Experiment 10

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Branch: CSE   **Section/Group: KRG 3-A**
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Subject Name: ADBMS   **Subject Code: 23CSP-333**

1. Aim:

- Create and manage databases and collections.
- Perform CRUD operations — Create, Read, Update, and Delete documents.
- Use aggregation for grouping and summarizing data.
- Understand how to modify, query, and manage collections efficiently in MongoDB.
- Gain practical experience with real-world data handling through command-line operations.

2. DBMS script and output:

// 1. Show all databases

show dbs

// 2. Create or switch to your database

use db_gourav

```
switched to db db_gourav
db_gourav>
```

// 3. Check current database

Db

```
db_443a7nnpk
```

// 4. Create a collection (optional)

db.createCollection("movies")

ok
1

```
// 5. Insert Operations

db.movies.insertOne({

  title: "Inception",

  director: "Christopher Nolan",

  year: 2010,

  rating: 8.8,

  genre: "Sci-Fi",

  features: ["Mind-bending", "Action"],

  added_by: "Gourav"

})
```

acknowledged	insertedId
true	6904e7a58146093180d0...

```
db.movies.insertMany([

  {

    title: "Interstellar",

    director: "Christopher Nolan",

    year: 2014,

    rating: 8.6,
```

```
    genre: "Sci-Fi",

    features: ["Space", "Drama"],

    added_by: "Gourav"

  },

  {

    title: "Avatar",

    director: "James Cameron",

    year: 2009,

    rating: 7.8,

    genre: "Adventure",

    features: ["3D", "Action"],

    added_by: "Gourav"

  },

  {

    title: "The Dark Knight",

    director: "Christopher Nolan",

    year: 2008,

    rating: 9.0,

    genre: "Action",

    features: ["Batman", "Crime"],

    added_by: "Gourav"

  }

])
```

```
{
  "acknowledged": true,
  insertedIds: {
    "0": "6904e7bf1e02b7502ad09e60"
    "1": "6904e7bf1e02b7502ad09e61"
    "2": "6904e7bf1e02b7502ad09e62"
  }
}
```

// 6. Show all collections

show collections

```
demo
movies
```

// 7. Read Operations

db.movies.find().pretty()

db.movies.findOne()

db.movies.find({}, { title: 1, year: 1, _id: 0 })

db.movies.find({ genre: "Action" })

db.movies.find({ "details.language": "English" })

```
  },
  {
    "_id": "6904e7bf1e02b7502ad09e60",
    "title": "Interstellar",
    "director": "Christopher Nolan",
    "year": 2014,
    "rating": 8,.6,
    "genre": "Sci-Fi",
    features: [ "Space", "Drama" ],
    "added_by": "Gourav",
  },
  {
    "_id": "6904e7bf1e02b7502ad09e61",
    "title": "Avatar",
    "director": "James Cameron",
    "year": 2009,
    "rating": 7,.8,
    "genre": "Adventure",
    features: [ "3D", "Action" ],
    "added_by": "Gourav",
  },
  {
    "_id": "6904e7bf1e02b7502ad09e62",
    "title": "The Dark Knight",
    "director": "Christopher Nolan",
    "year": 2008,
    "rating": 9,
    "genre": "Action",
    features: [ "Batman", "Crime" ],
    "added_by": "Gourav",
  }
]
{
  "_id": "6904e7a58146093180d09e60",
  "title": "Inception",
  "director": "Christopher Nolan",
  "year": 2010,
  "rating": 8,.8,
  "genre": "Sci-Fi",
  features: [ "Mind-bending", "Action" ],
  "added_by": "Gourav",
}
[
  { "title": "Inception", "year": 2010, },
  { "title": "Interstellar", "year": 2014, },
  { "title": "Avatar", "year": 2009, },
  { "title": "The Dark Knight", "year": 2008, }
]
[
  {
    "_id": "6904e7bf1e02b7502ad09e62",
    "title": "The Dark Knight",
    "director": "Christopher Nolan",
    "year": 2008,
    "rating": 9,
    "genre": "Action",
    features: [ "Batman", "Crime" ],
    "added_by": "Gourav",
  }
]
```

```
// 8. Update Operations

db.movies.updateOne(

  { title: "Avatar" },

  { $set: { rating: 8.1, genre: "Sci-Fi Adventure" } }
```

```
)

db.movies.updateOne(

  { title: "Inception" },

  { $push: { features: "Thriller" } }

)

db.movies.updateOne(

  { title: "Inception" },

  { $pull: { features: "Action" } }

)

db.movies.updateMany(

  { director: "Christopher Nolan" },

  { $set: { language: "English" } }

)

db.movies.updateMany({}, { $unset: { added_by: "" } })

db.movies.updateMany({}, { $set: { color: "Full HD" } })

db.movies.updateOne(

  { title: "Tenet" },

  { $set: { director: "Christopher Nolan", year: 2020, rating: 7.5 } },

  { upsert: true }

)

// 9. Delete Operations

db.movies.deleteOne({ title: "Avatar" })

db.movies.deleteMany({ director: "Christopher Nolan" })

db.movies.deleteMany({})
```

```
{ "acknowledged": true, "deletedCount": 0, }
 { "acknowledged": true, "deletedCount": 1, }
 { "acknowledged": true, "deletedCount": 0, }
```

// 10. Grouping (Aggregation)

db.movies.aggregate([

  { $group: { _id: "$director", total_movies: { $sum: 1 } } }

])

db.movies.aggregate([

  { $group: { _id: "$genre", total_movies: { $sum: 1 } } }

])

// 11. Drop collection

db.movies.drop()

```
true
```

// 12. Drop database

db.dropDatabase()

ok	dropped
1	db_443a7nnpk