**Lab1**

***Task1***

1. **Retrieve all documents in a collection:**

db.o1.find({})

**{**

"\_id" **:** ObjectId**(**"63b41b22e4ff99c139063160"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063161"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063162"**),**

"order" **:** "o2"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**13**),**

"currency" **:** "EUR"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**4**)**

**},**

**{**

"product" **:** "p3"**,**

"colours" **:** **[**

"white"**,**

"black"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**4**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063163"**),**

"order" **:** "o3"**,**

"year" **:** NumberInt**(**2018**),**

"paid" **:** "N"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**33**),**

"currency" **:** "EUR"

**},**

"items" **:** **[**

**{**

"product" **:** "p3"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**4**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**4**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063164"**),**

"order" **:** "o4"**,**

"year" **:** NumberInt**(**2017**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**17**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"pink"**,**

"black"

**],**

"quantity" **:** NumberInt**(**14**)**

**},**

**{**

"product" **:** "p4"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**2**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063165"**),**

"order" **:** "o5"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**19**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**3**)**

1. **Retrieve all documents that contain paid orders (the "paid" field is "Y")**

db.o1.find**({**paid**:** "Y"**})**

**{**

"\_id" **:** ObjectId**(**"63b41b22e4ff99c139063160"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063161"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063162"**),**

"order" **:** "o2"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**13**),**

"currency" **:** "EUR"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**4**)**

**},**

**{**

"product" **:** "p3"**,**

"colours" **:** **[**

"white"**,**

"black"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**4**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063164"**),**

"order" **:** "o4"**,**

"year" **:** NumberInt**(**2017**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**17**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"pink"**,**

"black"

**],**

"quantity" **:** NumberInt**(**14**)**

**},**

**{**

"product" **:** "p4"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**2**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063165"**),**

"order" **:** "o5"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**19**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**3**)**

**}**

1. **Retrieve all documents that contain orders whose price currency is in NOK**

db.o1.find({"cost.currency": "NOK"})

**{**

"\_id" **:** ObjectId**(**"63b41b22e4ff99c139063160"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063161"**),**

"order" **:** "o1"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**30**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"colours" **:** **[**

"blue"**,**

"black"

**],**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**5**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063164"**),**

"order" **:** "o4"**,**

"year" **:** NumberInt**(**2017**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**17**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"pink"**,**

"black"

**],**

"quantity" **:** NumberInt**(**14**)**

**},**

**{**

"product" **:** "p4"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**2**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063165"**),**

"order" **:** "o5"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**19**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p1"**,**

"quantity" **:** NumberInt**(**15**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**3**)**

**}**

1. **Retrieve all documents with orders that contain product "p2".**

db.o1.find({"items.product": "p2"})

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063162"**),**

"order" **:** "o2"**,**

"year" **:** NumberInt**(**2020**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**13**),**

"currency" **:** "EUR"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**4**)**

**},**

**{**

"product" **:** "p3"**,**

"colours" **:** **[**

"white"**,**

"black"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**4**)**

**}**

**{**

"\_id" **:** ObjectId**(**"63b41b44e4ff99c139063164"**),**

"order" **:** "o4"**,**

"year" **:** NumberInt**(**2017**),**

"paid" **:** "Y"**,**

"cost" **:** **{**

"price" **:** NumberInt**(**17**),**

"currency" **:** "NOK"

**},**

"items" **:** **[**

**{**

"product" **:** "p2"**,**

"colours" **:** **[**

"pink"**,**

"black"

**],**

"quantity" **:** NumberInt**(**14**)**

**},**

**{**

"product" **:** "p4"**,**

"colours" **:** **[**

"white"

**],**

"quantity" **:** NumberInt**(**1**)**

**}**

**],**

"delivery\_days" **:** NumberInt**(**2**)**

**}**

***Task2***

1. **Create collection (student) that has:**
   1. Try inserting one record each time

db.student.insertOne({"FirstName":"sarah","LastName":"Elsaka","Age":22,"Faculty":{"Name":"Specific Education","Address":"Portsaid University"},"Grades":[{"CourseName":"JAVA","Grade":"B+","pass": true}],IsFired: true})

* 1. Try inserting one record each time

db.student.insertMany([{"FirstName":"hager","LastName":"fathy","Age":27,"Faculty":{"Name":"Arts","Address":"Ainshams University"},"Grades":[{"CourseName":"philosophie","Grade":"B","pass": false}],IsFired: false},{"FirstName":"omar","LastName":"saed","Age":24,"Faculty":{"Name":"Engineering","Address":"Portsaid University"},"Grades":[{"CourseName":"Computer science","Grade":"A+","pass": true}],IsFired: false},{"FirstName":"Anas","LastName":"Ali","Age":28,"Faculty":{"Name":"commerce","Address":"cairo University"},"Grades":[{"CourseName":"e-commerce","Grade":"c+","pass": false}],IsFired: true}])

1. **Retrieve the following data:**
   1. **All Students.**

db.student.find()

* 1. **Student with specific First Name.**

db.student.find({FirstName: 'sarah'})

* 1. **All fired students.**

db.student.find({IsFired : true})

* 1. **Display student with specific First Name, and display his First Name, Last name, IsFired fields only.**

db.student.find( { FirstName: 'sarah' }, {FirstName:1, LastName: 1, IsFired:1} )

1. **Update the student with specific FirstName, and change his LastName.**

db.student.updateOne({FirstName:"omar"},{$set:{“LastName”:"negm"}})

1. **Delete Fired students.**

db.student.deleteMany({IsFired = true})

1. **Delete all students collection.**

db.student.drop()

1. **Delete the whole DB.**

db.dropDatabase()

1. **Create new database named: FacultySystemV2.**

use FacultySystemV2