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Course : MCS 273 NoSQL (Lab 01)

## CRUD Operations:

### A. Creation of database of my domain – Car Rental System.

DB name – binodcarshare

Table/Collection – members

```
C:\> Command Prompt - mongo.exe
> show dbs
admin                0.000GB
binodcarshare        0.000GB
config               0.000GB
local                0.000GB
> use binodcarshare
switched to db binodcarshare
> show collections
members
>
```

### B. Unique Index for every row insertion.

The members registered with the company has unique member id that distinguishes each document.

```
> db.members.insertOne({MemId:01,Name:"Raj",Age:22,Occupation:"Student",Status:"Null"});
{
  "acknowledged" : true,
  "insertedId" : ObjectId("60137af7dfc8ba5662190356")
}
```

### C. Inserting 10 documents to the database collection.

```
> db.members.insertMany([
... {MemId:02,Name:"Kumar",Age:24,Occupation:"Student",Status:"Null"},
... {MemId:03,Name:"Hareesma",Age:23,Occupation:"Doctor",Status:"Null"},
... {MemId:04,Name:"Raghavi",Age:09,Occupation:"Student",Status:"Null"},
... {MemId:05,Name:"Prabhu",Age:32,Occupation:"Professor",Status:"Null"},
... {MemId:06,Name:"Sandeep",Age:29,Occupation:"Professor",Status:"Null"},
... {MemId:07,Name:"Rohini",Age:30,Occupation:"Professor",Status:"Null"},
... {MemId:08,Name:"Prem",Age:17,Occupation:"Student",Status:"Null"},
... {MemId:09,Name:"Suresh",Age:13,Occupation:"Student",Status:"Null"},
... {MemId:10,Name:"Bala",Age:50,Occupation:"Engineer",Status:"Null"},
... {MemId:11,Name:"Rahul",Age:18,Occupation:"Student",Status:"Null"}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("60137e0edfc8ba5662190357"),
    ObjectId("60137e0edfc8ba5662190358"),
    ObjectId("60137e0edfc8ba5662190359"),
    ObjectId("60137e0edfc8ba566219035a"),
    ObjectId("60137e0edfc8ba566219035b"),
    ObjectId("60137e0edfc8ba566219035c"),
    ObjectId("60137e0edfc8ba566219035d"),
    ObjectId("60137e0edfc8ba566219035e"),
    ObjectId("60137e0edfc8ba566219035f"),
    ObjectId("60137e0edfc8ba5662190360")
  ]
}
> db.members.count();
11
>
```

## D. Performing 3 update operations.

1. An individual whose member id is 2 is updated with an age set to 25.

```
> db.members.find({MemId:2}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190357"),
  "MemId" : 2,
  "Name" : "Kumar",
  "Age" : 22,
  "Occupation" : "Student",
  "Status" : "Null"
}
> db.members.updateOne({MemId:2},{ $set:{Age:25}});
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
> db.members.find({MemId:2}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190357"),
  "MemId" : 2,
  "Name" : "Kumar",
  "Age" : 25,
  "Occupation" : "Student",
  "Status" : "Null"
}
>
```

2. The status of all members age below 18 is set to “Rejected”.

```
> db.members.find({Status:"Rejected"}).pretty();
> db.members.updateMany({Age:{$lt:18}},{$set:{Status:"Rejected"}});
{ "acknowledged" : true, "matchedCount" : 3, "modifiedCount" : 3 }
> db.members.find({Status:"Rejected"}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190359"),
  "MemId" : 4,
  "Name" : "Raghavi",
  "Age" : 9,
  "Occupation" : "Student",
  "Status" : "Rejected"
}
{
  "_id" : ObjectId("60137e0edfc8ba566219035d"),
  "MemId" : 8,
  "Name" : "Prem",
  "Age" : 17,
  "Occupation" : "Student",
  "Status" : "Rejected"
}
{
  "_id" : ObjectId("60137e0edfc8ba566219035e"),
  "MemId" : 9,
  "Name" : "Suresh",
  "Age" : 13,
  "Occupation" : "Student",
  "Status" : "Rejected"
}
>
```

### 3. Adding new field to the record/Document using update.

```
> db.members.find({MemId:5}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba566219035a"),
  "MemId" : 5,
  "Name" : "Prabhu",
  "Age" : 32,
  "Occupation" : "Professor",
  "Status" : "Null"
}
> db.members.update({MemId:5},{ $set:{Gender:"Male"}});
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.members.find({MemId:5}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba566219035a"),
  "MemId" : 5,
  "Name" : "Prabhu",
  "Age" : 32,
  "Occupation" : "Professor",
  "Status" : "Null",
  "Gender" : "Male"
}
>
```

## E. Performing 3 delete operations.

### 1. Deleting the record with member id 01.

```
> db.members.count();
11
> db.members.deleteOne({MemId:01});
{ "acknowledged" : true, "deletedCount" : 1 }
> db.members.count();
10
>
```

### 2. Deleting the first record with Occupation as “Doctor”.

```
> db.members.find({Occupation:"Doctor"}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190358"),
  "MemId" : 3,
  "Name" : "Hareesma",
  "Age" : 23,
  "Occupation" : "Doctor",
  "Status" : "Null"
}
> db.members.deleteOne({Occupation:"Doctor"});
{ "acknowledged" : true, "deletedCount" : 1 }
> db.members.find({Occupation:"Doctor"}).pretty();
>
```

### 3. Deleting multiple records with status as “Rejected”.

```
> db.members.count({Status:"Rejected"});
3
> db.members.deleteMany({Status:"Rejected"});
{ "acknowledged" : true, "deletedCount" : 3 }
> db.members.count({Status:"Rejected"});
0
>
```

## F. Performing 3 show operations.

### 1. Showing all the records whose status is “Accepted”.

```
> db.members.find({Status:"Accepted"}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190357"),
  "MemId" : 2,
  "Name" : "Kumar",
  "Age" : 25,
  "Occupation" : "Student",
  "Status" : "Accepted"
}
{
  "_id" : ObjectId("60137e0edfc8ba5662190360"),
  "MemId" : 11,
  "Name" : "Rahul",
  "Age" : 18,
  "Occupation" : "Student",
  "Status" : "Accepted"
}
>
```

### 2. Showing the record of member whose age is less than equal to 22, Occupation is Student and Status is Accepted.

```
> db.members.find({$and:[{Age:{$lte:22}},{Occupation:"Student"},{Status:"Accepted"}]}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba5662190360"),
  "MemId" : 11,
  "Name" : "Rahul",
  "Age" : 18,
  "Occupation" : "Student",
  "Status" : "Accepted"
}
```

3. Showing all the records of members whose age is greater than equal to 30.

```
> db.members.find({Age:{$gte:30}}).pretty();
{
  "_id" : ObjectId("60137e0edfc8ba566219035a"),
  "MemId" : 5,
  "Name" : "Prabhu",
  "Age" : 32,
  "Occupation" : "Professor",
  "Status" : "Null",
  "Gender" : "Male"
}
{
  "_id" : ObjectId("60137e0edfc8ba566219035c"),
  "MemId" : 7,
  "Name" : "Rohini",
  "Age" : 30,
  "Occupation" : "Professor",
  "Status" : "Null"
}
{
  "_id" : ObjectId("60137e0edfc8ba566219035f"),
  "MemId" : 10,
  "Name" : "Bala",
  "Age" : 50,
  "Occupation" : "Engineer",
  "Status" : "Null"
}
>
```