

- 9.a. Develop a query to demonstrate Text search using catalog data collection for a given word
- b. Develop queries to illustrate excluding documents with certain words and phrases.

Solution:

use catalogDB

Insert sample documents into the catalog collection:

```
db.catalog.insertMany([
  {
    _id: 1,
    title: "Introduction to Data Science",
    description: "This book provides an overview of data science techniques including data
visualization and machine learning."
  },
  {
    _id: 2,
    title: "Advanced MongoDB",
    description: "Learn advanced features of MongoDB including aggregation and indexing."
  },
  {
    _id: 3,
    title: "Machine Learning with Python",
    description: "This guide covers machine learning concepts using Python libraries."
  }
])
```

Create a text index on title and description:

```
db.catalog.createIndex({ title: "text", description: "text" })
```

Perform text search for the word "machine":

```
db.catalog.find({ $text: { $search: "machine" } })
```

Display search results with a relevance score:

```
db.catalog.find(
  { $text: { $search: "machine" } },
  { score: { $meta: "textScore" } }
).sort({ score: { $meta: "textScore" } })
```

Search for an exact phrase:

```
db.catalog.find({ $text: { $search: "\"machine learning\"" } })
```