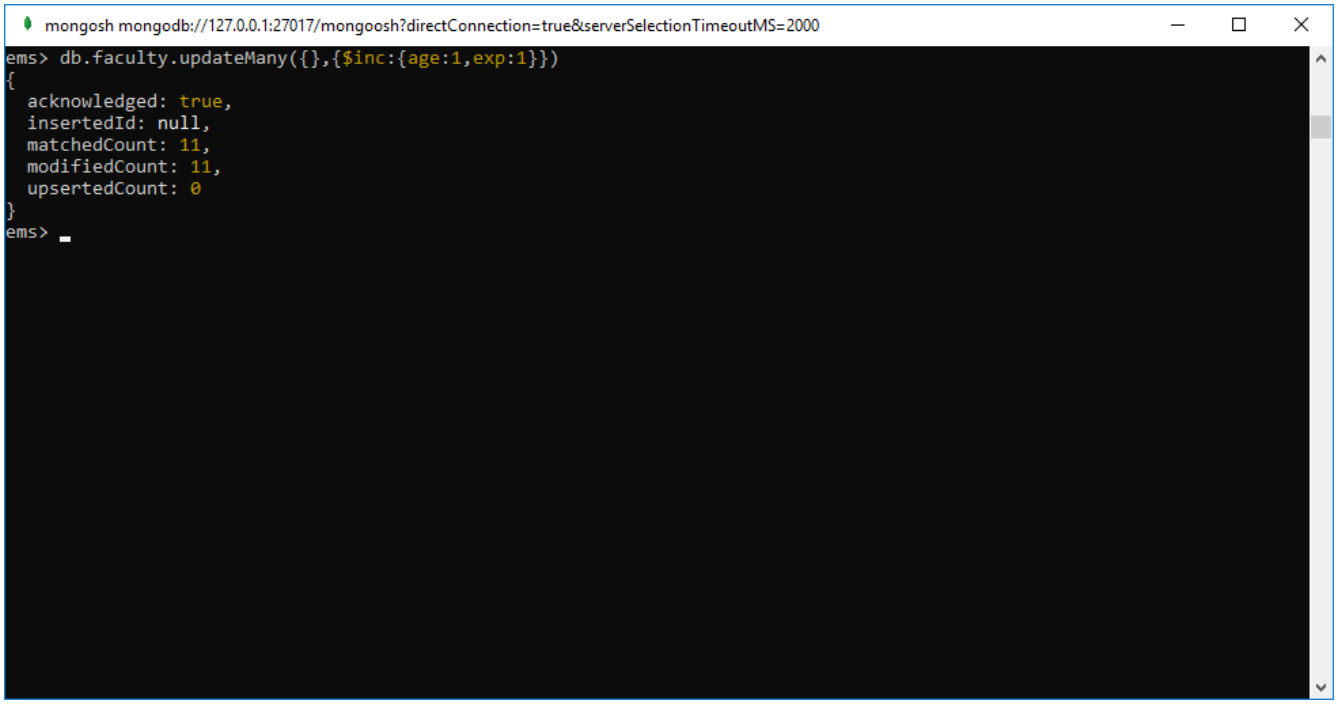
8. Add the following new faculty members:

{ "name":"Suresh Babu", "age":55,"gender":"M","exp":25,subjects: ["MATHS","DE"],"type":"Full Time", "qualification":"Ph.D"}

db.faculty.insertOne({"name":"Suresh Babu","age":55,"gender":"M","exp":25,subjects:["MATHS","DE"],"type":"FullTime","qualification":"Ph.D"})

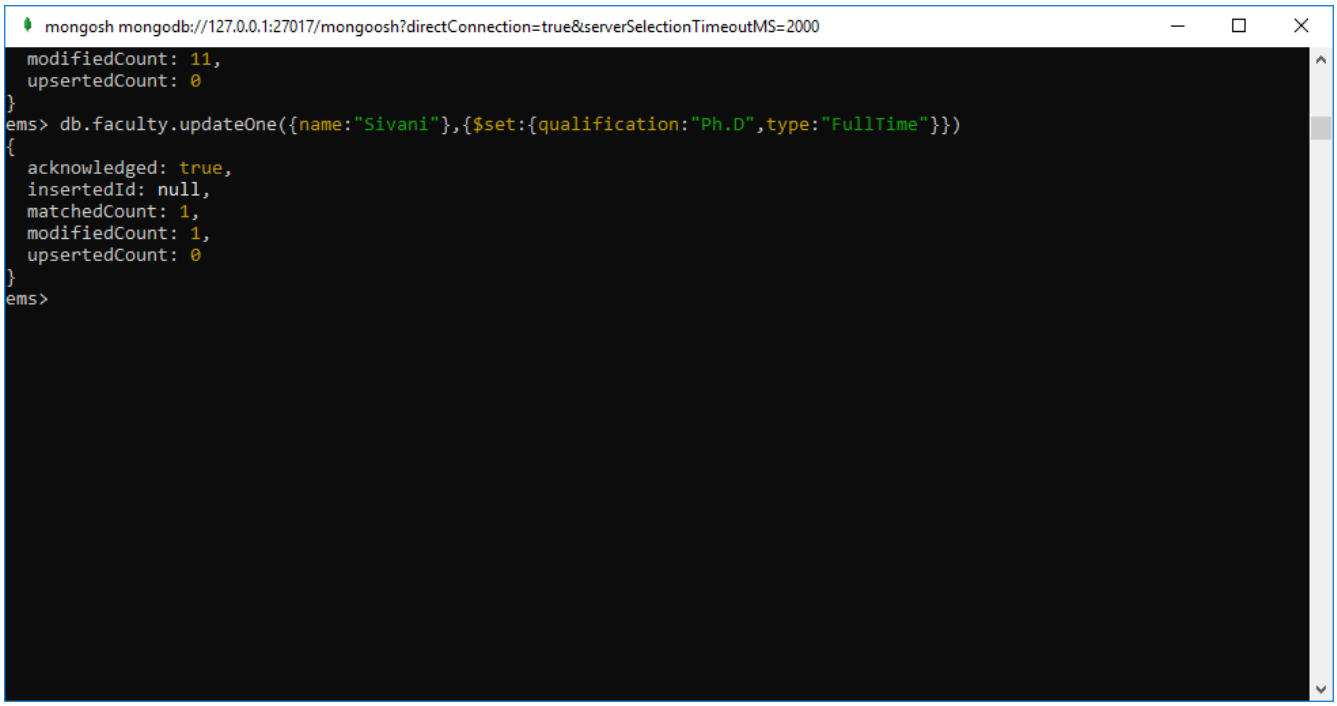
9. Update the data of all faculty members by incrementing their age and exp by one year.

db.faculty.updateMany({},{$inc:{age:1,exp:1}})



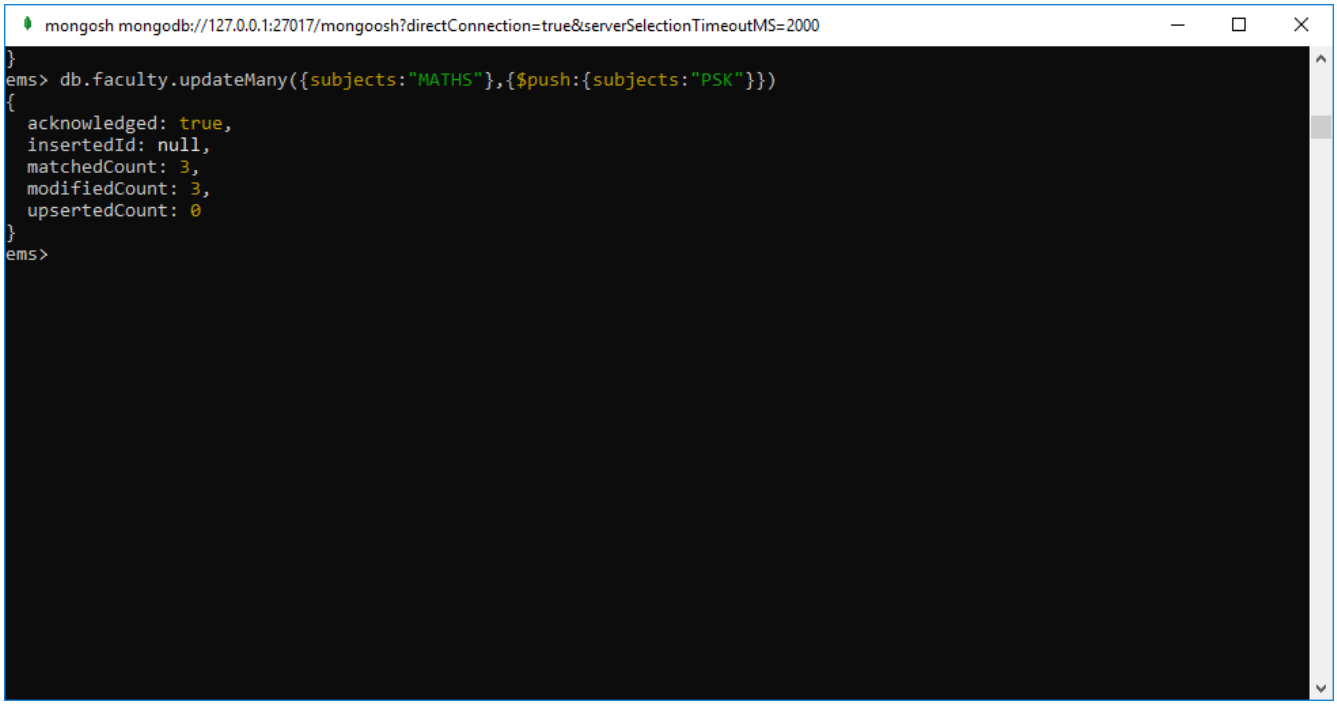
10. Update the faculty “Sivani” with the following data: update qualification to “Ph.D” and type to “Full Time”.

db.faculty.updateOne({name:"Sivani"},{$set:{qualification:"Ph.D",type:"FullTime"}})



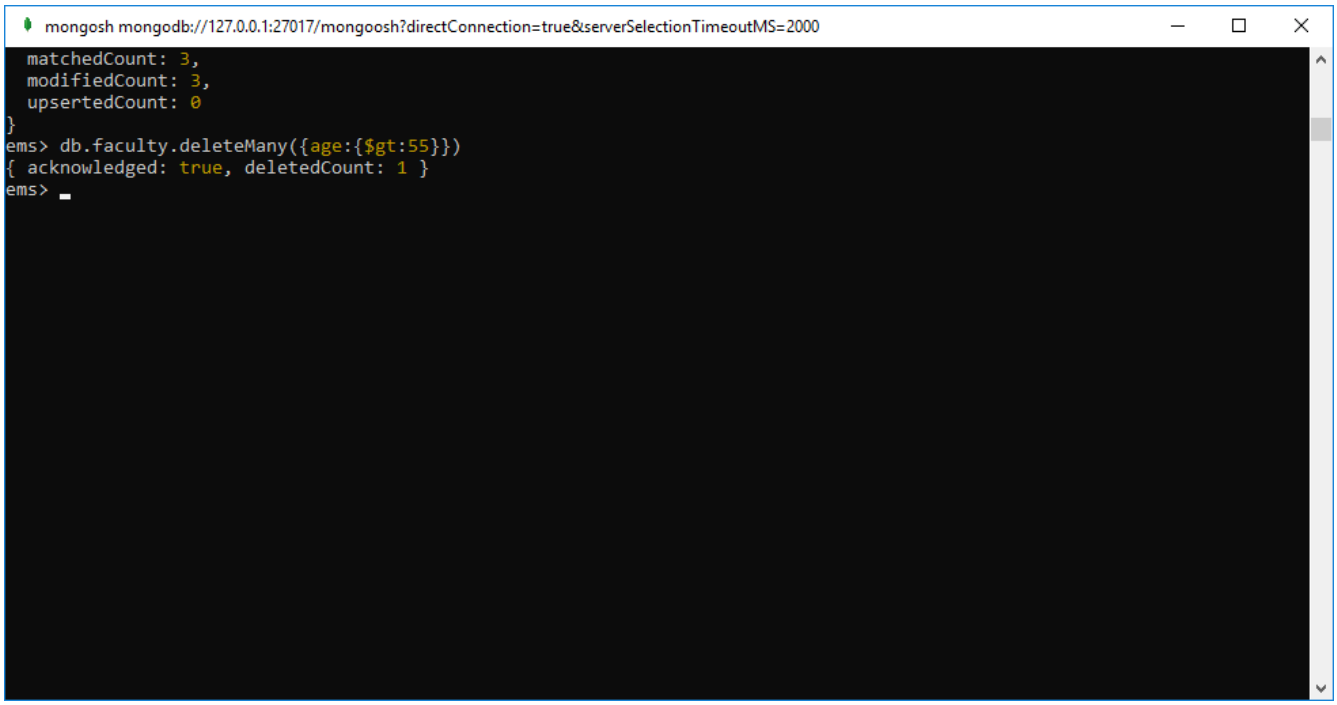
11. Update all faculty members who are teaching “MATHS” such that they should now also teach “PSK”.

```
db.faculty.updateMany({subjects:"MATHS"},{$push:{subjects:"PSK"}})
```



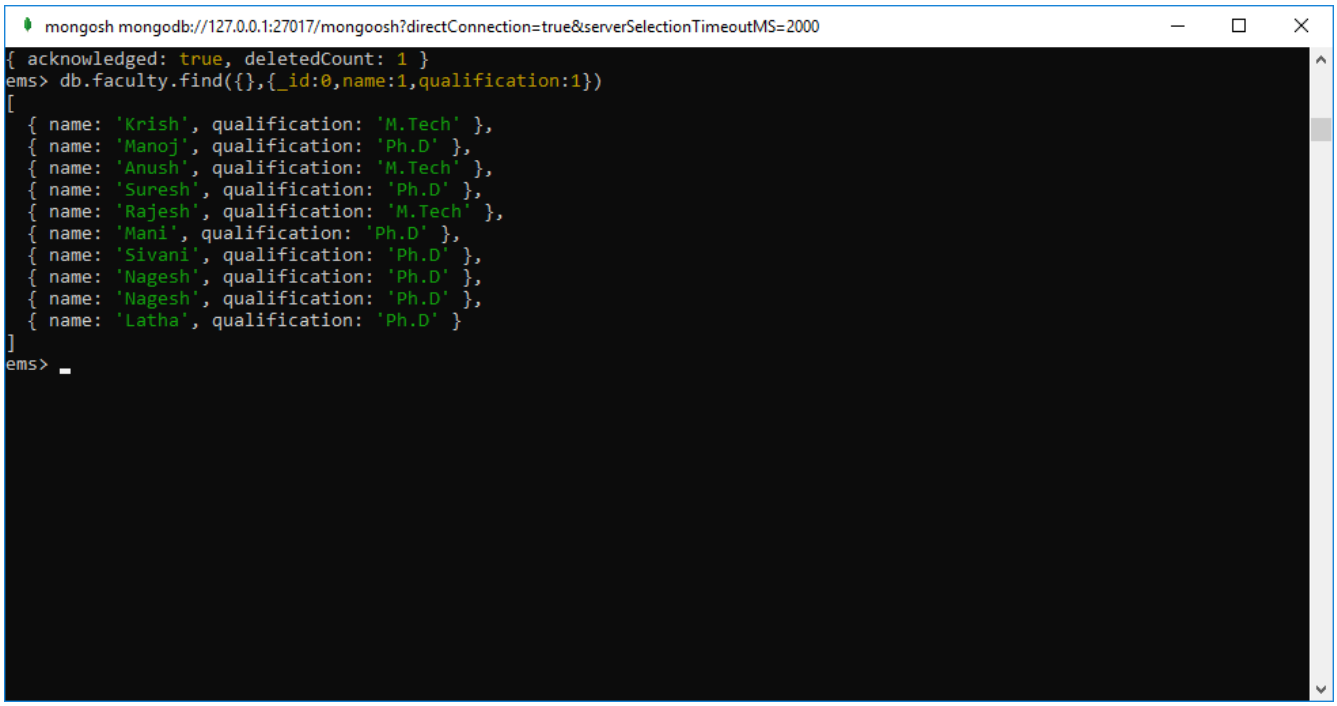
12. Delete all faculty members whose age is more than 55 years.

```
db.faculty.deleteMany({age:{$gt:55}})
```



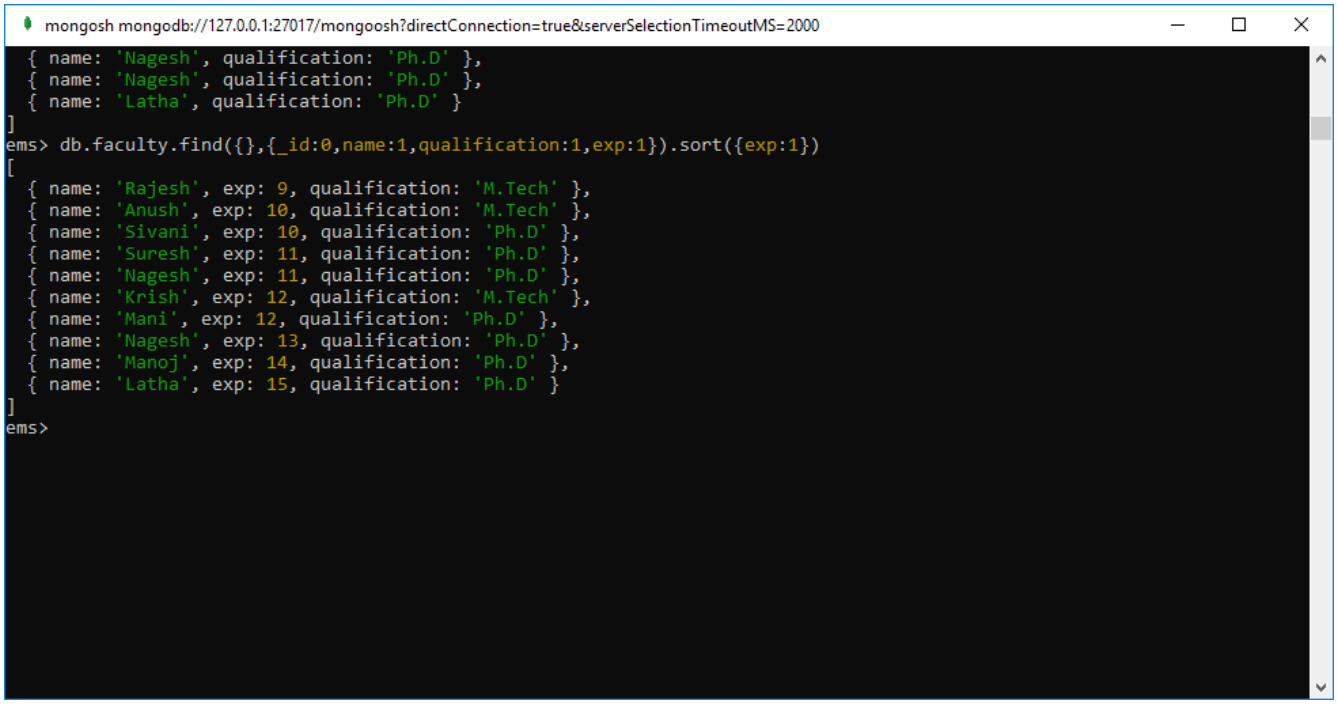
13. Get only the name and qualification of all faculty members.

```
db.faculty.find({},{_id:0,name:1,qualification:1})
```



14. Get the name, qualification and exp of all faculty members and display the same in ascending order of exp.

```
db.faculty.find({},{_id:0,name:1,qualification:1,exp:1}).sort({exp:1})
```



15. Sort the faculty details by their age (descending order) and get the details of the first five faculty members only.
db.faculty.find({}).sort({age:-1}).limit(5)