

MongoDB Lab-1

PART 1

1 Open mongo shell and view the help

COMMAND >> help

```
>_MONGOSH
| help
| Shell Help

use          Set current database
show         'show databases'/'show dbs': Print a list of all available databases. 'show collections'/'show tables': Print a list of all
              collections for current database. 'show profile': Prints system.profile information. 'show users': Print a list of all users for
              current database. 'show roles': Print a list of all roles for current database. 'show log <type>': log for current connection, if
              type is not set uses 'global' 'show logs': Print all logs.

exit         Quit the MongoDB shell with exit/exit()/exit
quit        Quit the MongoDB shell with quit/quit()

Mongo       Create a new connection and return the Mongo object. Usage: new Mongo([URI], options [optional])
connect     Create a new connection and return the Database object. Usage: connect([URI], username [optional], password [optional])
it         result of the last line evaluated; use to further iterate
version     Shell version
load        Loads and runs a JavaScript file into the current shell environment
enableTelemetry Enables collection of anonymous usage data to improve the mongosh CLI
disableTelemetry Disables collection of anonymous usage data to improve the mongosh CLI
passwordPrompt Prompts the user for a password
sleep       Sleep for the specified number of milliseconds
print       Prints the contents of an object to the output
printjson   Alias for print()
convertShardKeyToHashed Returns the hashed value for the input using the same hashing function as a hashed index.
cls         Clears the screen like console.clear()
isInteractive Returns whether the shell will enter or has entered interactive mode

For more information on usage: https://docs.mongodb.com/manual/reference/method
```

2 Identify your current working database and show list of available databases

COMMAND >> show databases

```
>_MONGOSH
> show databases
< admin      40.00 KiB
  bookstore  40.00 KiB
  config     72.00 KiB
  local      72.00 KiB
```

- 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).

COMMANDS

```
>> use iti
>> db.createCollection('students')
>> db.students.insertOne({Name:'Hager Abd El Galil',Age:23,Gender:'Female',Hobbies:['Reading','Drawing']})
```

```
>_MONGOSH
> use iti
< 'switched to db iti'
> db.createCollection('students')
< { ok: 1 }
> db.students.insertOne({Name:'Hager Abd El Galil',Age:23,Gender:'Female',Hobbies:['Reading','Drawing']})
< {
  acknowledged: true,
  insertedId: ObjectId("63f4cb322eb0a33428b46483")
}
> show collections
< students
> db.students.find()
< {
  _id: ObjectId("63f4cb322eb0a33428b46483"),
  Name: 'Hager Abd El Galil',
  Age: 23,
  Gender: 'Female',
  Hobbies: [
    'Reading',
    'Drawing'
  ]
}
```

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

COMMAND >> show databases

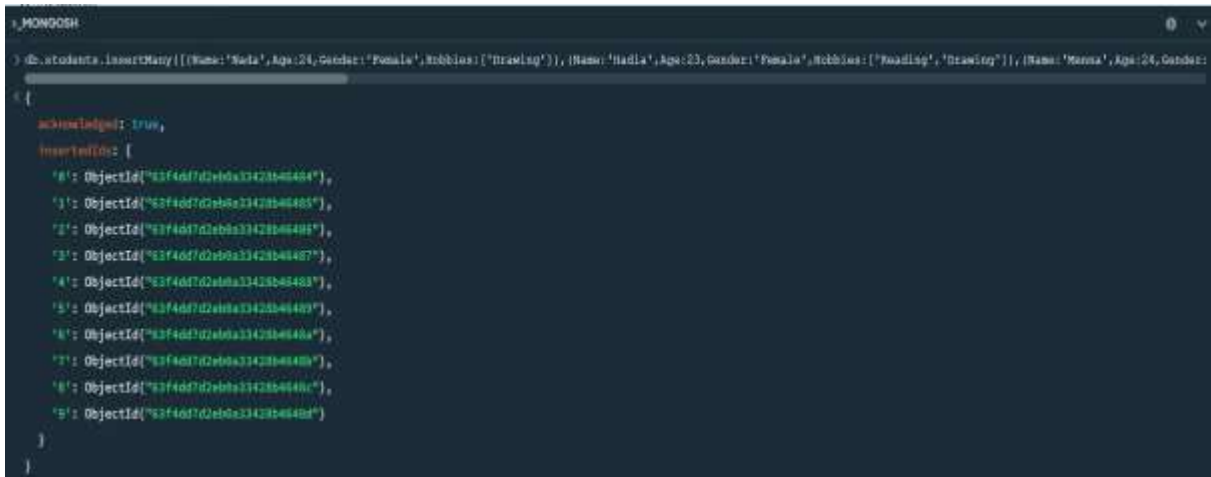
```
>_MONGOSH
> show databases
< admin          40.00 KiB
  bookstore      40.00 KiB
  config         108.00 KiB
  iti            40.00 KiB
  local          72.00 KiB
```

NOTE >> iti database is added

- 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).

COMMANDS

```
>> db.students.insertMany([
  {Name:'Nada',Age:24,Gender:'Female',Hobbies:['Drawing']},
  {Name:'Hadia',Age:23,Gender:'Female',Hobbies:['Reading','Drawing']},
  {Name:'Menna',Age:24,Gender:'Female',Hobbies:['Swimming','Writting']},
  {Name:'Radwa',Age:26,Gender:'Female',Hobbies:['Reading']},
  {Name:'Ahmed',Age:27,Gender:'Male',Hobbies:['Coding','Gamming']},
  {Name:'Mariam',Age:22,Gender:'Female',Hobbies:['VolleyBall']},
  {Name:'Maged',Age:31,Gender:'Male',Hobbies:['FootBall','Gamming']},
  {Name:'Alaa',Age:16,Gender:'Female',Hobbies:['Drawing']},
  {Name:'Mohammed',Age:23,Gender:'Male',Hobbies:['FootBall']},
  {Name:'Fares',Age:25,Gender:'Male',Hobbies:['Swimming']]})
```



```
1. MONDOSH
> db.students.insertMany([({Name:'Nada',Age:24,Gender:'Female',Hobbies:['Drawing']},{Name:'Hadia',Age:23,Gender:'Female',Hobbies:['Reading','Drawing']},{Name:'Menna',Age:24,Gender:'Female',Hobbies:['Swimming','Writting']},{Name:'Radwa',Age:26,Gender:'Female',Hobbies:['Reading']},{Name:'Ahmed',Age:27,Gender:'Male',Hobbies:['Coding','Gamming']},{Name:'Mariam',Age:22,Gender:'Female',Hobbies:['VolleyBall']},{Name:'Maged',Age:31,Gender:'Male',Hobbies:['FootBall','Gamming']},{Name:'Alaa',Age:16,Gender:'Female',Hobbies:['Drawing']},{Name:'Mohammed',Age:23,Gender:'Male',Hobbies:['FootBall']},{Name:'Fares',Age:25,Gender:'Male',Hobbies:['Swimming']})])
{
  acknowledged: true,
  insertedIds: [
    '61f4d7d2e6a33428b46484',
    '61f4d7d2e6a33428b46485',
    '61f4d7d2e6a33428b46486',
    '61f4d7d2e6a33428b46487',
    '61f4d7d2e6a33428b46488',
    '61f4d7d2e6a33428b46489',
    '61f4d7d2e6a33428b4648a',
    '61f4d7d2e6a33428b4648b',
    '61f4d7d2e6a33428b4648c',
    '61f4d7d2e6a33428b4648d'
  ]
}
```

- 6 Search for your object by Name

COMMANDS

```
>> db.students.find({Name:'Hager Abd El Galil'})
```

```
>_MONGOSH
> db.students.find({Name:'Hager Abd El Galil'})
< {
  _id: ObjectId("63f4cb322eb0a33428b46483"),
  Name: 'Hager Abd El Galil',
  Age: 23,
  Gender: 'Female',
  Hobbies: [
    'Reading',
    'Drawing'
  ]
}
```

7 Search for your friend(s) by age

COMMANDS

```
>> db.students.find({Age:25})
```

```
>_MONGOSH
> db.students.find({Age:25})
< {
  _id: ObjectId("63f4dd7d2eb0a33428b4648d"),
  Name: 'Fares',
  Age: 25,
  Gender: 'Male',
  Hobbies: [
    'Swimming'
  ]
}
```

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

COMMANDS

```
>> db.students.find({Age:{$gt : 23}})
```

```
>_MONGOSH
> db.students.find({Age: {$gt : 23}})
< [
  {
    _id: ObjectId("63f4dd7d2eb0a33428b46484"),
    Name: 'Nada',
    Age: 24,
    Gender: 'Female',
    Hobbies: [
      'Drawing'
    ]
  },
  {
    _id: ObjectId("63f4dd7d2eb0a33428b46486"),
    Name: 'Menna',
    Age: 24,
    Gender: 'Female',
    Hobbies: [
      'Swimming',
      'Writing'
    ]
  },
  {
    _id: ObjectId("63f4dd7d2eb0a33428b46487"),
    Name: 'Radwa',
    Age: 26,
    Gender: 'Female',
    Hobbies: [
      'Reading'
    ]
  },
  {
    _id: ObjectId("63f4dd7d2eb0a33428b46488"),
    Name: 'Ahmed',
    Age: 27,
    Gender: 'Male',
    Hobbies: [
      'Coding',
      'Gaming'
    ]
  }
]
```

```

{
  _id: ObjectId("63f4dd7d2eb0a33428b4648a"),
  Name: 'Maged',
  Age: 31,
  Gender: 'Male',
  Hobbies: [
    'Football',
    'Gaming'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b4648d"),
  Name: 'Fares',
  Age: 25,
  Gender: 'Male',
  Hobbies: [
    'Swimming'
  ]
}

```

9 Delete any of your friends by id

COMMANDS

```
>> db.students.deleteOne({_id: ObjectId("63f4dd7d2eb0a33428b4648d")})
```

```

> db.students.deleteOne({_id: ObjectId("63f4dd7d2eb0a33428b4648d")})
< {
  acknowledged: true,
  deletedCount: 1
}

```

10 View all documents in students collection in a prettified format

COMMANDS

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

```
>_MONGOSH
> db.students.find().pretty()
< {
  _id: ObjectId("63f4cb322eb0a33428b46483"),
  Name: 'Hager Abd El Galil',
  Age: 23,
  Gender: 'Female',
  Hobbies: [
    'Reading',
    'Drawing'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b46484"),
  Name: 'Nada',
  Age: 24,
  Gender: 'Female',
  Hobbies: [
    'Drawing'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b46485"),
  Name: 'Hadia',
  Age: 23,
  Gender: 'Female',
  Hobbies: [
    'Reading',
    'Drawing'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b46486"),
  Name: 'Menna',
  Age: 24,
  Gender: 'Female',
  Hobbies: [
    'Swimming',
    'Writting'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b46487"),
  Name: 'Radwa',
  Age: 26,
  Gender: 'Female',
  Hobbies: [
    'Reading'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b46488"),
  Name: 'Ahmed',
  Age: 27,
  Gender: 'Male',
  Hobbies: [
    'Coding',
    'Gamming'
  ]
}
```

```

{
  _id: ObjectId("63f4dd7d2eb0a33428b46489"),
  Name: 'Mariam',
  Age: 22,
  Gender: 'Female',
  Hobbies: [
    'VolleyBall'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b4648a"),
  Name: 'Maged',
  Age: 31,
  Gender: 'Male',
  Hobbies: [
    'FootBall',
    'Gamming'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b4648b"),
  Name: 'Alaa',
  Age: 16,
  Gender: 'Female',
  Hobbies: [
    'Drawing'
  ]
}
{
  _id: ObjectId("63f4dd7d2eb0a33428b4648c"),
  Name: 'Mohammed',
  Age: 23,
  Gender: 'Male',
  Hobbies: [
    'FootBall'
  ]
}

```

11 Count all documents in students collection

COMMANDS

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

```
>_MONGOSH
```

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

```
< 10
```


PART 2

- Create database with name ems

```
COMMAND >> use ems
```

- 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" }
```

```
> use ems
< switched to db ems
> db.createCollection('faculty')
{ ok: 1 }
> db.faculty.insertMany([ { "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

COMMAND >> db.faculty.find()

```
> _MONGOOSH
> db.faculty.find()
< [
  {
    _id: ObjectId("63f4e9672eb0a33428b4648e"),
    name: 'Krish',
    age: 35,
    gender: 'M',
    exp: 10,
    subjects: [
      'DS',
      'C',
      'OS'
    ],
    type: 'Full Time',
    qualification: 'M.Tech'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b4648f"),
    name: 'Manoj',
    age: 38,
    gender: 'M',
    exp: 12,
    subjects: [
      'JAVA',
      'DBMS'
    ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46490"),
    name: 'Anush',
    age: 32,
    gender: 'F',
    exp: 8,
    subjects: [
      'C',
      'CPP'
    ],
    type: 'Part Time',
    qualification: 'M.Tech'
  }
]
```

```

{
  _id: ObjectId("63f4e9672eb0a33428b46491"),
  name: 'Suresh',
  age: 40,
  gender: 'M',
  exp: 9,
  subjects: [
    'JAVA',
    'DBMS',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}

{
  _id: ObjectId("63f4e9672eb0a33428b46492"),
  name: 'Rajesh',
  age: 35,
  gender: 'M',
  exp: 7,
  subjects: [
    'DS',
    'C',
    'OS'
  ],
  type: 'Full Time',
  qualification: 'M.Tech'
}

{
  _id: ObjectId("63f4e9672eb0a33428b46493"),
  name: 'Mani',
  age: 30,
  gender: 'F',
  exp: 10,
  subjects: [
    'JAVA',
    'DBMS',
    'OS'
  ],
  type: 'Part Time',
  qualification: 'Ph.D'
}

{
  _id: ObjectId("63f4e9672eb0a33428b46494"),
  name: 'Sivan',
  age: 32,
  gender: 'F',
  exp: 8,
  subjects: [
    'C',
    'CPP',
    'MATHS'
  ],
  type: 'Part Time',
  qualification: 'M.Tech'
}

{
  _id: ObjectId("63f4e9672eb0a33428b46495"),
  name: 'Ragesh',
  age: 30,
  gender: 'M',
  exp: 11,
  subjects: [
    'JAVA',
    'DBMS',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}

{
  _id: ObjectId("63f4e9672eb0a33428b46496"),
  name: 'Ragesh',
  age: 35,
  gender: 'M',
  exp: 0,
  subjects: [
    'JAVA',

```

```

    '.Net',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46497"),
  name: 'Latha',
  age: 40,
  gender: 'F',
  exp: 13,
  subjects: [
    'MATHS'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}

```

2 Get the count of all faculty members

COMMAND >> `db.faculty.find().count()`

>_MONGOSH

> `db.faculty.find().count()`

< 10

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

COMMAND >> `db.faculty.find({qualification:'ph.D'})`

```

>_MONGOSH
> db.faculty.find({qualification:"Ph.D"})
< [
  {
    _id: ObjectId("63f4e9672eb0a33428b4648f"),
    name: 'Manoj',
    age: 38,
    gender: 'M',
    exp: 12,
    subjects: [
      'JAVA',
      'DBMS'
    ],
    type: 'Full Time',
    qualification: 'Ph.D'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46491"),
    name: 'Suresh',
    age: 40,
    gender: 'M',
    exp: 9,
    subjects: [
      'JAVA',
      'DBMS',
      'NETWORKING'
    ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
]

```

```

    qualification: 'Ph.D'
  }
  {
    _id: ObjectId("63f4e9672eb0a33428b46493"),
    name: 'Mani',
    age: 38,
    gender: 'F',
    exp: 10,
    subjects: [
      'JAVA',
      'DBMS',
      'OS'
    ],
    type: 'Part Time',
    qualification: 'Ph.D'
  }
  {
    _id: ObjectId("63f4e9672eb0a33428b46495"),
    name: 'Nagesh',
    age: 30,
    gender: 'M',
    exp: 11,
    subjects: [
      'JAVA',
      'DBMS',
      'NETWORKING'
    ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
  {
    _id: ObjectId("63f4e9672eb0a33428b46496"),
    name: 'Nagesh',
    age: 35,
    gender: 'M',
    exp: 9,
    subjects: [
      'JAVA',
      '.Net',
      'NETWORKING'
    ],
    type: 'Full Time',
    qualification: 'Ph.D'
  }
  {
    _id: ObjectId("63f4e9672eb0a33428b46497"),
    name: 'Latha',
    age: 40,
    gender: 'F',
    exp: 13,
    subjects: [
      'MATHS'
    ]
  }
}

```

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

COMMAND >> db.faculty.find({exp : {\$gt :8},exp : {\$lt :12}}, {name:1})

```
>_MONGOOSH
> db.faculty.find({exp : {$gt :8},exp : {$lt :12}}, {name:1})
< [
  {
    _id: ObjectId("63f4e9672eb0a33428b4648e"),
    name: 'Krish'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46490"),
    name: 'Anush'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46491"),
    name: 'Suresh'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46492"),
    name: 'Rajesh'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46493"),
    name: 'Mani'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46494"),
    name: 'Sivani'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46495"),
    name: 'Nagesh'
  },
  {
    _id: ObjectId("63f4e9672eb0a33428b46496"),
    name: 'Nagesh'
  }
]
```

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

COMMAND >> db.faculty.find({\$or:[{subjects:'MATHS'},{subjects:'NETWORKING' }]}, {name:1})

```
>_MONGOSH
> db.faculty.find({$or:[{subjects:'MATHS'}, {subjects:'NETWORKING'}]}, {name:1})
< {
  _id: ObjectId("63f4e9672eb0a33428b46491"),
  name: 'Suresh'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46494"),
  name: 'Sivani'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46495"),
  name: 'Nagesh'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46496"),
  name: 'Nagesh'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46497"),
  name: 'Latha'
}
```

6 Get all the faculty members who teach “MATHS” and whose age is more than 30 years and qualification must be “Ph.D

COMMAND >> db.faculty.find({subjects:'MATHS',age:{\$gt : 30},qualification:'Ph.D'})

```
>_MONGOSH
> db.faculty.find({subjects:'MATHS',age:{$gt : 30},qualification:'Ph.D'})
< {
  _id: ObjectId("63f4e9672eb0a33428b46497"),
  name: 'Latha',
  age: 40,
  gender: 'F',
  exp: 13,
  subjects: [
    'MATHS'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
```

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

COMMAND >> db.faculty.find({\$or:[{type:'Part Time'},{subjects:'JAVA'}]},{name:1})

```
> MONGOSH
> db.faculty.find({$or:[{type:'Part Time'},{subjects:'JAVA'}]},{name:1})
< {
  _id: ObjectId("63f4e9672eb0a33428b4648f"),
  name: 'Manoj'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46498"),
  name: 'Anush'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46491"),
  name: 'Suresh'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46493"),
  name: 'Mani'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46494"),
  name: 'Sivani'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46495"),
  name: 'Nagesh'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46496"),
  name: 'Nagesh'
}
```

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"}

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

```
> MONGOSH
> db.faculty.insertOne({ "name":"Suresh Babu", "age":55,"gender":"M","exp":25,subjects: ["MATHS","DE"],"type":"Full Time", "qualification":"Ph.D" })
< {
  acknowledged: true,
  insertedId: ObjectId("63f4f5d42eb0a33428b46499")
}
```


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

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

```
>_MONGOSH
> db.faculty.updateMany({},{$inc :{age:1,exp:1}})
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 11,
  modifiedCount: 11,
  upsertedCount: 0
}
```

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

COMMAND >> db.faculty.updateOne({name:"Sivani"},{\$set:{type:"Full Time",qualification:"Ph.D"}})

```
>_MONGOSH
> db.faculty.updateOne({name:"Sivani"},{$set:{type:"Full Time",qualification:"Ph.D"}})
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

- 11 Update all faculty members who are teaching "MATHS" such that they should now also teach "PSK"

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

```
>_MONGOSH
> db.faculty.updateMany({subjects:"MATHS"},{$push:{subjects:"PSK"}})
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 3,
  modifiedCount: 3,
  upsertedCount: 0
}
```

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

COMMAND >> db.faculty.deleteMany({age: {\$gt : 55}})

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

13 Get only the name and qualification of all faculty members

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

```
>_MONGOSH
> db.faculty.find({}, {name:1, qualification:1, _id:0})
< [
  {
    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: '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.

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

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

COMMAND >> `db.faculty.find().sort({age:-1}).limit(5)`

```
>_MONGOSH
> db.faculty.find().sort({age:-1}).limit(5)
< {
  _id: ObjectId("63f4e9672eb0a33428b46497"),
  name: 'Latha',
  age: 41,
  gender: 'F',
  exp: 14,
  subjects: [
    'MATHS',
    'PSK'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46491"),
  name: 'Suresh',
  age: 41,
  gender: 'M',
  exp: 10,
  subjects: [
    'JAVA',
    'DBMS',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46491"),
  name: 'Suresh',
  age: 41,
  gender: 'M',
  exp: 10,
  subjects: [
    'JAVA',
    'DBMS',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
{
  _id: ObjectId("63f4e9672eb0a33428b46495"),
  name: 'Nagesh',
  age: 40,
  gender: 'M',
  exp: 12,
  subjects: [
    'JAVA',
    'DBMS',
    'NETWORKING'
  ],
  type: 'Full Time',
  qualification: 'Ph.D'
}
```

```
    type: 'Full Time',  
    qualification: 'Ph.D'  
  }  
  {  
    _id: ObjectId("63f4e9672eb0a33428b46493"),  
    name: 'Mani',  
    age: 39,  
    gender: 'F',  
    exp: 11,  
    subjects: [  
      'JAVA',  
      'DBMS',  
      'OS'  
    ],  
    type: 'Part Time',  
    qualification: 'Ph.D'  
  }  
  {  
    _id: ObjectId("63f4e9672eb0a33428b4648f"),  
    name: 'Manoj',  
    age: 39,  
    gender: 'M',  
    exp: 13,  
    subjects: [  
      'JAVA',  
      'DBMS'  
    ],  
    type: 'Full Time',  
    qualification: 'Ph.D'  
  }  
}
```