MongoDB_Lab1

1 – open mongo shell and view the help

```
mongo
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:"ahmed",age:25})
```

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:"mohammed",
   age:24,
   skills : ["sales"]
},
{
   name:"sami",
   age:25,
   skills : ["tech"]
},
{
   name:"sara",
   age:26,
   skills : ["accounting"]
},
{
   name:"youssef",
   age:22,
   skills : ["camera"]
```

```
},
{
    name:"hassan",
    age:21,
    skills : ["speaking"]
},
{
    name:"said",
    age:28,
    skills : ["writing"]
},
{
    name:"nader",
    age:27,
    skills : ["speaking"]
},
{
    name:"naser",
    age:24,
    skills : ["football","sport"]
},
{
    name:"fares",
    age:24,
    skills : ["testing"]
},
{
    name:"kareem",
    age:28,
    skills : ["pharmacy"]
},
{
    name:"tarek",
    age:24,
    skills : ["accounting"]
},
]
)
```

6 – Search for your object by name.

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

7– Search for your friend(s) by age.

```
db.students.find({age:24})
```

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:"63f4bd93034b668723abbbc2"})
```

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"}

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({type:"Part Time", subjects:"JAVA"})
```

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":"Full Time", "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:"Full Time"}}
)
```

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)
```