Question 7

Install an Open-Source NoSQL Data base MongoDB & perform basic CRUD(Create, Read, Update & Delete) operations. Execute MongoDB basic Queries using CRUD operations.

Show existing databases:

```
show dbs
```

Switch to or create the "test" database:

```
use test
```

Show collections in the current database:

```
show collections
```

Create Collection and Insert Employees (Create):

```
db.employees.insertOne({
  emp_id: 101,
  name: "Alice",
  age: 30,
  department: "HR",
  salary: 50000
})
```

Insert multiple employees

```
db.employees.insertMany([
  { emp_id: 102, name: "Bob", age: 28, department: "Engineering", salary: 60000 },
  { emp_id: 103, name: "Charlie", age: 35, department: "Sales", salary: 55000 },
```

```
  { emp_id: 104, name: "Diana", age: 26, department: "Engineering", salary: 62000 }
])
```

Read / Retrieve Documents:

Find all documents

```
db.employees.find()
```

Find with a condition

```
db.employees.find({ department: "Engineering" })
```

Find one

```
db.employees.findOne({ emp_id: 102 })
```

Update Document(s):

Update one employee's salary

```
db.employees.updateOne(
  { emp_id: 101 },
  { $set: { salary: 52000 } }
)
```

Update multiple employees in Engineering

```
db.employees.updateMany(
  { department: "Engineering" },
  { $inc: { salary: 2000 } }
)
```

Delete Document(s):

Delete one employee

```
db.employees.deleteOne({ emp_id: 103 })
```

Delete all employees in Sales

```
db.employees.deleteMany({ department: "Sales" })
```

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1. Show existing databases:

```
show dbs
```

2. Switch to or create the "booksDB" database:

```
use booksDB
```

3. Show collections in the current database:

```
show collections
```

4. Create Collection and Insert Books (Create):

 # Insert a single book

```
db.books.insertOne({
  book_id: 1,
  title: "To Kill a Mockingbird",
  author: "Harper Lee",
```

```
  genre: "Fiction",
  published_year: 1960,
  price: 18.99
})

# Insert multiple books
db.books.insertMany([
  { book_id: 2, title: "1984", author: "George Orwell", genre: "Dystopian", published_year: 1949, price: 15.99 },
  { book_id: 3, title: "Moby-Dick", author: "Herman Melville", genre: "Adventure", published_year: 1851, price: 22.50 },
  { book_id: 4, title: "The Great Gatsby", author: "F. Scott Fitzgerald", genre: "Tragedy", published_year: 1925, price: 10.99 }
])
```

5. Read / Retrieve Documents:

```
# Find all books
db.books.find()

# Find books by a specific author
db.books.find({ author: "George Orwell" })

# Find books of a specific genre
db.books.find({ genre: "Fiction" })
```

 # Find one book by its book_id

```
db.books.findOne({ book_id: 2 })
```

6. Update Document(s):

 # Update the price of a book

```
db.books.updateOne(
  { book_id: 1 },
  { $set: { price: 20.99 } }
)
```

 # Update the published year of multiple books

```
db.books.updateMany(
  { genre: "Fiction" },
  { $set: { published_year: 2000 } }
)
```

7. Delete Document(s):

 # Delete a single book

```
db.books.deleteOne({ book_id: 3 })
```

 # Delete all books of a specific genre

```
db.books.deleteMany({ genre: "Tragedy" })
```