

MongoDB_Lab1

1 – open mongo shell and view the help

- Mongosh
- Help

```
$ mongosh
Current Mongosh Log ID: 63f4bf750c020f56fc9a29d7
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverS
electionTimeoutMS=2000&appName=mongosh+1.2.2
Using MongoDB:      5.0.6
Using Mongosh:      1.2.2

For mongosh info see: https://docs.mongodb.com/mongosh-shell/

-----
  The server generated these startup warnings when booting:
  2023-02-20T21:15:30.248+02:00: Access control is not enabled for the database
  . Read and write access to data and configuration is unrestricted
-----

test> help

Shell Help:

  use                Set current database
  show               'show databases'/'show dbs': Prin
t a list of all available databases.
  'show collections'/'show tables':
Print a list of all collections for current database.
  'show profile': Prints system.pro
```

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

- Db
- Show dbs

```
test> db
test
test> show dbs
admin          41 kB
appdb          451 kB
config         36.9 kB
local          94.2 kB
test           635 kB
testdb         81.9 kB
test> |
```

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.createCollection('students');
- show collections
- db.students.insertOne({
- ... firstName:"Mariam",
- ... lastName:"Mokhtar",
- ... email:"mariamreda1819@gmail",
- ... age:23})

```
test> use iti
switched to db iti
iti> db.createCollection('students');
{ ok: 1 }
iti> show collections
students
iti> db.students.insertOne({
...   firstName:"Mariam",
...   lastName:"Mokhtar",
...   email:"mariamreda1819@gmail",
...   age:23})
{
  acknowledged: true,
  insertedId: ObjectId("63f4c3575225f39b569371bd")
}
```

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

➤ iti database added

```
iti> show dbs
admin      41 kB
appdb      451 kB
config     111 kB
iti        41 kB
local      94.2 kB
test       635 kB
testdb     81.9 kB
iti>
```

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([`

```
{
  firstName: "omnia",
  lastName: "goher",
  email: " omnia @abc.com",
  age: 23,
  skills: ["Angular", "React",
"MongoDB"],
},
{
  firstName: "Esra",
  lastName: "Hassan",
  email: " Esra @abc.com",
  age: 26,
  skills: ["Accounting", "Tax"],
},
{
  firstName: "James",
  lastName: "Bond",
  email: "jamesb@abc.com",
  age: 25,
  skills: ["Sales", "Marketing"],
},
{
  firstName: "Steve",
  lastName: "J",
  email: "steve.j@abc.com",
  age: 30,
  skills: ["Sales", "Marketing"],
},
{
  firstName: "Kapil",
  lastName: "D",
  email: "kapil.d@abc.com",
  age: 45,
  skills: ["Accounting", "Tax"],
},
])
```

```
acknowledged: true,
insertedIds: {
  '0': ObjectId("63f4c7445225f39b569371be"),
  '1': ObjectId("63f4c7445225f39b569371bf"),
  '2': ObjectId("63f4c7445225f39b569371c0"),
  '3': ObjectId("63f4c7445225f39b569371c1"),
  '4': ObjectId("63f4c7445225f39b569371c2"),
  '5': ObjectId("63f4c7445225f39b569371c3"),
  '6': ObjectId("63f4c7445225f39b569371c4"),
  '7': ObjectId("63f4c7445225f39b569371c5")
}
```

```
{
  firstName: "Amitabh",
  lastName: "B",
  email: "amitabh.b@abc.com",
  age: 60,
  skills: ["Angular", "React",
"MongoDB"],
},
{
  firstName: "khaled",
  lastName: "Mokhtar",
  email: " khaled.m@abc.com",
  age: 21,
  skills: ["Angular", "React",
"MongoDB"],
},
{
  firstName: "Yosra",
  lastName: "Adel",
  email: " Yosra.a@abc.com",
  age: 45,
  skills: ["MongoDB"],
}
])
```

6 – Search for your object by name.

- `db.students.find({ firstName: "Mariam", lastName: "Mokhtar"})`

```
iti> db.students.find({ firstName: "Mariam", lastName: "Mokhtar"})
[
  {
    _id: ObjectId("63f4c3575225f39b569371bd"),
    firstName: 'Mariam',
    lastName: 'Mokhtar',
    email: 'mariamreda1819@gmail',
    age: 23,
    skills: [ 'React', 'MongoDB', 'NodeJs' ]
  }
]
```

7– Search for your friend(s) by age.

- `db.students.find({ age:23})`

```
iti> db.students.find({ age:23})
[
  {
    _id: ObjectId("63f4c3575225f39b569371bd"),
    firstName: 'Mariam',
    lastName: 'Mokhtar',
    email: 'mariamreda1819@gmail',
    age: 23,
    skills: [ 'React', 'MongoDB', 'NodeJs' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371be"),
    firstName: 'omnia',
    lastName: 'goher',
    email: ' omnia @abc.com',
    age: 23,
    skills: [ 'Angular', 'React', 'MongoDB' ]
  }
]
```

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

- `db.students.find({ age:{ $gt:23})`

OR

- `var myAge= db.students.findOne({
 firstName: "Mariam",
 lastName: "Mokhtar"}).age`
- `db.students.find({age:{ $gt:myAge}})`

```
iti> var myAge= db.students.findOne({ firstName: "Mariam", lastName: "Mokhtar"}).age
iti> myAge
23
iti> db.students.find({
... age:{ $gt:myAge}})
```

```
iti> db.students.find({ age:{ $gt:23})
[
  {
    _id: ObjectId("63f4c7445225f39b569371bf"),
    firstName: 'Esra',
    lastName: 'Hassan',
    email: ' Esra @abc.com',
    age: 26,
    skills: [ 'Accounting', 'Tax' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371c0"),
    firstName: 'James',
    lastName: 'Bond',
    email: 'jamesb@abc.com',
    age: 25,
    skills: [ 'Sales', 'Marketing' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371c1"),
    firstName: 'Steve',
    lastName: 'J',
    email: 'steve.j@abc.com',
    age: 30,
    skills: [ 'Sales', 'Marketing' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371c2"),
    firstName: 'Kapil',
    lastName: 'D',
    email: 'kapil.d@abc.com',
    age: 45,
    skills: [ 'Accounting', 'Tax' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371c3"),
    firstName: 'Amitabh',
    lastName: 'B',
    email: 'amitabh.b@abc.com',
    age: 60,
    skills: [ 'Angular', 'React', 'MongoDB' ]
  },
  {
    _id: ObjectId("63f4c7445225f39b569371c5"),
    firstName: 'Yosra',
    lastName: 'Adel',
    email: ' Yosra.a@abc.com',
    age: 45,
    skills: [ 'MongoDB' ]
  }
]
```

9 – delete any of your friends by id.

- Delete document with id 55
- `db.students.deleteOne({ _id: 55 })`

```
{
  _id: ObjectId("63f4c7445225f39..."),
  firstName: 'Yosra',
  lastName: 'Adel',
  email: 'Yosra.a@abc.com',
  age: 45,
  skills: [ 'MongoDB' ]
},
{
  _id: 55,
  firstName: 'Fagr',
  lastName: 'Mohamed',
  email: 'Fage@d.com',
  age: 20
},
]
```

```
{
  _id: ObjectId("63f4c7445225f39..."),
  firstName: 'Yosra',
  lastName: 'Adel',
  email: 'Yosra.a@abc.com',
  age: 45,
  skills: [ 'MongoDB' ]
}
iti>
```

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

- `db.students.find().pretty()`

```
{
  _id: ObjectId("63f4c3575225f39b569371bd"),
  firstName: 'Mariam',
  lastName: 'Mokhtar',
  email: 'mariamreda1819@gmail',
  age: 23,
  skills: [ 'React', 'MongoDB', 'NodeJs' ]
},
```

11 – count all documents in students collection.

- `db.students.find().count()`

```
iti> db.students.find().count()
9
iti>
```

part 2

1- Create database with name ems

- use ems
- db.createCollection("faculty");

```
test> use ems
switched to db ems
ems> db.createCollection("faculty");
{ ok: 1 }
```

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()

```
{
  _id: ObjectId("63f4d57bdeeddad317139b9c"),
  name: 'Krish',
  age: 35,
  gender: 'M',
  exp: 10,
  subjects: [ 'DS', 'C', 'OS' ],
  type: 'Full Time',
  qualification: 'M.Tech'
},
{
  _id: ObjectId("63f4d57bdeeddad317139b9d"),
  name: 'Manoj',
  age: 38,
  gender: 'M',
  exp: 12,
  subjects: [ 'JAVA', 'DBMS' ],
  type: 'Full Time',
  qualification: 'Ph.D'
},
{
  _id: ObjectId("63f4d57bdeeddad317139b9e"),
  name: 'Anush',
  age: 32,
  gender: 'F',
  exp: 8,
  subjects: [ 'C', 'CPP' ],
  type: 'Part Time',
  qualification: 'M.Tech'
},
{
  _id: ObjectId("63f4d57bdeeddad317139b9f"),
  name: 'Suresh',
  age: 40,
  gender: 'M',
  exp: 9,
  subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
  type: 'Full Time',
  qualification: 'Ph.D'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba0"),
  name: 'Rajesh',
  age: 35,
  gender: 'M',
  exp: 7,
  subjects: [ 'DS', 'C', 'OS' ],
  type: 'Full Time',
  qualification: 'M.Tech'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba1"),
  name: 'Mani',
  age: 38,
  gender: 'F',
  exp: 10,
  subjects: [ 'JAVA', 'DBMS', 'OS' ],
  type: 'Part Time',
  qualification: 'Ph.D'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba2"),
  name: 'Sivani',
  age: 32,
  gender: 'F',
  exp: 8,
  subjects: [ 'C', 'CPP', 'MATHS' ],
  type: 'Part Time',
  qualification: 'M.Tech'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba3"),
  name: 'Nagesh',
  age: 39,
  gender: 'M',
  exp: 11,
  subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
  type: 'Full Time',
  qualification: 'Ph.D'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba4"),
  name: 'Nagesh',
  age: 35,
  gender: 'M',
  exp: 9,
  subjects: [ 'JAVA', '.Net', 'NETWORKING' ],
  type: 'Full Time',
  qualification: 'Ph.D'
},
{
  _id: ObjectId("63f4d57bdeeddad317139ba5"),
  name: 'Latha',
  age: 40,
  gender: 'F',
  exp: 13,
  subjects: [ 'MATHS' ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
}
```

2. Get the count of all faculty members.

- db.faculty.countDocuments()

```
ems> db.faculty.countDocuments()
10
```

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

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

```
ems> db.faculty.find({qualification:"Ph.D"})
[
  {
    _id: ObjectId("63f4d57bdeeddad317139b9d"),
    name: 'Manoj',
    age: 38,
    gender: 'M',
    exp: 12,
    subjects: [ 'JAVA', 'DBMS' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139b9f"),
    name: 'Suresh',
    age: 40,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba1"),
    name: 'Mani',
    age: 38,
    gender: 'F',
    exp: 10,
    subjects: [ 'JAVA', 'DBMS', 'OS' ],
    type: 'Part Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba3"),
    name: 'Nagesh',
    age: 39,
    gender: 'M',
    exp: 11,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba4"),
    name: 'Nagesh',
    age: 35,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', '.Net', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba5"),
    name: 'Latha',
    age: 40,
    gender: 'F',
    exp: 13,
    subjects: [ 'MATHS' ],
    type: 'Full Time',
    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}})`

```
ems> db.faculty.find({ exp: { $gt: 8, $lt: 12 } })
[
  {
    _id: ObjectId("63f4d57bdeeddad317139b9c"),
    name: 'Krish',
    age: 35,
    gender: 'M',
    exp: 10,
    subjects: [ 'DS', 'C', 'OS' ],
    type: 'Full Time',
    qualification: 'M.Tech'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139b9f"),
    name: 'Suresh',
    age: 40,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba1"),
    name: 'Rani',
    age: 38,
    gender: 'F',
    exp: 10,
    subjects: [ 'JAVA', 'DBMS', 'OS' ],
    type: 'Part Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba3"),
    name: 'Nagesh',
    age: 39,
    gender: 'M',
    exp: 11,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba4"),
    name: 'Nagesh',
    age: 35,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', '.Net', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
]
```

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

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

```
[
  {
    _id: ObjectId("63f4d57bdeeddad317139b9f"),
    name: 'Suresh',
    age: 40,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba2"),
    name: 'Sivani',
    age: 32,
    gender: 'F',
    exp: 8,
    subjects: [ 'C', 'CPP', 'MATHS' ],
    type: 'Part Time',
    qualification: 'M.Tech'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba3"),
    name: 'Nagesh',
    age: 39,
    gender: 'M',
    exp: 11,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba4"),
    name: 'Nagesh',
    age: 35,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', '.Net', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba5"),
    name: 'Latha',
    age: 40,
    gender: 'F',
    exp: 13,
    subjects: [ 'MATHS' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
]
```

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"});`

```
ems> db.faculty.find({subjects:"MATHS",age:{ $gt:30},qualification: "Ph.D"});
[
  {
    _id: ObjectId("63f4d57bdeeddad317139ba5"),
    name: 'Latha',
    age: 40,
    gender: 'F',
    exp: 13,
    subjects: [ 'MATHS' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
]
```

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

- `db.faculty.find({$or:[{subjects:"JAVA"},{type:"Part Time"}]})`

```
res = db.faculty.find({$or:[{subjects:"JAVA"},{type:"Part Time"}]})
[
  {
    _id: ObjectId("63f4d57bdeeddad317139b9d"),
    name: 'Manoj',
    age: 30,
    gender: 'M',
    exp: 12,
    subjects: [ 'JAVA', 'DBMS' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139b9e"),
    name: 'Anush',
    age: 32,
    gender: 'F',
    exp: 8,
    subjects: [ 'C', 'CPP' ],
    type: 'Part Time',
    qualification: 'M.Tech'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139b9f"),
    name: 'Suresh',
    age: 40,
    gender: 'M',
    exp: 9,
    subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba1"),
    name: 'Mani',
    age: 30,
    gender: 'F',
    exp: 10,
    subjects: [ 'JAVA', 'DBMS', 'OS' ],
    type: 'Part Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4d57bdeeddad317139ba2"),
    name: 'Sivani',
    age: 32,
    gender: 'F',
    exp: 8,
    subjects: [ 'C', 'CPP', 'MATHS' ],
    type: 'Part Time',
    qualification: 'M.Tech'
  }
]
```

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" });`

```
{
  _id: ObjectId("63f4e579d4ac3c0f6290ac02"),
  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 } })`

```
{
  _id: ObjectId("63f4e579d4ac3c0f6290ac02"),
  name: 'suresh Babu',
  age: 56,
  gender: 'M',
  exp: 26,
  subjects: [ 'MATHS', 'DE' ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
```

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

- `db.faculty.updateMany({name:"Sivani"}, {$set:{qualification:"Ph.D", type:"Full Time"}})`

```
{
  _id: ObjectId("63f4d57bdeeddad317139ba2"),
  name: 'Sivani',
  age: 32,
  gender: 'F',
  exp: 8,
  subjects: [ 'C', 'CPP', 'MATHS' ],
  type: 'Part Time',
  qualification: 'M.Tech'
},
```

```
{
  _id: ObjectId("63f4d57bdeeddad317139ba2"),
  name: 'Sivani',
  age: 33,
  gender: 'F',
  exp: 9,
  subjects: [ 'C', 'CPP', 'MATHS' ],
  type: 'Full Time',
  qualification: 'Ph.D'
},
```

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" } })`

```
_id: ObjectId("63f4d57bdeeddad317139ba2")  
name: 'Sivani',  
age: 33,  
gender: 'F',  
exp: 9,  
subjects: [ 'C', 'CPP', 'MATHS', 'PSK' ],  
type: 'Full Time',  
qualification: 'Ph.D',
```

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

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

```
ems> db.faculty.deleteMany({age:{$gt:55}})  
{ acknowledged: true, deletedCount: 1 }  
ems>
```

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

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

```
ems> db.faculty.find({}, {_id:0,name:1,qualification:1})  
[  
  { name: 'Krish', qualification: 'M.Tech' },  
  { name: 'Manoj', qualification: 'Ph.D' },  
  { name: 'Anush', qualification: 'M.Tech' },  
  { name: 'Suresh', qualification: 'Ph.D' },  
  { name: 'Rajesh', qualification: 'M.Tech' },  
  { name: 'Mani', qualification: 'Ph.D' },  
  { name: 'Sivani', qualification: 'Ph.D' },  
  { name: 'Nagesh', qualification: 'Ph.D' },  
  { name: 'Nagesh', qualification: 'Ph.D' },  
  { name: 'Latha', qualification: 'Ph.D' }  
]
```

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})`

```
[  
  { name: 'Rajesh', exp: 8, qualification: 'M.Tech' },  
  { name: 'Anush', exp: 9, qualification: 'M.Tech' },  
  { name: 'Sivani', exp: 9, qualification: 'Ph.D' },  
  { name: 'Suresh', exp: 10, qualification: 'Ph.D' },  
  { name: 'Nagesh', exp: 10, qualification: 'Ph.D' },  
  { name: 'Krish', exp: 11, qualification: 'M.Tech' },  
  { name: 'Mani', exp: 11, qualification: 'Ph.D' },  
  { name: 'Nagesh', exp: 12, qualification: 'Ph.D' },  
  { name: 'Manoj', exp: 13, qualification: 'Ph.D' },  
  { name: 'Latha', exp: 14, qualification: 'Ph.D' }  
]
```

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)`

```
ems> db.faculty.find().sort({age:-1}).limit(5)  
{  
  _id: ObjectId("63f4d57bdeeddad317139ba5"),  
  name: 'Latha',  
  age: 41,  
  gender: 'F',  
  exp: 14,  
  subjects: [ 'MATHS', 'PSK' ],  
  type: 'Full Time',  
  qualification: 'Ph.D',  
  skills: [ 'PSK', 'PSK' ]  
},  
{  
  _id: ObjectId("63f4d57bdeeddad317139b9f"),  
  name: 'Suresh',  
  age: 41,  
  gender: 'M',  
  exp: 10,  
  subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],  
  type: 'Full Time',  
  qualification: 'Ph.D'  
},  
{  
  _id: ObjectId("63f4d57bdeeddad317139ba3"),  
  name: 'Nagesh',  
  age: 40,  
  gender: 'M',  
  exp: 12,  
  subjects: [ 'JAVA', 'DBMS', 'NETWORKING' ],  
  type: 'Full Time',  
  qualification: 'Ph.D'  
},  
{  
  _id: ObjectId("63f4d57bdeeddad317139ba1"),  
  name: 'Mani',  
  age: 39,  
  gender: 'F',  
  exp: 11,  
  subjects: [ 'JAVA', 'DBMS', 'OS' ],  
  type: 'Part Time',  
  qualification: 'Ph.D'  
},  
{  
  _id: ObjectId("63f4d57bdeeddad317139b9d"),  
  name: 'Manoj',  
  age: 39,  
  gender: 'M',  
  exp: 13,  
  subjects: [ 'JAVA', 'DBMS' ],  
  type: 'Full Time',  
  qualification: 'Ph.D'  
}  
]
```