

WEEK-12 MONGO DB QUESTIONS AND SOLUTIONS

1. Create Operation:

- Create a new database named **"library"** and switch to it.
- Create a collection named **"books"** with fields: title, author, and published_year.
- Insert a document into the **"books"** collection with the details of your favorite book.

Ans:

```
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000
Microsoft Windows [Version 10.0.19045.5247]
(c) Microsoft Corporation. All rights reserved.

C:\Users\IBRAHIM>mongosh
Current Mongosh Log ID: 675afa619ec7aa3289893bf7
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.3.4
Using MongoDB:      8.0.4
Using Mongosh:       2.3.4

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

-----
  The server generated these startup warnings when booting
  2024-12-11T03:55:14.298-08:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

test> use library
switched to db library
library> db.createCollection("books")
{ ok: 1 }
library> show dbs
admin    40.00 KiB
car      72.00 KiB
config   72.00 KiB
fruit    72.00 KiB
library  8.00 KiB
local    72.00 KiB
school   48.00 KiB
library> db.books.insertMany([
  {title:"Romeo and Juliet",author:"William Shakespeare",published_year:1597},
  {title:"I Too had a Love Story",author:"Ravinder Singh",published_year:2008},
  {title:"Me Before You",author:"Jojo Moyes",published_year:2012},
  {title:"Happy Place",author:"Emily Henry",published_year:2023}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675afa619ec7aa3289893bf8'),
    '1': ObjectId('675afa619ec7aa3289893bf9'),
    '2': ObjectId('675afa619ec7aa3289893bfa'),
    '3': ObjectId('675afa619ec7aa3289893bfb')
  }
}
library>
```

2. Read Operation:

- Retrieve all documents from the **"books"** collection.
- Find and display only the documents where the author is **"William Shakespeare"**.
- Fetch and display the document with the earliest published year.

Ans:

```
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000
library> db.books.find()
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 1597
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bf9'),
    title: 'I Too had a Love Story',
    author: 'Ravinder Singh',
    published_year: 2008
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfa'),
    title: 'Me Before You',
    author: 'Jojo Moyes',
    published_year: 2012
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfb'),
    title: 'Happy Place',
    author: 'Emily Henry',
    published_year: 2023
  }
]
library> db.books.find({author:"William Shakespeare"})
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 1597
  }
]
library> db.books.find().sort({published_year:1}).limit(1)
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 1597
  }
]
```

3. Update Operation:

- Update the published year of the book with the title **"Romeo and Juliet"** to the current year.
- Add a new field **"genre"** with the value **"Love"** to all documents in the **"books"** collection.

Ans:

```

library> db.books.update({title:"Romeo and Juliet"},{$set:{published_year:2024}})
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
library> db.books.updateMany({},{$set:{genre:"Love"}},{multi:true})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 4,
  modifiedCount: 4,
  upsertedCount: 0
}
library> db.books.find()
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 2024,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bf9'),
    title: 'I Too had a Love Story',
    author: 'Ravinder Singh',
    published_year: 2008,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfa'),
    title: 'Me Before You',
    author: 'Jojo Moyes',
    published_year: 2012,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfb'),
    title: 'Happy Place',
    author: 'Emily Henry',
    published_year: 2023,
    genre: 'Love'
  }
]
library>

```

4. Delete Operation:

- Remove the document with the title "I Too had a love story" from the "books" collection.
- Delete all documents from the "books" collection where the published year is before 2000 .

Ans:

```

library> db.books.deleteOne({title:"I Too had a Love Story"})
{ acknowledged: true, deletedCount: 1 }
library> db.books.find()
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 2024,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfa'),
    title: 'Me Before You',
    author: 'Jojo Moyes',
    published_year: 2012,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfb'),
    title: 'Happy Place',
    author: 'Emily Henry',
    published_year: 2023,
    genre: 'Love'
  }
]
library>

```

5. Advanced Query:

- Find and display the top 3 recently published books from the "books" collection.
- Retrieve documents from the "books" collection where the title contains the word "Genre" or "Published_year:Lessthan 2000".

Ans:

```
library> db.books.find().sort({published_year:-1}).limit(3)
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 2024,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfb'),
    title: 'Happy Place',
    author: 'Emily Henry',
    published_year: 2023,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfa'),
    title: 'Me Before You',
    author: 'Jojo Moyes',
    published_year: 2012,
    genre: 'Love'
  }
]
library> db.books.find({$or:[{genre:"Love"},{published_year:{$lt:2000}}]})
[
  {
    _id: ObjectId('675afa619ec7aa3289893bf8'),
    title: 'Romeo and Juliet',
    author: 'William Shakespeare',
    published_year: 2024,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfa'),
    title: 'Me Before You',
    author: 'Jojo Moyes',
    published_year: 2012,
    genre: 'Love'
  },
  {
    _id: ObjectId('675afa619ec7aa3289893bfb'),
    title: 'Happy Place',
    author: 'Emily Henry',
    published_year: 2023,
    genre: 'Love'
  }
]
```