**Experiment - 10**

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## 1. Aim:

Develop To perform different MongoDB CRUD operations.

## 2. Output

**insertOne**

```
cars> db.cars.insertOne({
...   "maker": "Tata",
...   "model": "Nexon",
...   "fuel_type": "Petrol",
...   "transmission": "Automatic",
...   "engine": {
...   "type": "Turbocharged",
...   "cc": 1199,
...   "torque": "170 Nm"
...   },
...   "features": [
...   "Touchscreen",
...   "Reverse Camera",
...   "Bluetooth Connectivity"
...   ],
...   "sunroof": false,
...   "airbags": 2
...   })
{
  acknowledged: true,
  insertedId: ObjectId('6910197551df00168bcebea4')
}
```

**insertMany**

```
cars> db.cars.insertMany([
...  {
...  "maker": "Hyundai",
...  "model": "Creta",
...  "fuel_type": "Diesel",
...  "transmission": "Manual",
...  "engine": {
...  "type": "Naturally Aspirated",
...  "cc": 1493,
...  "torque": "250 Nm"
...  },
...  "features": [
...  "Sunroof",
...  "Leather Seats",
...  "Wireless Charging",
... "Ventilated Seats",
... "Bluetooth"
...  ],
...  "sunroof": true,
...  "airbags": 6
...  },
...  {
...  "maker": "Maruti Suzuki",
...  "model": "Baleno",
...  "fuel_type": "Petrol",
...  "transmission": "Automatic",
...  "engine": {
...  "type": "Naturally Aspirated",
...  "cc": 1197,
...  "torque": "113 Nm"
...  },
...  "features": [
...  "Projector Headlamps",
...  "Apple CarPlay",
...  "ABS"
...  ],
...  "sunroof": false,
...  "sunroof": true,
...  "airbags": 6
...  },
...  {
...  "maker": "Honda",
...  "model": "City",
...  "fuel_type": "Petrol",
...  "transmission": "Automatic",
...  "engine": {
...  "type": "Naturally Aspirated",
...  "cc": 1498,
...  "torque": "145 Nm"
...  },
...  "features": [
...  "Keyless Entry",
...  "Auto AC",
...  "Multi-angle Rearview Camera"
...  ],
...  "sunroof": false,
...  "airbags": 4
...  }
... ])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('691019a751df00168bcebea5'),
    '1': ObjectId('691019a751df00168bcebea6'),
    '2': ObjectId('691019a751df00168bcebea7'),
    '3': ObjectId('691019a751df00168bcebea8')
  }
}
```

**Find**

```
cars> db.cars.find({_id: ObjectId('691019a751df00168bcebea8')})
[
  {
    _id: ObjectId('691019a751df00168bcebea8'),
    maker: 'Honda',
    model: 'City',
    fuel_type: 'Petrol',
    transmission: 'Automatic',
    engine: { type: 'Naturally Aspirated', cc: 1498, torque: '145 Nm' },
    features: [ 'Keyless Entry', 'Auto AC', 'Multi-angle Rearview Camera' ],
    sunroof: false,
    airbags: 4
  }
]
```

```
cars> db.cars.find({},{maker:1,model:1,_id:0})
[
  { maker: 'Tata', model: 'Nexon' },
  { maker: 'Hyundai', model: 'Creta' },
  { maker: 'Maruti Suzuki', model: 'Baleno' },
  { maker: 'Mahindra', model: 'XUV500' },
  { maker: 'Honda', model: 'City' }
]
```

```
cars> db.cars.find({sunroof:true},{maker:1,model:1,_id:0})
[
  { maker: 'Hyundai', model: 'Creta' },
  { maker: 'Mahindra', model: 'XUV500' }
]
```

**updateOne**

```
cars> db.cars.updateOne({model:"Nexon"},{$set:{color:"Red"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

**updateMany**

```
cars> db.cars.updateMany({fuel_type:"Diesel"},{$set:{alloys:"no"}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 2,
  modifiedCount: 2,
  upsertedCount: 0
}
```

**(upsert)**

```
cars> db.cars.updateMany(
... {fuel_type:"Disel"},
... {$set:{alloys:"Yes"}},
... {upsert:true})
{
  acknowledged: true,
  insertedId: ObjectId('6910a7f448fa8222b925c022'),
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 1
}
```

**DeleteMany**

```
cars> db.cars.deleteMany({fuel_type:'Disel'})
{ acknowledged: true, deletedCount: 1 }
```

**grouping**

```
cars> db.cars.aggregate([{$group:{_id:"$fuel_type",TotalCars:{$sum:1}}}])
[ { _id: 'Petrol', TotalCars: 3 }, { _id: 'Diesel', TotalCars: 2 } ]
cars>
```