create a database bookshop

create a collection books

insert the following data

```
{
  "title": "The Hobbit",
  "author": "J.R.R. Tolkien",
  "published_year": 1937,
  "genres": ["Fantasy", "Adventure"],
  "pages": 310,
  "available": true,
  "rating": 4.8
}

 {
   "title": "1984",
   "author": "George Orwell",
   "published_year": 1949,
   "genres": ["Dystopian", "Political Fiction"],
   "pages": 328,
   "available": true,
```

```json
    "rating": 4.7
  },
  {
    "title": "To Kill a Mockingbird",
    "author": "Harper Lee",
    "published_year": 1960,
    "genres": ["Southern Gothic", "Drama"],
    "pages": 281,
    "available": false,
    "rating": 4.6
  },
  {
    "title": "The Great Gatsby",
    "author": "F. Scott Fitzgerald",
    "published_year": 1925,
    "genres": ["Tragedy"],
    "pages": 180,
    "available": true,
    "rating": 4.4
  },
```

```
{
  "title": "Brave New World",
  "author": "Aldous Huxley",
  "published_year": 1932,
  "genres": ["Science Fiction", "Dystopian"],
  "pages": 311,
  "available": true,
  "rating": 4.2
}
```

Answer:

```
db.books.insertMany([
  {
    "title": "The Hobbit",
    "author": "J.R.R. Tolkien",
    "published_year": 1937,
    "genres": ["Fantasy", "Adventure"],
    "pages": 310,
```

```
    "available": true,

    "rating": 4.8

  },

  {

    "title": "1984",

    "author": "George Orwell",

    "published_year": 1949,

    "genres": ["Dystopian", "Political Fiction"],

    "pages": 328,

    "available": true,

    "rating": 4.7

  },

  {

    "title": "To Kill a Mockingbird",

    "author": "Harper Lee",

    "published_year": 1960,

    "genres": ["Southern Gothic", "Drama"],

    "pages": 281,

    "available": false,

    "rating": 4.6
```

```
  },
  {
    "title": "The Great Gatsby",
    "author": "F. Scott Fitzgerald",
    "published_year": 1925,
    "genres": ["Tragedy"],
    "pages": 180,
    "available": true,
    "rating": 4.4
  },
  {
    "title": "Brave New World",
    "author": "Aldous Huxley",
    "published_year": 1932,
    "genres": ["Science Fiction", "Dystopian"],
    "pages": 311,
    "available": true,
    "rating": 4.2
  }
]);
```

```
> use bookshop
< switched to db bookshop
> db.books.insertMany([
    {
      "title": "The Hobbit",
      "author": "J.R.R. Tolkien",
      "published_year": 1937,
      "genres": ["Fantasy", "Adventure"],
      "pages": 310,
      "available": true,
      "rating": 4.8
    },
    {
      "title": "1984",
      "author": "George Orwell",
      "published_year": 1949,
      "genres": ["Dystopian", "Political Fiction"],
      "pages": 328,
      "available": true,
      "rating": 4.7
    },
    {
      "title": "To Kill a Mockingbird",
      "author": "Harper Lee",
      "published_year": 1960,
      "genres": ["Southern Gothic", "Drama"],
      "pages": 281,
      "available": false,
```

```
use bookshop
switched to db bookshop
db.books.insertMany([
  {
    "title": "The Hobbit",
    "author": "J.R.R. Tolkien",
    "published_year": 1937,
    "genres": ["Fantasy", "Adventure"],
    "pages": 310,
    "available": true,
    "rating": 4.8
  },
  {
    "title": "1984",
    "author": "George Orwell",
    "published_year": 1949,
    "genres": ["Dystopian", "Political Fiction"],
    "pages": 328,
    "available": true,
    "rating": 4.7
  },
  {
    "title": "To Kill a Mockingbird",
    "author": "Harper Lee",
    "published_year": 1960,
    "genres": ["Southern Gothic", "Drama"],
    "pages": 281,
    "available": false,
```

Find all books

Answer:

db.books.find();

```
> db.books.find();
< {
    _id: ObjectId('680fbb1e8984f3326c8a3977'),
    title: 'The Hobbit',
    author: 'J.R.R. Tolkien',
    published_year: 1937,
    genres: [
      'Fantasy',
      'Adventure'
    ],
    pages: 310,
    available: true,
    rating: 4.8
  }
  {
    _id: ObjectId('680fbb1e8984f3326c8a3978'),
    title: '1984',
    author: 'George Orwell',
    published_year: 1949,
    genres: [
      'Dystopian',
      'Political Fiction'
    ],
    pages: 328,
```

Find all books published after 1950

Answer:

db.books.find({ published_year: { $gt: 1950 } });

```
> db.books.find({ published_year: { $gt: 1950 } });
< {
    _id: ObjectId('680fbb1e8984f3326c8a3979'),
    title: 'To Kill a Mockingbird',
    author: 'Harper Lee',
    published_year: 1960,
    genres: [
      'Southern Gothic',
      'Drama'
    ],
    pages: 281,
    available: false,
    rating: 4.6
  }
bookshop >
```

Find the available books

```
> db.books.find({ available: true });
< {
    _id: ObjectId('680fbb1e8984f3326c8a3977'),
    title: 'The Hobbit',
    author: 'J.R.R. Tolkien',
    published_year: 1937,
    genres: [
      'Fantasy',
      'Adventure'
    ],
    pages: 310,
    available: true,
    rating: 4.8
  }
  {
    _id: ObjectId('680fbb1e8984f3326c8a3978'),
    title: '1984',
    author: 'George Orwell',
    published_year: 1949,
    genres: [
      'Dystopian',
      'Political Fiction'
    ],
    pages: 328,
    available: true,
    rating: 4.7
  }
  {
```

```
> db.books.find({ genres: "Dystopian" });
< {
    _id: ObjectId('680fbb1e8984f3326c8a3978'),
    title: '1984',
    author: 'George Orwell',
    published_year: 1949,
    genres: [
      'Dystopian',
      'Political Fiction'
    ],
    pages: 328,
    available: true,
    rating: 4.7
  }
  {
    _id: ObjectId('680fbb1e8984f3326c8a397b'),
    title: 'Brave New World',
    author: 'Aldous Huxley',
    published_year: 1932,
    genres: [
      'Science Fiction',
      'Dystopian'
    ],
    pages: 311,
    available: true,
    rating: 4.2
  }
bookshop >
```

Find the books which published after 1960 and had rating more than 4.0

Answer:

```
db.books.find({

  published_year: { $gt: 1960 },

  rating: { $gt: 4.0 }

});
```

```
db.books.find({
    published_year: { $gt: 1960 },
    rating: { $gt: 4.0 }
});

ookshop>
```

Project only title and author fields:

Answer:

db.books.find({}, { title: 1, author: 1, _id: 0 });

```
> db.books.find({}, { title: 1, author: 1, _id: 0 });
< {
    title: 'The Hobbit',
    author: 'J.R.R. Tolkien'
  }
  {
    title: '1984',
    author: 'George Orwell'
  }
  {
    title: 'To Kill a Mockingbird',
    author: 'Harper Lee'
  }
  {
    title: 'The Great Gatsby',
    author: 'F. Scott Fitzgerald'
  }
  {
    title: 'Brave New World',
    author: 'Aldous Huxley'
  }
bookshop >
```

Update the book "1984" to set available: false:

Answer:

```
db.books.updateOne(
  { title: "1984" },
  { $set: { available: false } }
);
```

```
> db.books.updateOne(
    { title: "1984" },
    { $set: { available: false } }
);
< {
    acknowledged: true,
    insertedId: null,
    matchedCount: 1,
    modifiedCount: 1,
    upsertedCount: 0
  }
bookshop >
```

Increase the rating of "Brave New World" by +0.1:

Answer:

db.books.updateOne(

 { title: "Brave New World" },

 { $inc: { rating: 0.1 } }

);

```
db.books.updateOne(
   { title: "Brave New World" },
   { $inc: { rating: 0.1 } }
);
{
   acknowledged: true,
   insertedId: null,
   matchedCount: 1,
   modifiedCount: 1,
   upsertedCount: 0
}
bookshop>
```

Add a new genre "Classic" to "The Great Gatsby":

Answer:

```
db.books.updateOne(
 { title: "The Great Gatsby" },
 { $addToSet: { genres: "Classic" } }
);
```

```
> db.books.updateOne(
    { title: "The Great Gatsby" },
    { $addToSet: { genres: "Classic" } }
  );
< {
    acknowledged: true,
    insertedId: null,
    matchedCount: 1,
    modifiedCount: 1,
    upsertedCount: 0
  }
bookshop >
```

Sort books by published_year ascending:

Answer:

db.books.find().sort({ published_year: 1 });

```
> db.books.find().sort({ published_year: 1 });
< {
    _id: ObjectId('680fbb1e8984f3326c8a397a'),
    title: 'The Great Gatsby',
    author: 'F. Scott Fitzgerald',
    published_year: 1925,
    genres: [
      'Tragedy',
      'Classic'
    ],
    pages: 180,
    available: true,
    rating: 4.4
  }
  {
    _id: ObjectId('680fbb1e8984f3326c8a397b'),
    title: 'Brave New World',
    author: 'Aldous Huxley',
    published_year: 1932,
    genres: [
      'Science Fiction',
      'Dystopian'
    ],
    pages: 311,
    available: true,
```

Sort books by rating descending:

Answer:

db.books.find().sort({ rating: -1 });

```
db.books.find().sort({ rating: -1 });
{
  _id: ObjectId('680fbb1e8984f3326c8a3977'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  published_year: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  pages: 310,
  available: true,
  rating: 4.8
}
{
  _id: ObjectId('680fbb1e8984f3326c8a3978'),
  title: '1984',
  author: 'George Orwell',
  published_year: 1949,
  genres: [
    'Dystopian',
    'Political Fiction'
  ],
  pages: 328,
  available: false,
```

Delete all books with a rating lower than 4.5:

Answer:

db.books.deleteMany({ rating: { $lt: 4.5 } });

```
> db.books.deleteMany({ rating: { $lt: 4.5 } });
< {
    acknowledged: true,
    deletedCount: 2
  }
bookshop > |
```