

Q1. Create a Database LibraryDB:

```
>_MONGOSH
> use LibraryDB
< switched to db LibraryDB
LibraryDB>
```

Q2. Create a collection named books:

```
> db.createCollection("books")
< { ok: 1 }
LibraryDB>
```

Q3. Insert sample documents into books collection:

```
< {
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('681df24a5018fed326ce5035'),
    '1': ObjectId('681df24a5018fed326ce5036'),
    '2': ObjectId('681df24a5018fed326ce5037'),
    '3': ObjectId('681df24a5018fed326ce5038'),
    '4': ObjectId('681df24a5018fed326ce5039'),
    '5': ObjectId('681df24a5018fed326ce503a'),
    '6': ObjectId('681df24a5018fed326ce503b'),
    '7': ObjectId('681df24a5018fed326ce503c'),
    '8': ObjectId('681df24a5018fed326ce503d'),
    '9': ObjectId('681df24a5018fed326ce503e')
  }
}
```

Q4. Find all documents in the books collection:

```
>_MONGOSH
> db.books.find()
< {
  _id: ObjectId('681df24a5018fed326ce5035'),
  title: 'Pride and Prejudice',
  author: 'Jane Austen',
  year_published: 1813,
  genres: [
    'Fiction',
    'Romance'
  ],
  available: true
},
{
  _id: ObjectId('681df24a5018fed326ce5036'),
  title: 'The Catcher in the Rye',
  author: 'J.D. Salinger',
  year_published: 1951,
  genres: [
    'Fiction',
    'Classic'
  ],
  available: true
}
```

```
>_MONGOSH
{
  _id: ObjectId('681df24a5018fed326ce5037'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  year_published: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  available: true
},
{
  _id: ObjectId('681df24a5018fed326ce5038'),
  title: 'Moby-Dick',
  author: 'Herman Melville',
  year_published: 1851,
  genres: [
    'Fiction',
    'Adventure'
  ],
  available: true
}
```

```
>_MONGOSH
{
  _id: ObjectId('681df24a5018fed326ce5039'),
  title: 'War and Peace',
  author: 'Leo Tolstoy',
  year_published: 1869,
  genres: [
    'Historical Fiction',
    'Classic'
  ],
  available: true
},
{
  _id: ObjectId('681df24a5018fed326ce503a'),
  title: 'The Odyssey',
  author: 'Homer',
  year_published: -800,
  genres: [
    'Epic',
    'Adventure'
  ],
  available: true
}
```

```
>_MONGOSH
{
  _id: ObjectId('681df24a5018fed326ce503c'),
  title: 'Brave New World',
  author: 'Aldous Huxley',
  year_published: 1932,
  genres: [
    'Dystopian',
    'Science Fiction'
  ],
  available: true
},
{
  _id: ObjectId('681df24a5018fed326ce503d'),
  title: 'The Divine Comedy',
  author: 'Dante Alighieri',
  year_published: 1320,
  genres: [
    'Epic',
    'Poetry'
  ],
  available: true
}
```

Q5. Find books published after 1950:

```
> db.books.find({ year_published: { $gt: 1950 } })
< {
  _id: ObjectId('681df24a5018f6d326ce5036'),
  title: 'The Catcher in the Rye',
  author: 'J.D. Salinger',
  year_published: 1951,
  genres: [
    'Fiction',
    'Classic'
  ],
  available: true
}
```

Q6. Find a book by title (e.g., "The Hobbit"):

```
> db.books.find({ title: "The Hobbit" })
< {
  _id: ObjectId('681df24a5018f6d326ce5037'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  year_published: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  available: true
}
```

Q7. Update the year published for "The Great Gatsby": (First insert it if it's not in the list):

```
> db.books.insertOne({
  "title": "The Great Gatsby",
  "author": "F. Scott Fitzgerald",
  "year_published": 1925,
  "genres": ["Fiction", "Classic"],
  "available": true
})
< {
  acknowledged: true,
  insertedId: ObjectId('681df3865018f6d326ce503f')
}
> db.books.updateOne(
  { title: "The Great Gatsby" },
  { $set: { year_published: 1926 } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

Q8. Update the available status of "Moby-Dick" to false:

```
> db.books.updateOne(
  { title: "Moby-Dick" },
  { $set: { available: false } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

Q9. Set a new field checked_out = false for all books:

```
> db.books.updateMany({}, { $set: { checked_out: false } })
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 11,
  modifiedCount: 11,
  upsertedCount: 0
}
```

Q10. Change checked_out = true for books in "Adventure" genre:

```
> db.books.updateMany(
  { genres: "Adventure" },
  { $set: { checked_out: true } }
)
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 3,
  modifiedCount: 3,
  upsertedCount: 0
}
```

Q11. Delete a book by title (e.g., "Brave New World"):

```
> db.books.deleteOne({ title: "Brave New World" })
< {
  acknowledged: true,
  deletedCount: 1
}
```

Q12. Delete all books published before 1930:

```
> db.books.deleteMany({ year_published: { $lt: 1930 } })
< {
  acknowledged: true,
  deletedCount: 8
}
```