MongoDB\_Lab1

1 – open mongo shell and view the help  
 **mongo**

**db.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.iti.insert({name:"Abdelrahman",age:25})**

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

**Show dbs**

**iti database appeared**

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).

**var myFriends =**

**[{name:"ronaldo",age:36},{name:"luca",age:36},{name:"RealMadrid",title:"Vamos"}, {name:"ozil",department:"best"}, {name:"leve",title:"leader"}];**

**db.students.insert(myFriends);**

6 – Search for your object by name.

**db.students.find({name:"Abdelrahman"})**

7– Search for your friend(s) by age.  
**db.students.find({age:25})**

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("6239bc20ed238b31c793966b")})**

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

**db.students.find().pretty()**  
   
11 – count all documents in students' collection. (self-learning)

**var value = db.students.count()**

**print(value)**

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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"}

**var data = [**

**... { "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.faculty.insert(data**);

1. Get the details of all the faculty.

**db.faculty.find()**

2. Get the count of all faculty members.

**db.faculty.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:{$lt:12},exp:{$gt:8}})”**

5. Get all the faculty members who teach “MATHS” or “NETWORKING”.

**db.faculty.find({subjects:{$in:["MATHS","NETWORKING"]}})**

6. Get all the fac-ulty 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:[{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.insert({ "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"},{$set:{subjects:"PSK"}})**

**this was wrong and makes all maths→ psk not adding to it and the**

**subjects becomes strings not arrays then I tried**

**db.faculty.update({subjects:"MATHS"},{$push:{subjects:"PSK"}})**

**and have that error**

**The field 'subjects' must be an array but is of type string in document {\_id: ObjectId('6239c072ed238b31c7939673')}"**

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({},{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({},{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)**