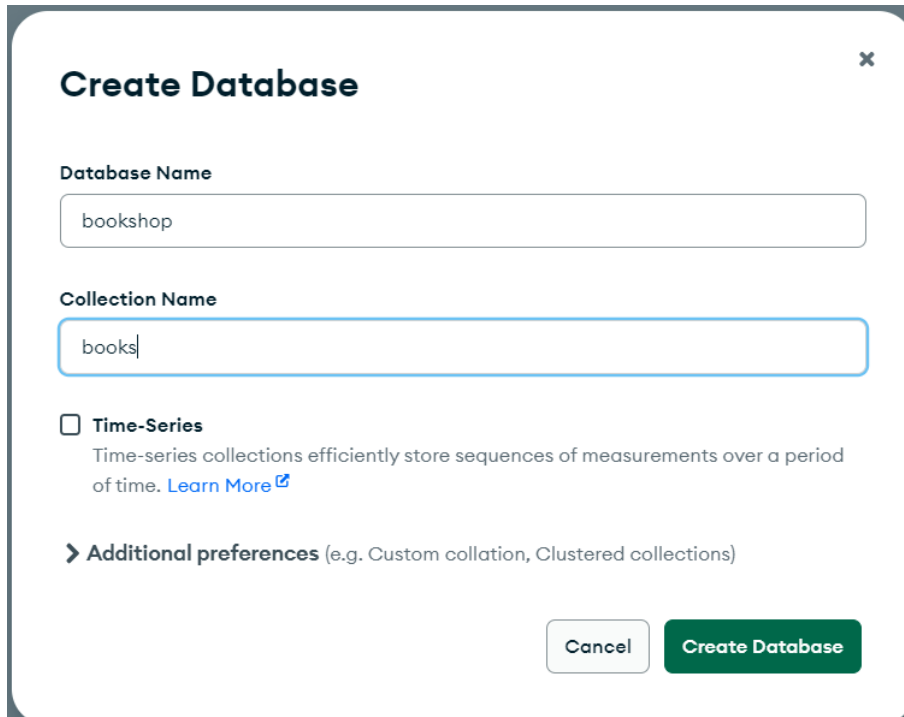


q1.

create a database bookshop

create a collection books



The screenshot shows a 'Create Database' dialog box with a close button (x) in the top right corner. It contains two text input fields: 'Database Name' with the value 'bookshop' and 'Collection Name' with the value 'books'. Below these fields is a checkbox labeled 'Time-Series' which is unchecked. A descriptive text below the checkbox reads: 'Time-series collections efficiently store sequences of measurements over a period of time. [Learn More](#)'. At the bottom, there is a link 'Additional preferences' followed by '(e.g. Custom collation, Clustered collections)'. At the very bottom are two buttons: 'Cancel' and 'Create Database'.

Create Database ×

Database Name

bookshop

Collection Name

books

☐ **Time-Series**

Time-series collections efficiently store sequences of measurements over a period of time. [Learn More](#)

➤ **Additional preferences** (e.g. Custom collation, Clustered collections)

Cancel Create Database

insert the following data

```
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
```

```
}
```

```
])
```

>_MONGOSH

```
    "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
  }
])
< {
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('681781ffa32252c74496469a'),
    '1': ObjectId('681781ffa32252c74496469b'),
    '2': ObjectId('681781ffa32252c74496469c'),
    '3': ObjectId('681781ffa32252c74496469d'),
    '4': ObjectId('681781ffa32252c74496469e')
  }
}
```

```
>_MONGOSH 
> 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,
    "rating": 4.6
  },
  {
    "title": "The Great Gatsby",
    "author": "F. Scott Fitzgerald",
    "published_year": 1925
```

Find all books:

```
db.books.find()
```

```
>_MONGOSH
> db.books.find()
< {
  _id: ObjectId('681781ffa32252c74496469a'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  published_year: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  pages: 310,
  available: true,
  rating: 4.8
}
{
  _id: ObjectId('681781ffa32252c74496469b'),
  title: '1984',
  author: 'George Orwell',
  published_year: 1949,
  genres: [
    'Dystopian',
    'Political Fiction'
  ],
  pages: 328,
  available: true,
  rating: 4.7
}
{
  _id: ObjectId('681781ffa32252c74496469c'),
  title: 'To Kill a Mockingbird',
  author: 'Harper Lee',
  published_year: 1960,
  genres: [
    'Southern Gothic',
    'Drama'
  ],
  pages: 281,
  available: false,
  rating: 4.6
}
```

Find all books published after 1950:

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

```
> db.books.find({published_year:{$gt:1950}})
< {
  _id: ObjectId('681781ffa32252c74496469c'),
  title: 'To Kill a Mockingbird',
  author: 'Harper Lee',
  published_year: 1960,
  genres: [
    'Southern Gothic',
    'Drama'
  ],
  pages: 281,
  available: false,
  rating: 4.6
}
```

Find the available books:

```
db.books.find({available:true})
```

```
> _MONGOSH
> db.books.find({available:true})
< [
  {
    _id: ObjectId('681781ffa32252c74496469a'),
    title: 'The Hobbit',
    author: 'J.R.R. Tolkien',
    published_year: 1937,
    genres: [
      'Fantasy',
      'Adventure'
    ],
    pages: 310,
    available: true,
    rating: 4.8
  },
  {
    _id: ObjectId('681781ffa32252c74496469b'),
    title: '1984',
    author: 'George Orwell',
    published_year: 1949,
    genres: [
      'Dystopian',
      'Political Fiction'
    ],
    pages: 328,
    available: true,
    rating: 4.7
  },
  {
    _id: ObjectId('681781ffa32252c74496469d'),
    title: 'The Great Gatsby',
    author: 'F. Scott Fitzgerald',
    published_year: 1925,
    genres: [
      'Tragedy'
    ]
  }
]
```

Find all books that belong to the "Dystopian" genre:

```
db.books.find({'genres':'Dystopian'})
```

```

> db.books.find({'genres':'Dystopian'})
< [
  {
    _id: ObjectId('681781ffa32252c74496469b'),
    title: '1984',
    author: 'George Orwell',
    published_year: 1949,
    genres: [
      'Dystopian',
      'Political Fiction'
    ],
    pages: 328,
    available: true,
    rating: 4.7
  },
  {
    _id: ObjectId('681781ffa32252c74496469e'),
    title: 'Brave New World',
    author: 'Aldous Huxley',
    published_year: 1932,
    genres: [
      'Science Fiction',
      'Dystopian'
    ],
    pages: 311,
    available: true,
    rating: 4.2
  }
]

```

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

```

db.books.find(
  {published_year: {$gt: 1960}, rating: {$gt: 4.0}},
  {title: 1, author: 1, _id: 0}
)

```

```

> db.books.find(
  {published_year: {$gt: 1960}, rating: {$gt: 4.0}},
  {title: 1, author: 1, _id: 0}
)
<
bookshop >

```

Project only title and author fields:

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

```

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
}
```

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

```
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
}
```

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

```
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
}
```

Sort books by published_year ascending:

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

```
> db.books.find().sort({published_year: 1})
< {
  _id: ObjectId('681781ffa32252c74496469d'),
  title: 'The Great Gatsby',
  author: 'F. Scott Fitzgerald',
  published_year: 1925,
  genres: [
    'Tragedy',
    'Classic'
  ],
  pages: 180,
  available: true,
  rating: 4.4
}
{
  _id: ObjectId('681781ffa32252c74496469e'),
  title: 'Brave New World',
  author: 'Aldous Huxley',
  published_year: 1932,
  genres: [
    'Science Fiction',
    'Dystopian'
  ],
  pages: 311,
  available: true,
  rating: 4.3
}
{
  _id: ObjectId('681781ffa32252c74496469a'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  published_year: 1937,
  genres: [
    'Fantasy',

```

```
published_year: 1937,  
genres: [  
  'Fantasy',  
  'Adventure'  
],  
pages: 310,  
available: true,  
rating: 4.8  
}  
{  
  _id: ObjectId('681781ffa32252c74496469b'),  
  title: '1984',  
  author: 'George Orwell',  
  published_year: 1949,  
  genres: [  
    'Dystopian',  
    'Political Fiction'  
  ],  
  pages: 328,  
  available: false,  
  rating: 4.7  
}  
{  
  _id: ObjectId('681781ffa32252c74496469c'),  
  title: 'To Kill a Mockingbird',  
  author: 'Harper Lee',  
  published_year: 1960,  
  genres: [  
    'Southern Gothic',  
    'Drama'  
  ],  
  pages: 281,  
  available: false,  
  rating: 4.6  
}
```

Sort books by rating descending:

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

```
> db.books.find().sort({rating: -1})
< {
  _id: ObjectId('681781ffa32252c74496469a'),
  title: 'The Hobbit',
  author: 'J.R.R. Tolkien',
  published_year: 1937,
  genres: [
    'Fantasy',
    'Adventure'
  ],
  pages: 310,
  available: true,
  rating: 4.8
}
{
  _id: ObjectId('681781ffa32252c74496469b'),
  title: '1984',
  author: 'George Orwell',
  published_year: 1949,
  genres: [
    'Dystopian',
    'Political Fiction'
  ],
  pages: 328,
  available: false,
  rating: 4.7
}
{
  _id: ObjectId('681781ffa32252c74496469c'),
  title: 'To Kill a Mockingbird',
  author: 'Harper Lee',
  published_year: 1960,
  genres: [
    'Southern Gothic',
    'Drama'
  ],
  pages: 281,
  available: true,
  rating: 4.6
}
```

>_MONGOSH

```
  genres: [
    'Southern Gothic',
    'Drama'
  ],
  pages: 281,
  available: false,
  rating: 4.6
}
{
  _id: ObjectId('681781ffa32252c74496469d'),
  title: 'The Great Gatsby',
  author: 'F. Scott Fitzgerald',
  published_year: 1925,
  genres: [
    'Tragedy',
    'Classic'
  ],
  pages: 180,
  available: true,
  rating: 4.4
}
{
  _id: ObjectId('681781ffa32252c74496469e'),
  title: 'Brave New World',
  author: 'Aldous Huxley',
  published_year: 1932,
  genres: [
    'Science Fiction',
    'Dystopian'
  ],
  pages: 311,
  available: true,
  rating: 4.3
}
```

Delete all books with a rating lower than 4.5:

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

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