CSP554—Big Data Technologies

Assignment #13

```
Ruchi Awasthi@DESKTOP-16T7K2C MINGW64 ~
$ ssh -p 22 mdb1@65.52.219.66
mdb1@65.52.219.66's password:
Welcome to Ubuntu 14.04.5 LTS (GNU/Linux 3.13.0-135-generic x86_64)

      __ __
     |  _  _) |_ _ _  _ _ _ _  (_)
     | _ \ |  _| ' \/ _' | ' \| |
     |__/_|\_|_|_|\__,_|_|_|_|_|

  *** Welcome to the Bitnami MongoDB 3.4.10-1 ***
  *** Service accessible using hostname 65.52.219.66 port  ***
  *** Documentation:  https://docs.bitnami.com/azure/infrastructure/mongodb/ ***
  ***                 https://docs.bitnami.com/azure/ ***
  *** Bitnami Forums: https://community.bitnami.com/ ***
Last login: Tue May  7 06:40:21 2019 from 207.237.207.206
bitnami@mdb1:~$ cd A20429225
bitnami@mdb1:~/A20429225$ mongo admin --username root --password Unix79127912
MongoDB shell version v3.4.10
connecting to: mongodb:///opt/bitnami/mongodb/tmp/mongodb-27017.sock/admin
MongoDB server version: 3.4.10
Server has startup warnings:
2019-05-02T00:46:54.176+0000 I STORAGE  [initandlisten]
2019-05-02T00:46:54.176+0000 I STORAGE  [initandlisten] ** WARNING: Using the XF
S filesystem is strongly recommended with the WiredTiger storage engine
2019-05-02T00:46:54.176+0000 I STORAGE  [initandlisten] **          See http://d
ochub.mongodb.org/core/prodnotes-filesystem
> db
admin
> use A20429225
switched to db A20429225
> db
A20429225
>
```

```
> load("/home/mdb1/jrosen/ex3.js")
true
> db.unicorns.find();
{ "_id" : ObjectId("5cca5f70ab95c1a868092f09"), "name" : "Horny", "dob" : ISODat
e("1992-03-13T07:47:00Z"), "loves" : [ "carrot", "papaya" ], "weight" : 600, "ge
nder" : "m", "vampires" : 63 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0a"), "name" : "Aurora", "dob" : ISODa
te("1991-01-24T13:00:00Z"), "loves" : [ "carrot", "grape" ], "weight" : 450, "ge
nder" : "f", "vampires" : 43 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0b"), "name" : "Unicrom", "dob" : ISOD
ate("1973-02-09T22:10:00Z"), "loves" : [ "energon", "redbull" ], "weight" : 984,
 "gender" : "m", "vampires" : 182 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0c"), "name" : "Rooooooodles", "dob" :
ISODate("1979-08-18T18:44:00Z"), "loves" : [ "apple" ], "weight" : 575, "gender"
 : "m", "vampires" : 99 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0d"), "name" : "Solnara", "dob" : ISOD
ate("1985-07-04T02:01:00Z"), "loves" : [ "apple", "carrot", "chocolate" ], "weig
ht" : 550, "gender" : "f", "vampires" : 80 }
```

Exercise 1) (2 points)

Write a command that finds all unicorns having weight less than 500 pounds. Include the code you executed and some sample output as the result of this exercise.

```
> db.unicorns.find({ weight: { $lt:500 }});
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0a"), "name" : "Aurora", "dob" : ISODat
e("1991-01-24T13:00:00Z"), "loves" : [ "carrot", "grape" ], "weight" : 450, "gend
er" : "f", "vampires" : 43 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f10"), "name" : "Raleigh", "dob" : ISODa
te("2005-05-03T00:57:00Z"), "loves" : [ "apple", "sugar" ], "weight" : 421, "gend
er" : "m", "vampires" : 2 }
```

<u>Command:</u>

db.unicorns.find({ weight: { $lt: 500 }});

Exercise 2) (2 points)

Write a command that finds all unicorns who love apples. Hint, search for "apple". Include the code you executed and some sample output as the result of this exercise.

```
> db.unicorns.find({ loves:"apple" });
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0c"), "name" : "Roooooodles", "dob" : I
SODate("1979-08-18T18:44:00Z"), "loves" : [ "apple" ], "weight" : 575, "gender" :
 "m", "vampires" : 99 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0d"), "name" : "Solnara", "dob" : ISODa
te("1985-07-04T02:01:00Z"), "loves" : [ "apple", "carrot", "chocolate" ], "weight
" : 550, "gender" : "f", "vampires" : 80 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f10"), "name" : "Raleigh", "dob" : ISODa
te("2005-05-03T00:57:00Z"), "loves" : [ "apple", "sugar" ], "weight" : 421, "gend
er" : "m", "vampires" : 2 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f11"), "name" : "Leia", "dob" : ISODate(
"2001-10-08T14:53:00Z"), "loves" : [ "apple", "watermelon" ], "weight" : 601, "ge
nder" : "f", "vampires" : 33 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f12"), "name" : "Pilot", "dob" : ISODate
("1997-03-01T05:03:00Z"), "loves" : [ "apple", "watermelon" ], "weight" : 650, "g
ender" : "m", "vampires" : 54 }
>
```

<u>Command:</u>

db.unicorns.find({ loves: "apple"});

Exercise 3) (2 points)

Write a command that adds a unicorn with the following attributes to the collection. Note dob means "Date of Birth."

Attribute	Value(s)
name	Malini
dob	11/03/2008
loves	Pears and grapes
weight	450

gender	F
vampires	23
horns	1

Include the code you executed to insert this unicorn into the collection along with the output of a find command showing it is in the collection.

```
> db.unicorns.insertOne({name:'Malini',
... dob: new Date(2008, 11, 03),
... loves: ['pears','grapes'],
... weight:450,
... gender:'f',
... vampires:23,
... horns:1});
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5cca62c2ab95c1a868092f15")
}
> db.unicorns.find();
{ "_id" : ObjectId("5cca5f70ab95c1a868092f09"), "name" : "Horny", "dob" : ISODate
("1992-03-13T07:47:00Z"), "loves" : [ "carrot", "papaya" ], "weight" : 600, "gend
er" : "m", "vampires" : 63 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0a"), "name" : "Aurora", "dob" : ISODat
e("1991-01-24T13:00:00Z"), "loves" : [ "carrot", "grape" ], "weight" : 450, "gend
er" : "f", "vampires" : 43 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0b"), "name" : "Unicrom", "dob" : ISODa
te("1973-02-09T22:10:00Z"), "loves" : [ "energon", "redbull" ], "weight" : 984, "
gender" : "m", "vampires" : 182 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0c"), "name" : "Rooooodles", "dob" : I
SODate("1979-08-18T18:44:00Z"), "loves" : [ "apple" ], "weight" : 575, "gender" :
 "m", "vampires" : 99 }
```

```
ender   .  m ,  vampires   . 34 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f13"), "name" : "Nimue", "dob" : ISODate
("1999-12-20T16:15:00Z"), "loves" : [ "grape", "carrot" ], "weight" : 540, "gende
r" : "f" }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f14"), "name" : "Dunx", "dob" : ISODate(
"1976-07-18T18:18:00Z"), "loves" : [ "grape", "watermelon" ], "weight" : 704, "ge
nder" : "m", "vampires" : 165 }
{ "_id" : ObjectId("5cca62c2ab95c1a868092f15"), "name" : "Malini", "dob" : ISODat
e("2008-12-03T00:00:00Z"), "loves" : [ "pears", "grapes" ], "weight" : 450, "gend
er" : "f", "vampires" : 23, "horns" : 1 }
>
```

Command:

db.unicorns.insertOne({name: 'Malini',
dob: new Date(2008, 11, 03),
loves: ['pears', 'grapes'],
weight: 450,
gender: 'f',
vampires: 23,
horns: 1});

db.unicorns.find();

Exercise 4) (4 points)

Write a command that updates the above record to add apricots to the list of things Malini loves.
Include the code you executed and some sample output showing the addition.

```
> db.unicorns.updateOne( { name:"Malini" }, { $push:{ loves:'apricots' }} );
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
> db.unicorns.find();
{ "_id" : ObjectId("5cca5f70ab95c1a868092f09"), "name" : "Horny", "dob" : ISODate
("1992-03-13T07:47:00Z"), "loves" : [ "carrot", "papaya" ], "weight" : 600, "gend
er" : "m", "vampires" : 63 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0a"), "name" : "Aurora", "dob" : ISODat
e("1991-01-24T13:00:00Z"), "loves" : [ "carrot", "grape" ], "weight" : 450, "gend
er" : "f", "vampires" : 43 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0b"), "name" : "Unicrom", "dob" : ISODa
te("1973-02-09T22:10:00Z"), "loves" : [ "energon", "redbull" ], "weight" : 984, "
gender" : "m", "vampires" : 182 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0c"), "name" : "Roooooodles", "dob" : I
SODate("1979-08-18T18:44:00Z"), "loves" : [ "apple" ], "weight" : 575, "gender" :
 "m", "vampires" : 99 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0d"), "name" : "Solnara", "dob" : ISODa
te("1985-07-04T02:01:00Z"), "loves" : [ "apple", "carrot", "chocolate" ], "weight
" : 550, "gender" : "f", "vampires" : 80 }
```

<u>Command:</u>

```
db.unicorns.updateOne(
        { name: "Malini" },
        { $push: { loves: 'apricots' } }
);

db.unicorns.find({ name: "Malini" });
```

Exercise 5) (2 points)

Write a command that deletes all unicorns with weight more than 600 pounds. Include the code
you executed and some sample output as the result of this exercise.

```
> db.unicorns.deleteMany({ weight: { $gt:600 } });
{ "acknowledged" : true, "deletedCount" : 6 }
> db.unicorns.find();
{ "_id" : ObjectId("5cca5f70ab95c1a868092f09"), "name" : "Horny", "dob" : ISODate
("1992-03-13T07:47:00Z"), "loves" : [ "carrot", "papaya" ], "weight" : 600, "gend
er" : "m", "vampires" : 63 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0a"), "name" : "Aurora", "dob" : ISODat
e("1991-01-24T13:00:00Z"), "loves" : [ "carrot", "grape" ], "weight" : 450, "gend
er" : "f", "vampires" : 43 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0c"), "name" : "Roooooodles", "dob" : I
SODate("1979-08-18T18:44:00Z"), "loves" : [ "apple" ], "weight" : 575, "gender" :
 "m", "vampires" : 99 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f0d"), "name" : "Solnara", "dob" : ISODa
te("1985-07-04T02:01:00Z"), "loves" : [ "apple", "carrot", "chocolate" ], "weight
" : 550, "gender" : "f", "vampires" : 80 }
{ "_id" : ObjectId("5cca5f71ab95c1a868092f10"), "name" : "Raleigh", "dob" : ISODa
te("2005-05-03T00:57:00Z"), "loves" : [ "apple", "sugar" ], "weight" : 421, "gend
er" : "m", "vampires" : 2 }
```

Command:

```
db.unicorns.deleteMany({ weight: { $gt: 600 }});

db.unicorns.find();
```