



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

## Experiment 10

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Section/Group: KRG-3B

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Subject name: ADBMS

Subject code: 23CSP-333

**1. Aim:** To perform CRUD operations and aggregation using MongoDB, a NoSQL document-based database.

### **2. Objective:**

Learn creation of databases and collections in MongoDB. Execute Insert, Read, Update, and Delete operations.

### **3. Tools / Software**

- MongoDB Mongo Shell
- Sample Dataset: Car Dealership Data

### **4. Program:**

```
PS C:\Users\ruchi> mongosh
Current Mongosh Log ID: 6901eb68e8ffe9c747cebea3
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2
.5.8
Using MongoDB:      8.2.1
Using Mongosh:      2.5.8

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

-----
The server generated these startup warnings when booting:
2025-10-28T10:47:21.504+05:30: Access control is not enabled for the database. Read and write access to data and conf
iguration is unrestricted
-----
```

Showdbs

```
test> show dbs
admin          40.00 KiB
carDealership  8.00 KiB
config         96.00 KiB
local          40.00 KiB
```

Use car\_dealership

```
test> use car_dealership
switched to db car_dealership
car_dealership> |
```



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## INSERTION OPERATION:

```
db.createCollection("cars") db.cars.insertMany([ {  
  maker: "Hyundai", model: "i20", fuel_type: "Petrol" },  
  { maker: "Tata", model: "Nexon", fuel_type: "Diesel" },  
  { maker: "Kia", model: "Seltos", fuel_type: "Petrol" },  
  { maker: "Maruti", model: "Swift", fuel_type: "CNG" }  
])
```

```
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId('6901ec50e8ffe9c747cebea4'),  
    '1': ObjectId('6901ec50e8ffe9c747cebea5'),  
    '2': ObjectId('6901ec50e8ffe9c747cebea6'),  
    '3': ObjectId('6901ec50e8ffe9c747cebea7')  
  }  
}
```

## READ OPERATION:

```
db.cars.find() db.cars.find({fuel_type:"Petrol"})
```

```
db.cars.find({}, {model:1, _id:0})
```

```
[  
  { model: 'i20' },  
  { model: 'Nexon' },  
  { model: 'Seltos' },  
  { model: 'Swift' }  
]
```

## UPDATE OPERATION:

```
db.cars.updateOne({ model: "i20" }, { $set: { fuel_type: "Hybrid" } })
```

```
db.cars.updateMany({}, { $set: { color: "White" } }) db.cars.updateOne({
```

```
model: "Nexon" }, { $push: { features: "Sunroof" } })
```

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

## DELETE OPERATION:

```
db.cars.deleteOne({ model: "Swift" })
```

```
car_dealership> db.cars.deleteOne({ model: "Swift" })  
{ acknowledged: true, deletedCount: 1 }
```

## AGGREGATION:

```
db.cars.aggregate([ { $group: { _id: "$maker", totalCars: { $sum: 1 } } } ])
```

```
[  
  { _id: 'Kia', totalCars: 1 },  
  { _id: 'Hyundai', totalCars: 1 },  
  { _id: 'Tata', totalCars: 1 }  
]
```