

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)
DEPARTMENT OF COMPUTER APPLICATIONS

ADVANCED DBMS LAB

CYCLE -3

1. Install the MongoDB Compass GUI and configure it.
2. Create a collection student consists of details like rollno, name, phoneno, marks, address, year of course etc

```
> db.createCollection("student")
> db.student.insertOne({_rollno:29,name:"Riya",phoneno:7934777432,marks:89,address:"angamali",yearofcourse:2019})
```

OUTPUT:

```
{
  "acknowledged" : true,
  "insertedId" : ObjectId("615ace8a1ac4c5a0937e8087")
}
```

3. Insert the details of the multiple students (atleast 5) in the form of documents in the student collection.

```
> db.student.insertMany([ {_rollno:30,name:"Sujith",phoneno:9309240912,marks:78,address:"ernakulam",yearofcourse:2019}, {_rollno:31,name:"abhilash",phoneno:8238649832,marks:75,address:"kodungallur",yearofcourse:2017}, {_rollno:32,name:"unnimaya",phoneno:9293984354,marks:95,address:"thrissur",yearofcourse:2020}, {_rollno:33,name:"senna",phoneno:9094375943,marks:88,address:"thiruvalla",yearofcourse:2017}, {_rollno:34,name:"surya",phoneno:7025858321,marks:90,address:"amballur",yearofcourse:2018}])
```

OUTPUT:

```
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("615ad1fe1ac4c5a0937e8088"),
    ObjectId("615ad1fe1ac4c5a0937e8089"),
    ObjectId("615ad1fe1ac4c5a0937e808a"),
    ObjectId("615ad1fe1ac4c5a0937e808b"),
    ObjectId("615ad1fe1ac4c5a0937e808c")
  ]
}
```

```
> db.student.find().pretty()
{
  "_id" : ObjectId("615ace8a1ac4c5a0937e8087"),
  "_rollno" : 29,
  "name" : "Riya",
  "phoneno" : 7934777432,
  "marks" : 89,
  "address" : "angamali",
```

```

        "yearofcourse" : 2019
    }
    {
        "_id" : ObjectId("615ad1fe1ac4c5a0937e8088"),
        "_rollno" : 30,
        "name" : "Sujith",
        "phoneno" : 9309240912,
        "marks" : 78,
        "address" : "ernakulam",
        "yearofcourse" : 2019
    }
    {
        "_id" : ObjectId("615ad1fe1ac4c5a0937e8089"),
        "_rollno" : 31,
        "name" : "abhilash",
        "phoneno" : 8238649832,
        "marks" : 75,
        "address" : "kodungallur",
        "yearofcourse" : 2017
    }
    {
        "_id" : ObjectId("615ad1fe1ac4c5a0937e808a"),
        "_rollno" : 32,
        "name" : "unnimaya",
        "phoneno" : 9293984354,
        "marks" : 95,
        "address" : "thrissur",
        "yearofcourse" : 2020
    }
    {
        "_id" : ObjectId("615ad1fe1ac4c5a0937e808b"),
        "_rollno" : 33,
        "name" : "senna",
        "phoneno" : 9094375943,
        "marks" : 88,
        "address" : "thiruvalla",
        "yearofcourse" : 2017
    }
    {
        "_id" : ObjectId("615ad1fe1ac4c5a0937e808c"),
        "_rollno" : 34,
        "name" : "surya",
        "phoneno" : 7025858321,
        "marks" : 90,
        "address" : "amballur",
        "yearofcourse" : 2018
    }
}

```

4. Retrieve the fields rollno, name, phoneno, marks, city for all the documents in the collection student.

```
> db.student.find({}, {_id:0,_rollno:1,name:1,phoneno:1,marks:1,address:1}).
```

OUTPUT:

```
{ "_rollno" : 29, "name" : "Riya", "phoneno" : 7934777432, "marks" : 89, "address" : "angamali" }
{ "_rollno" : 30, "name" : "Sujith", "phoneno" : 9495027076, "marks" : 78, "address" : "ernakulam" }
{ "_rollno" : 31, "name" : "abhilash", "phoneno" : 8238649832, "marks" : 75, "address" : "kodungallur" }
{ "_rollno" : 32, "name" : "unnimaya", "phoneno" : 9293984354, "marks" : 95, "address" : "thrissur" }
{ "_rollno" : 33, "name" : "senna", "phoneno" : 9094375943, "marks" : 88, "address" : "thiruvalla", }
{ "_rollno" : 34, "name" : "surya", "phoneno" : 7025858321, "marks" : 90, "address" : "amballur" }
{ "rollno" : 32, "name" : "unnimaya", "phoneno" : 9293984354, "marks" : 95, "address" : "thrissur" }
```

5. Display the details of students who achieved a score more than 90 and are from 'Thrissur'.

```
>db.student.find({$and: [{address:"thrissur"},{marks:{$gt:90}}]})
```

OUTPUT:

```
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e808a"), "_rollno" : 32, "name" : "unnimaya", "phoneno" : 9293984354, "marks" : 95, "address" : "thrissur", "yearofcourse" : 2020 }
```

6. Update the phone number of Sujith in the student collection. Retrieve the updated information.

```
> db.student.updateOne({_rollno:30},{ $set:{phoneno:9495027076}})
```

OUTPUT:

```
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
```

```
> db.student.find({_rollno:{$eq:30}})
```

```
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e8088"), "_rollno" : 30, "name" : "Sujith", "phoneno" : 9495027076, "marks" : 78, "address" : "ernakulam", "yearofcourse" : 2019 }
```

7. Update the year of course in all the documents in the student collection to 2021. Also retrieve the updated information.

```
> db.student.updateOne({yearofcourse:2020},{ $set:{yearofcourse:2021}})
```

8. Delete the details of the student whose name is 'Abhilash' from the student collection .

```
>db.student.deleteOne({name:"abhilash"})
```

OUTPUT:

```
{ "acknowledged" : true, "deletedCount" : 1 }
```

9. Retrieve the number of students per department from the student collection.

```
>db.student.find().count({dept:"mca"})
```

OUTPUT:

5

10. Arrange the name of the students in ascending order along with all the columns.

```
>db.student.find().sort({name:1})
```

OUTPUT:

```
{ "_id" : ObjectId("615ace8a1ac4c5a0937e8087"), "_rollno" : 29, "name" : "Riya", "phoneno" : 7934777432, "marks" : 89, "address" : "angamali", "yearofcourse" : 2019 }
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e8088"), "_rollno" : 30, "name" : "Sujith", "phoneno" : 9495027076, "marks" : 78, "address" : "ernakulam", "yearofcourse" : 2019 }
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e808b"), "_rollno" : 33, "name" : "senna", "phoneno" : 9094375943, "marks" : 88, "address" : "thiruvalla", "yearofcourse" : 2017 }
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e808c"), "_rollno" : 34, "name" : "surya", "phoneno" : 7025858321, "marks" : 90, "address" : "amballur", "yearofcourse" : 2018 }
{ "_id" : ObjectId("615ad1fe1ac4c5a0937e808a"), "_rollno" : 32, "name" : "unnimaya", "phoneno" : 9293984354, "marks" : 95, "address" : "thrissur", "yearofcourse" : 2021 }
```