**9.a. Develop a query to demonstrate Text search using catalog data collection for a given word.**

**1: Create the catalog Collection and Insert Sample Documents**

use mydb

>db.createCollection("catalog")

>db.catalog.insertMany([

{

title: "Mastering MongoDB",

description: "A comprehensive guide to MongoDB for developers."

},

{

title: "Node.js Essentials",

description: "Learn backend development with Node.js."

},

{

title: "MongoDB Cookbook",

description: "Over 100 recipes for MongoDB developers."

},

{

title: "Introduction to Databases",

description: "Fundamentals of database systems."

}

])

**2: Create a Text Index**

>db.catalog.createIndex(

{ title: "text", description: "text" }

)

**3: Perform a Text Search**

>db.catalog.find({ $text: { $search: "MongoDB" } })

Output:

mydb> ... ... title\_text\_description\_text

mydb> [

{

\_id: ObjectId('6819e6964a2a0438dc6b128e'),

title: 'MongoDB Cookbook',

description: 'Over 100 recipes for MongoDB developers.'

},

{

\_id: ObjectId('6819e6964a2a0438dc6b128c'),

title: 'Mastering MongoDB',

description: 'A comprehensive guide to MongoDB for developers.'

}

]

**b. Develop queries to illustrate excluding documents with certain words and phrases**

**1. Exclude Documents Containing a Specific Word**

> db.catalog.find({ $text: { $search: "-MongoDB" } })

>> This query will return documents that do not contain the word "MongoDB" in the fields covered by the text index.

**2. Exclude Documents Containing a Specific Phrase**

>db.catalog.find({ $text: { $search: "-\"backend development\"" } })

**3. Exclude Documents Containing Multiple Specific Words**

>db.catalog.find({ $text: { $search: "-MongoDB -Node.js" } })

**4. Exclude Documents Using Regular Expressions**

> db.catalog.find({ title: { $not: /MongoDB/i } })

>> This query performs a case-insensitive search and excludes documents with "MongoDB" in the title field.