

Using MongoDB

- ☐ Create a database called 'my_first_db'.

```
> use my_first_db
switched to db my_first_db
```

- ☐ Create students collection.

```
> db.createCollection("students")
{ "ok" : 1 }
> show collections
students
```

- ☐ Each document you insert into this collection should have the following format: ({name: STRING, home_state: STRING, lucky_number: NUMBER, birthday: {month: NUMBER, day: NUMBER, year: NUMBER}})

```
> db.students.insert({name: "Jerry Seinfeld", home_state: "New York", lucky_number: 5, birthday: {month: 01, day: 19, year: 1954}})
WriteResult({ "nInserted" : 1 })
```

- ☐ Create 5 students with the appropriate info.

□ Get all students.

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  }
}
{
  "_id" : ObjectId("5faa0ebee7a26c720d8c0460"),
  "name" : "Elaine Benas",
  "home_state" : "New York",
  "lucky_number" : 16,
  "birthday" : {
    "month" : 2,
    "day" : 29,
    "year" : 1964
  }
}
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "lucky_number" : 23,
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  }
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "lucky_number" : 2,
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  }
}
{
  "_id" : ObjectId("5faa0f1fe7a26c720d8c0463"),
  "name" : "David Putty",
  "home_state" : "New York",
```

☐ Retrieve all students who are from California (San Jose Dojo) or Washington (Seattle Dojo).

```
> db.students.find({home_state: "Seattle"}).pretty()
{
  "_id" : ObjectId("5faa0f6ee7a26c720d8c0464"),
  "name" : "Mr. Peterman",
  "home_state" : "Seattle",
  "lucky_number" : 56,
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  }
}
```

□ Get all students whose lucky number is greater than 3

```
> db.students.find({lucky_number: {$gt: 3}}).pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  }
}
{
  "_id" : ObjectId("5faa0ebee7a26c720d8c0460"),
  "name" : "Elaine Benas",
  "home_state" : "New York",
  "lucky_number" : 16,
  "birthday" : {
    "month" : 2,
    "day" : 29,
    "year" : 1964
  }
}
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "lucky_number" : 23,
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  }
}
{
  "_id" : ObjectId("5faa0f1fe7a26c720d8c0463"),
  "name" : "David Putty",
  "home_state" : "New York",
  "lucky_number" : 56,
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  }
}
```

☐ Get all students whose lucky number is less than or equal to 10

```
> db.students.find({lucky_number: {$lte: 10}}).pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  }
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "lucky_number" : 2,
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  }
}
{
  "_id" : ObjectId("5faa10f7e7a26c720d8c0465"),
  "name" : "Jake Jarmel",
  "home_state" : "Washington",
  "lucky_number" : 0,
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  }
}
>
```

□ Get all students whose lucky number is between 1 and 9 (inclusive)

```
> db.students.find({$and: [{lucky_number: {$lte: 9}}, {lucky_number: {$gte: 1}}]}).pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  }
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "lucky_number" : 2,
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  }
}
>
```

- Add a field to each student collection called 'interests' that is an ARRAY. It should contain the following entries: 'coding', 'brunch', 'MongoDB'. Do this in ONE operation.

```
> db.students.update({}, {$set: {interests: ["coding", "brunch", "MongoDB"]}}, {multi: true})
WriteResult({ "nMatched" : 7, "nUpserted" : 0, "nModified" : 6 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ]
},
{
  "_id" : ObjectId("5faa0ebee7a26c720d8c0460"),
  "name" : "Elaine Benas",
  "home_state" : "New York",
  "lucky_number" : 16,
  "birthday" : {
    "month" : 2,
    "day" : 29,
    "year" : 1964
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ]
},
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "lucky_number" : 23,
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ]
}
```

- ☐ Add some unique interests for each particular student into each of their interest arrays.

```
> db.students.update({name: "David Putty"}, {$push: {interests: "Devils Hockey"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
{
  "_id" : ObjectId("5faa0f1fe7a26c720d8c0463"),
  "name" : "David Putty",
  "home_state" : "New York",
  "lucky_number" : 56,
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB",
    "Devils Hockey"
  ]
}
```


- ☐ Add the interest 'taxes' into someone's interest array.

```
> db.students.update({name: "Jerry Seinfeld"}, {$push: {interests: "taxes"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB",
    "taxes"
  ]
}
```

- ☐ Remove the 'taxes' interest you just added.

```
> db.students.update({name: "Jerry Seinfeld"}, {$pull: {interests: "taxes"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0e8be7a26c720d8c045f"),
  "name" : "Jerry Seinfeld",
  "home_state" : "New York",
  "lucky_number" : 5,
  "birthday" : {
    "month" : 1,
    "day" : 19,
    "year" : 1954
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ]
}
```

- ☐ Remove all students who are from California.

```
> db.students.remove({home_state: "California"})
WriteResult({ "nRemoved" : 1 })
```

- ☐ Remove a student by name.

```
> db.students.remove({name: "Jerry Seinfeld"})
WriteResult({ "nRemoved" : 1 })
```

- ☐ Remove a student whose lucky number is greater than 5 (JUST ONE)

```
> db.students.remove({lucky_number: {$gt : 5}}, true)
WriteResult({ "nRemoved" : 1 })
```

- ☐ Add a field to each student collection called 'number_of_belts' and set it to 0.

```
> db.students.update({}, {$set: {number_of_belts: 0}}, {multi: true})
WriteResult({ "nMatched" : 5, "nUpserted" : 0, "nModified" : 5 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "lucky_number" : 23,
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "number_of_belts" : 0
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "lucky_number" : 2,
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "number_of_belts" : 0
}
{
  "_id" : ObjectId("5faa0f1fe7a26c720d8c0463"),
  "name" : "David Putty",
  "home_state" : "New York",
  "lucky_number" : 56,
  "birthday" : {
    "month" : 9
```

☐ Increment this field by 1 for all students in Washington (Seattle Dojo).

```
> db.students.update({home_state: "Washington"}, {$inc: {"number_of_belts" : 1}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
{
  "_id" : ObjectId("5faa10f7e7a26c720d8c0465"),
  "name" : "Jake Jarmel",
  "home_state" : "Washington",
  "lucky_number" : 0,
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "number_of_belts" : 1
}
```

□ Rename the 'number_of_belts' field to 'belts_earned'

```
> db.students.update({},{$rename: {number_of_belts: "belts_earned"}}, {multi: true})
WriteResult({ "nMatched" : 5, "nUpserted" : 0, "nModified" : 4 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "lucky_number" : 23,
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "lucky_number" : 2,
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0
}
```

☐ Remove the 'lucky_number' field.

```
> db.students.update({},{$unset: {lucky_number: ""}}, {multi: true})
WriteResult({ "nMatched" : 5, "nUpserted" : 0, "nModified" : 5 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0
}
{
  "_id" : ObjectId("5faa0f1fe7a26c720d8c0463"),
  "name" : "David Putty",
  "home_state" : "New York",
  "birthday" : {
    "month" : 9,
    "day" : 21,
    "year" : 1934
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB",
    "Devils Hockey"
  ],
  "belts_earned" : 0
}
```


- Add a 'updated_on' field, and set the value as the current date.

```
> db.students.update({}, {$currentDate: {"current_date" : true}}, {multi: true})
WriteResult({ "nMatched" : 5, "nUpserted" : 0, "nModified" : 5 })
```

```
> db.students.find().pretty()
{
  "_id" : ObjectId("5faa0edce7a26c720d8c0461"),
  "name" : "George Costanza",
  "home_state" : "New York",
  "birthday" : {
    "month" : 11,
    "day" : 20,
    "year" : 1963
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0,
  "current_date" : ISODate("2020-11-10T12:53:09.144Z")
}
{
  "_id" : ObjectId("5faa0ef2e7a26c720d8c0462"),
  "name" : "Cosmo Kramer",
  "home_state" : "New York",
  "birthday" : {
    "month" : 12,
    "day" : 22,
    "year" : 1943
  },
  "interests" : [
    "coding",
    "brunch",
    "MongoDB"
  ],
  "belts_earned" : 0,
  "current_date" : ISODate("2020-11-10T12:53:09.144Z")
}
```