**Library Management System:**

**Query: Create Collection of books and insert necessary data.**

> db.createCollection("books");

{ "ok" : 1 }

> db.books.insertMany([

... {

... title: "Wings of Fire",

... author: "A.P.J. Abdul Kalam",

... genre: "Autobiography",

... isbn: "9788173711466",

... availableCopies: 10,

... price: 299.00

... },

... {

... title: "The God of Small Things",

... author: "Arundhati Roy",

... genre: "Fiction",

... isbn: "9780006550686",

... availableCopies: 5,

... price: 499.00

... },

... {

... title: "Midnight's Children",

... author: "Salman Rushdie",

... genre: "Fiction",

... isbn: "9780812976533",

... availableCopies: 3,

... price: 599.00

... },

... {

... title: "The White Tiger",

... author: "Aravind Adiga",

... genre: "Fiction",

... isbn: "9781439156961",

... availableCopies: 4,

... price: 350.00

... },

... {

... title: "In Five Years",

... author: "Rebecca Serle",

... genre: "Fiction",

... isbn: "9781982137464",

... availableCopies: 7,

... price: 450.00

... },

... {

... title: "The Immortals of Meluha",

... author: "Amish Tripathi",

... genre: "Historical Fiction",

... isbn: "9789380658349",

... availableCopies: 6,

... price: 399.00

... },

... {

... title: "The Palace of Illusions",

... author: "Chitra Banerjee Divakaruni",

... genre: "Fiction",

... isbn: "9780385523878",

... availableCopies: 2,

... price: 499.00

... },

... {

... title: "Train to Pakistan",

... author: "Khushwant Singh",

... genre: "Historical Fiction",

... isbn: "9780143030965",

... availableCopies: 5,

... price: 299.00

... }

... ]);

{

"acknowledged" : true,

"insertedIds" : [

ObjectId("66ff8bf3490e18fcd47037e2"),

ObjectId("66ff8bf3490e18fcd47037e3"),

ObjectId("66ff8bf3490e18fcd47037e4"),

ObjectId("66ff8bf3490e18fcd47037e5"),

ObjectId("66ff8bf3490e18fcd47037e6"),

ObjectId("66ff8bf3490e18fcd47037e7"),

ObjectId("66ff8bf3490e18fcd47037e8"),

ObjectId("66ff8bf3490e18fcd47037e9")

]

}

**Query: Find the book and its information of the author Arundhati Roy.**

> db.books.find({ author: "Arundhati Roy" });

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e3"), "title" : "The God of Small Things", "author" : "Arundhati Roy", "genre" : "Fiction", "isbn" : "9780006550686", "availableCopies" : 5, "price" : 499 }

**Query: Update the no. of copies of Wings of Fire to 8**

> db.books.updateOne(

... { isbn: "9788173711466" },

... { $set: { availableCopies: 8 } }

... );

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

**Query: Use the save method update the details of Wings of Fire with no. of copies as 10.**

> db.books.save({

... title: "Wings of Fire",

... author: "A.P.J. Abdul Kalam",

... genre: "Autobiography",

... isbn: "9788173711466",

... availableCopies: 10,

... price: 299.00

... });

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

**Query: Update the price of books written by Aravind Adiga to 379.00.**

> db.books.updateMany(

... { author: "Aravind Adiga" },

... { $set: { price: 379.00 } }

... );

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

**Query: Delete the book God of Small Things from the database.**

> db.books.deleteOne({ isbn: "9780006550686" });

{ "acknowledged" : true, "deletedCount" : 1 }

**Query: Find the books of authors APJ Abdul Kalam and Salam Rushdie.**

> db.books.find({

... $or: [

... { author: "A.P.J. Abdul Kalam" },

... { author: "Salman Rushdie" }

... ]

... });

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e2"), "title" : "Wings of Fire", "author" : "A.P.J. Abdul Kalam", "genre" : "Autobiography", "isbn" : "9788173711466", "availableCopies" : 10, "price" : 299 }

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e4"), "title" : "Midnight's Children", "author" : "Salman Rushdie", "genre" : "Fiction", "isbn" : "9780812976533", "availableCopies" : 3, "price" : 599 }

**Query: Find the books having a price range in between 300 and 500.**

> db.books.find({

... price: {

... $gte: 300,

... $lte: 500

... }

... });

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e5"), "title" : "The White Tiger", "author" : "Aravind Adiga", "genre" : "Fiction", "isbn" : "9781439156961", "availableCopies" : 4, "price" : 379 }

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e6"), "title" : "In Five Years", "author" : "Rebecca Serle", "genre" : "Fiction", "isbn" : "9781982137464", "availableCopies" : 7, "price" : 450 }

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e7"), "title" : "The Immortals of Meluha", "author" : "Amish Tripathi", "genre" : "Historical Fiction", "isbn" : "9789380658349", "availableCopies" : 6, "price" : 399 }

{ "\_id" : ObjectId("66ff8bf3490e18fcd47037e8"), "title" : "The Palace of Illusions", "author" : "Chitra Banerjee Divakaruni", "genre" : "Fiction", "isbn" : "9780385523878", "availableCopies" : 2, "price" : 499 }

**Query: Update the price of Fictional books to 399.**

> db.books.updateMany(

... {genre: "Fiction"},

... {$set: {price: 399}},

... {upsert: true}

... );

{ "acknowledged" : true, "matchedCount" : 4, "modifiedCount" : 4 }

> db.books.find().pretty();

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e2"),

"title" : "Wings of Fire",

"author" : "A.P.J. Abdul Kalam",

"genre" : "Autobiography",

"isbn" : "9788173711466",

"availableCopies" : 10,

"price" : 299

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e4"),

"title" : "Midnight's Children",

"author" : "Salman Rushdie",

"genre" : "Fiction",

"isbn" : "9780812976533",

"availableCopies" : 3,

"price" : 399

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e5"),

"title" : "The White Tiger",

"author" : "Aravind Adiga",

"genre" : "Fiction",

"isbn" : "9781439156961",

"availableCopies" : 4,

"price" : 399

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e6"),

"title" : "In Five Years",

"author" : "Rebecca Serle",

"genre" : "Fiction",

"isbn" : "9781982137464",

"availableCopies" : 7,

"price" : 399

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e7"),

"title" : "The Immortals of Meluha",

"author" : "Amish Tripathi",

"genre" : "Historical Fiction",

"isbn" : "9789380658349",

"availableCopies" : 6,

"price" : 399

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e8"),

"title" : "The Palace of Illusions",

"author" : "Chitra Banerjee Divakaruni",

"genre" : "Fiction",

"isbn" : "9780385523878",

"availableCopies" : 2,

"price" : 399

}

{

"\_id" : ObjectId("66ff8bf3490e18fcd47037e9"),

"title" : "Train to Pakistan",

"author" : "Khushwant Singh",

"genre" : "Historical Fiction",

"isbn" : "9780143030965",

"availableCopies" : 5,

"price" : 299

}

**Embedded Document:**

> db.books.updateMany(

... {},

... {

... $set: {

... publisher: {

... name: "Indian Publishers",

... location: "New Delhi"

... },

... reviews: [

... { reviewer: "Ravi Sharma", comment: "Inspiring!", rating: 5 },

... { reviewer: "Sneha Gupta", comment: "A must-read.", rating: 4 }

... ]

... }

... }

... );

{ "acknowledged" : true, "matchedCount" : 0, "modifiedCount" : 0 }

> db.books.find({}, {

... title: 1,

... author: 1,

... "publisher.name": 1,

... "reviews": 1

... }).pretty();

{

"\_id": ObjectId("66ff8bf3490e18fcd47037e2"),

"title": "Wings of Fire",

"author": "A.P.J. Abdul Kalam",

"publisher": { "name": "Indian Publishers", "location": "New Delhi" },

"reviews": [

{ "reviewer": "Ravi Sharma", "comment": "Inspiring!", "rating": 5 },

{ "reviewer": "Sneha Gupta", "comment": "A must-read.", "rating": 4 }

]

}

{

"\_id": ObjectId("66ff8bf3490e18fcd47037e4"),

"title": "Midnight's Children",

"author": "Salman Rushdie",

"publisher": { "name": "Indian Publishers", "location": "New Delhi" },

"reviews": [

{ "reviewer": "Ravi Sharma", "comment": "Inspiring!", "rating": 5 },

{ "reviewer": "Sneha Gupta", "comment": "A must-read.", "rating": 4 }

]

}

...

**Array Operations:**

> db.books.insertOne({

... title: "The Alchemist",

... author: "Paulo Coelho",

... genres: ["Fiction", "Adventure"],

... isbn: "9780061122415",

... availableCopies: 15,

... price: 299.00

... });

{

"acknowledged" : true,

"insertedId" : ObjectId("6708bee3d0eb252392bd55e3")

}

> db.books.updateOne(

... { title: "The Alchemist" },

... { $push: { genres: "Fantasy" } }

... );

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

> db.books.find({ title: "The Alchemist" }).pretty();

{

"\_id" : ObjectId("6708bee3d0eb252392bd55e3"),

"title" : "The Alchemist",

"author" : "Paulo Coelho",

"genres" : [

"Fiction",

"Adventure",

"Fantasy"

],

"isbn" : "9780061122415",

"availableCopies" : 15,

"price" : 299

}

> db.books.updateOne(

... { title: "The Alchemist" },

... { $pop: { genres: 1 } }

... );

{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

> db.books.find({ title: "The Alchemist" }).pretty();

{

"\_id" : ObjectId("6708bee3d0eb252392bd55e3"),

"title" : "The Alchemist",

"author" : "Paulo Coelho",

"genres" : [

"Fiction",

"Adventure"

],

"isbn" : "9780061122415",

"availableCopies" : 15,

"price" : 299

}

>