

Part 1 – MongoDB (CRUD and Simple Queries)

Q1.

```
C:\Program Files\MongoDB\Server\4.0\bin\mongo.exe
MongoDB shell version v4.0.6
connecting to: mongodb://127.0.0.1:27017/?gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("51281582-c683-4c2d-b6e4-374f90862c81") }
MongoDB server version: 4.0.6
Server has startup warnings:
2019-02-13T14:41:41.069+0000 I CONTROL [initandlisten]
2019-02-13T14:41:41.069+0000 I CONTROL [initandlisten] ** WARNING: Access control is not enabled for the database.
2019-02-13T14:41:41.070+0000 I CONTROL [initandlisten] ** Read and write access to data and configuration is u
nrestricted.
2019-02-13T14:41:41.070+0000 I CONTROL [initandlisten]
---
Enable MongoDB's free cloud-based monitoring service, which will then receive and display
metrics about your deployment (disk utilization, CPU, operation statistics, etc).

The monitoring data will be available on a MongoDB website with a unique URL accessible to you
and anyone you share the URL with. MongoDB may use this information to make product
improvements and to suggest MongoDB products and deployment options to you.

To enable free monitoring, run the following command: db.enableFreeMonitoring()
To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
> use hockey
switched to db hockey
> db
hockey
> show dbs
admin 0.000GB
config 0.000GB
local 0.000GB
> db.createCollection("Players")
{ "ok" : 1 }
> 1
1
>
> show collections
Players
>
```

Q2.

```
> show collections
Players
> db.Players.insert({
...   "position": "Right Wing",
...   "id": 8465166,
...   "weight": 200,
...   "height": "6' 0\"",
...   "imageUrl": "http://1.cdn.nhle.com/photos/mugs/8465166.jpg",
...   "birthplace": "Seria, BRN",
...   "age": 37,
...   "name": "Craig Adams",
...   "birthdate": "April 26, 1977",
...   "number": 27
... })
WriteResult({ "nInserted" : 1 })
>
```

Q3.

```

...   "height": "6' 0\"",
...   "imageUrl": "http://1.cdn.nhle.com/photos/mugs/8465166.jpg",
...   "birthplace": "Seria, BRN",
...   "age": 37,
...   "name": "Craig Adams",
...   "birthdate": "April 26, 1977",
...   "number": 27
... },
... {
...   "position": "Right Wing",
...   "id": 8475761,
...   "weight": 195,
...   "height": "6' 2\"",
...   "imageUrl": "http://1.cdn.nhle.com/photos/mugs/8475761.jpg",
...   "birthplace": "Gardena, CA, USA",
...   "age": 23,
...   "name": "Beau Bennett",
...   "birthdate": "November 27, 1991",
...   "number": 19
... },
... {
...   "position": "Left Wing",
...   "id": 8471260,
...   "weight": 202,
...   "height": "6' 1\"",
...   "imageUrl": "http://3.cdn.nhle.com/photos/mugs/8471260.jpg",
...   "birthplace": "Meadow Lake, SK, CAN",
...   "age": 29,
...   "name": "Blake Comeau",
...   "birthdate": "February 18, 1986",
...   "number": 17
...   })
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
>

```

```

> db.Players.find()
{ "_id" : ObjectId("5c643503d6adca90e55f2248"), "position" : "Right Wing", "id" : 8465166, "weight" : 200, "height" : "6' 0\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg", "birthplace" : "Seria, BRN", "age" : 37, "name" : "Craig Adams", "birthdate" : "April 26, 1977", "number" : 27 }
{ "_id" : ObjectId("5c643565d6adca90e55f2249"), "position" : "Right Wing", "id" : 8465166, "weight" : 200, "height" : "6' 0\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg", "birthplace" : "Seria, BRN", "age" : 37, "name" : "Craig Adams", "birthdate" : "April 26, 1977", "number" : 27 }
{ "_id" : ObjectId("5c643565d6adca90e55f224a"), "position" : "Right Wing", "id" : 8475761, "weight" : 195, "height" : "6' 2\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8475761.jpg", "birthplace" : "Gardena, CA, USA", "age" : 23, "name" : "Beau Bennett", "birthdate" : "November 27, 1991", "number" : 19 }
{ "_id" : ObjectId("5c643565d6adca90e55f224b"), "position" : "Left Wing", "id" : 8471260, "weight" : 202, "height" : "6' 1\"", "imageUrl" : "http://3.cdn.nhle.com/photos/mugs/8471260.jpg", "birthplace" : "Meadow Lake, SK, CAN", "age" : 29, "name" : "Blake Comeau", "birthdate" : "February 18, 1986", "number" : 17 }
>

```

Craig has been inserted twice because MongoDB has automatically supplied a new primary key to the entries. As Craig Adams's details were entered twice, there are now two entries with different ObjectIDs.

This problem can be fixed by manually assigning a number to “_id” when inserting data.

Q4.

```
> db.Players.find()
{ "_id" : ObjectId("5c643503d6adca90e55f2248"), "position" : "Right Wing", "id" : 8465166, "weight" : 200, "height" : "6' 0\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg", "birthplace" : "Seria, BRN", "age" : 37, "name" : "Craig Adams", "birthdate" : "April 26, 1977", "number" : 27 }
{ "_id" : ObjectId("5c643565d6adca90e55f2249"), "position" : "Right Wing", "id" : 8465166, "weight" : 200, "height" : "6' 0\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg", "birthplace" : "Seria, BRN", "age" : 37, "name" : "Craig Adams", "birthdate" : "April 26, 1977", "number" : 27 }
{ "_id" : ObjectId("5c643565d6adca90e55f224a"), "position" : "Right Wing", "id" : 8475761, "weight" : 195, "height" : "6' 2\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8475761.jpg", "birthplace" : "Gardena, CA, USA", "age" : 23, "name" : "Beau Bennett", "birthdate" : "November 27, 1991", "number" : 19 }
{ "_id" : ObjectId("5c643565d6adca90e55f224b"), "position" : "Left Wing", "id" : 8471260, "weight" : 202, "height" : "6' 1\"", "imageUrl" : "http://3.cdn.nhle.com/photos/mugs/8471260.jpg", "birthplace" : "Meadow Lake, SK, CAN", "age" : 29, "name" : "Blake Comeau", "birthdate" : "February 18, 1986", "number" : 17 }
{ "_id" : ObjectId("5c6438cad6adca90e55f224c"), "position" : "Right Wing", "id" : 8465166, "weight" : 200, "height" : "6' 0\"", "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg", "birthplace" : "Seria, BRN", "age" : 37, "name" : "Craig Adams", "birthdate" : "April 26, 1977", "number" : 27 }
> db.Players.insert({_id: ObjectId("5c643565d6adca90e55f2249"), "position": "Right Wing",
...   "id": 8465166,
...   "weight": 200,
...   "height": "6' 0\"",
...   "imageUrl": "http://1.cdn.nhle.com/photos/mugs/8465166.jpg",
...   "birthplace": "Seria, BRN",
...   "age": 37,
...   "name": "Craig Adams",
...   "birthdate": "April 26, 1977",
...   "number": 27
... })
WriteResult({
  "nInserted" : 0,
  "writeError" : {
    "code" : 11000,
    "errmsg" : "E11000 duplicate key error collection: hockey.Players index: _id_ dup key: { : ObjectId('5c643565d6adca90e55f2249') }"
  }
})
```

An error will appear as there is a duplicate primary key.

Q5.

```
> db.Players.remove({name: "Craig Adams"})
WriteResult({ "nRemoved" : 3 })
>
```

```
> db.Players.remove({})
WriteResult({ "nRemoved" : 2 })
> db.Players.find()
>
```

Q6.

```

BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 25,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
> db.Players.update({name:"Craig Adams"},{$set:{number:"9"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>

```

Q7.

```

> db.Players.update({name:"Craig Adams"},{$set:{number:"9"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Players.update({name:"Craig Adams"}, {$set:{favourites:{cities:["Chicago", "Cheyenne"], movies:["Casablanca", "For a Few Dollars More", "The Sting"]}}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

```

Q8.

```

> db.Players.update({name:"Craig Adams"},{$push:{"favourites.movies":"The Maltese Falcon"}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.Players.find({name:"Craig Adams"}).pretty()
{
  "_id" : ObjectId("5c746c7c58f6bc0073b3a826"),
  "position" : "Right Wing",
  "id" : 8465166,
  "weight" : 200,
  "height" : "6' 0\"",
  "imageUrl" : "http://1.cdn.nhle.com/photos/mugs/8465166.jpg",
  "birthplace" : "Seria, BRN",
  "age" : 37,
  "name" : "Craig Adams",
  "birthdate" : "April 26, 1977",
  "number" : "9",
  "favourites" : {
    "cities" : [
      "Chicago",
      "Cheyenne"
    ],
    "movies" : [
      "Casablanca",
      "For A Few Dollars More",
      "The Sting",
      "The Maltese Falcon"
    ]
  }
}

```


Q3.

```
> db.restaurants.find({"cuisine":{"$ne":"American"},"grades":{"$elemMatch":{"grade":"A"},"borough":"Brooklyn"}}, {"_id":0, "name":1, "grade":1, "cuisine":1}).pretty().sort(
{"cuisine":1})
{"cuisine": "Afghan", "name": "Bahar Masala" }
{"cuisine": "African", "name": "Madiiba" }
{"cuisine": "African", "name": "Joloff 2" }
{"cuisine": "African", "name": "Akwaaba Restaurant" }
{"cuisine": "African", "name": "Cheikh Umar Futiya Restaurant" }
{"cuisine": "African", "name": "Steph Zen Restaurant And Bakery" }
{"cuisine": "African", "name": "Hadja Marley Restaurant" }
{"cuisine": "African", "name": "Vchris African Cuisine" }
{"cuisine": "African", "name": "Restaurant Abidjan" }
{"cuisine": "African", "name": "New Bismillah" }
{"cuisine": "African", "name": "Festac Grill" }
{"cuisine": "African", "name": "Divine Flavored" }
{"cuisine": "Armenian", "name": "Oak & Iron" }
{"cuisine": "Armenian", "name": "Starbucks" }
{"cuisine": "Armenian", "name": "Bao Lai'S" }
{"cuisine": "Armenian", "name": "The Graham" }
{"cuisine": "Armenian", "name": "Randolph" }
{"cuisine": "Armenian", "name": "Time Out Lounge" }
{"cuisine": "Armenian", "name": "Aka My House" }
{"cuisine": "Armenian", "name": "Subway" }
type "it" for more
```

Q4.

```
> db.restaurants.find({name:/^Wil/},{restaurant_id:1, "name":1, "borough":1, "cuisine":1})
{"_id": ObjectId("5c767b3a25c04a8f82342a2c"), "borough": "Brooklyn", "cuisine": "Delicatessen", "name": "Wilken'S Fine Food", "restaurant_id": "40356483" }
{"_id": ObjectId("5c767b3a25c04a8f82342a2f"), "borough": "Bronx", "cuisine": "American", "name": "Wild Asia", "restaurant_id": "40357217" }
{"_id": ObjectId("5c767b3a25c04a8f82342a3f"), "borough": "Bronx", "cuisine": "Pizza", "name": "Wilbel Pizza", "restaurant_id": "40871979" }
{"_id": ObjectId("5c767b3a25c04a8f82343995"), "borough": "Manhattan", "cuisine": "Seafood", "name": "Wild Edibles", "restaurant_id": "40928482" }
{"_id": ObjectId("5c767b3a25c04a8f82344d6"), "borough": "Brooklyn", "cuisine": "Bagels/Pretzels", "name": "Wild Bagels", "restaurant_id": "41225826" }
{"_id": ObjectId("5c767b3a25c04a8f823445ba"), "borough": "Bronx", "cuisine": "Latin (Cuban, Dominican, Puerto Rican, South & Central American)", "name": "Willie'S
Steak House", "restaurant_id": "41239497" }
{"_id": ObjectId("5c767b3a25c04a8f823446ad"), "borough": "Manhattan", "cuisine": "American", "name": "Willis North America", "restaurant_id": "41255267" }
{"_id": ObjectId("5c767b3a25c04a8f823446b3"), "borough": "Brooklyn", "cuisine": "American", "name": "Willburg Cafe", "restaurant_id": "41255152" }
{"_id": ObjectId("5c767b3b25c04a8f82344c7c"), "borough": "Manhattan", "cuisine": "Cafe/Coffee/Tea", "name": "William Greenberg Jr Desserts", "restaurant_id": "413
63639" }
{"_id": ObjectId("5c767b3b25c04a8f82344d71"), "borough": "Brooklyn", "cuisine": "Vegetarian", "name": "Wild Ginger Vegan Cafe", "restaurant_id": "41369777" }
{"_id": ObjectId("5c767b3b25c04a8f82344da6"), "borough": "Manhattan", "cuisine": "Irish", "name": "Wilfie & Nell", "restaurant_id": "41372275" }
{"_id": ObjectId("5c767b3b25c04a8f82345b9"), "borough": "Manhattan", "cuisine": "Vegetarian", "name": "Wild Ginger Vegetarian Kitchen", "restaurant_id": "4143396
4" }
{"_id": ObjectId("5c767b3b25c04a8f823453a6"), "borough": "Manhattan", "cuisine": "Pizza", "name": "Wild", "restaurant_id": "41447856" }
{"_id": ObjectId("5c767b3b25c04a8f8234600a"), "borough": "Manhattan", "cuisine": "American", "name": "William Barnacle", "restaurant_id": "41591881" }
{"_id": ObjectId("5c767b3b25c04a8f82346097"), "borough": "Queens", "cuisine": "American", "name": "William Hallet", "restaurant_id": "41597549" }
{"_id": ObjectId("5c767b3b25c04a8f823460ad"), "borough": "Brooklyn", "cuisine": "American", "name": "Williams & Bailey", "restaurant_id": "41598951" }
{"_id": ObjectId("5c767b3b25c04a8f823460e0"), "borough": "Manhattan", "cuisine": "Asian", "name": "Wild Ginger", "restaurant_id": "41600577" }
{"_id": ObjectId("5c767b3b25c04a8f8234689b"), "borough": "Manhattan", "cuisine": "Bakery", "name": "William Greenberg Dessert", "restaurant_id": "41657368" }
{"_id": ObjectId("5c767b3b25c04a8f82346a2b"), "borough": "Brooklyn", "cuisine": "Pizza/Italian", "name": "Williamsburg Pizza", "restaurant_id": "41672156" }
{"_id": ObjectId("5c767b3b25c04a8f82346a85"), "borough": "Queens", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Wild Cherry", "restaurant_id": "41675246" }
type "it" for more
```

Q5.

```
> db.restaurants.find({name:/ces$/},{restaurant_id:1, "name":1, "borough":1, "cuisine":1})
{"_id": ObjectId("5c767b3a25c04a8f82342ec7"), "borough": "Manhattan", "cuisine": "American", "name": "Pieces", "restaurant_id": "40399910" }
{"_id": ObjectId("5c767b3a25c04a8f82342f87"), "borough": "Queens", "cuisine": "American", "name": "S.M.R Restaurant Services", "restaurant_id": "40403857" }
{"_id": ObjectId("5c767b3a25c04a8f82342f8e"), "borough": "Manhattan", "cuisine": "American", "name": "Good Shepherd Services", "restaurant_id": "40403989" }
{"_id": ObjectId("5c767b3a25c04a8f82343442"), "borough": "Queens", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "The Ice Box-Ralph'S Famous Italian Ices",
"restaurant_id": "40690899" }
{"_id": ObjectId("5c767b3a25c04a8f82343647"), "borough": "Brooklyn", "cuisine": "Jewish/Kosher", "name": "Alices", "restaurant_id": "40782042" }
{"_id": ObjectId("5c767b3a25c04a8f8234385f"), "borough": "Manhattan", "cuisine": "American", "name": "Re: Sources", "restaurant_id": "40876068" }
{"_id": ObjectId("5c767b3a25c04a8f82343aec"), "borough": "Staten Island", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Cange'S Italian Ices", "restaurant
_id": "40966018" }
{"_id": ObjectId("5c767b3a25c04a8f82343ba4"), "borough": "Brooklyn", "cuisine": "American", "name": "B.A.M. Cafe/Great Performances", "restaurant_id": "40992170" }
{"_id": ObjectId("5c767b3a25c04a8f82343d3a"), "borough": "Brooklyn", "cuisine": "American", "name": "Barbara Blum Residence / Good Shepherd Services", "restaurant_
_id": "41029591" }
{"_id": ObjectId("5c767b3a25c04a8f8234431f"), "borough": "Brooklyn", "cuisine": "Soul Food", "name": "Berts Restaurant & Catering Services", "restaurant_id": "411
04590" }
{"_id": ObjectId("5c767b3a25c04a8f8234469f"), "borough": "Staten Island", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Famous Italian Ices", "res
taurant_id": "41254301" }
{"_id": ObjectId("5c767b3b25c04a8f82344a6e"), "borough": "Queens", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Famous Italian Ices", "restaurant
_id": "41316785" }
{"_id": ObjectId("5c767b3b25c04a8f82344c1b"), "borough": "Staten Island", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Famous Italian Ices", "res
taurant_id": "41347936" }
{"_id": ObjectId("5c767b3b25c04a8f82344d7d"), "borough": "Manhattan", "cuisine": "American", "name": "International Flavors & Fragrances", "restaurant_id": "4137
0481" }
{"_id": ObjectId("5c767b3b25c04a8f823450fd"), "borough": "Staten Island", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Ices", "restaurant_id": "
41410016" }
{"_id": ObjectId("5c767b3b25c04a8f8234522a"), "borough": "Manhattan", "cuisine": "American", "name": "New York Stock Exchange Executive Services", "restaurant_id":
"41426518" }
{"_id": ObjectId("5c767b3b25c04a8f823452f6"), "borough": "Queens", "cuisine": "Pizza", "name": "Slices And Ices", "restaurant_id": "41437112" }
{"_id": ObjectId("5c767b3b25c04a8f82345abd"), "borough": "Staten Island", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Famous Italian Ices", "res
taurant_id": "4159709" }
{"_id": ObjectId("5c767b3b25c04a8f82345e35"), "borough": "Manhattan", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "Ralph'S Famous Italian Ices", "resta
rant_id": "41573883" }
{"_id": ObjectId("5c767b3b25c04a8f82345f46"), "borough": "Bronx", "cuisine": "Caribbean", "name": "7 Spices", "restaurant_id": "41584120" }
type "it" for more
```


Q6.

```
db.restaurants.find((name/,"Reg./","restaurant_id":1, "name":1, "borough":1, "cuisine":1))
{"_id": ObjectId("5c767b3a25c0a48f82342a3b"), "borough": "Brooklyn", "cuisine": "American", "name": "Regina Caterers", "restaurant_id": "40356649" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3b"), "borough": "Manhattan", "cuisine": "Café/Coffee/Tea", "name": "Caffe Reggio", "restaurant_id": "40369418" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3c"), "borough": "Manhattan", "cuisine": "American", "name": "Regency Hotel", "restaurant_id": "40382679" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3c"), "borough": "Manhattan", "cuisine": "American", "name": "Regency Whist Club", "restaurant_id": "40402377" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3d"), "borough": "Queens", "cuisine": "American", "name": "Rego Park Cafe", "restaurant_id": "40523342" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3d"), "borough": "Queens", "cuisine": "Pizza", "name": "Regina Pizza", "restaurant_id": "40801325" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3d"), "borough": "Manhattan", "cuisine": "American", "name": "Regal Entertainment Group", "restaurant_id": "40891782" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3d"), "borough": "Queens", "cuisine": "Café/Coffee/Tea", "name": "Cafe Regular", "restaurant_id": "41083435" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3d"), "borough": "Queens", "cuisine": "Middle Eastern", "name": "Rego Pita", "restaurant_id": "41053746" }
{"_id": ObjectId("5c767b3a25c0a48f82342a3f"), "borough": "Manhattan", "cuisine": "Italian", "name": "Regional", "restaurant_id": "41090822" }
{"_id": ObjectId("5c767b3a25c0a48f823431b"), "borough": "Queens", "cuisine": "American", "name": "Regal Cinema 8 (Atlas Park Stadium)", "restaurant_id": "4118446" }
{"_id": ObjectId("5c767b3a25c0a48f823431b"), "borough": "Manhattan", "cuisine": "American", "name": "Regal Cinemas E-Walk Stadium13", "restaurant_id": "41227884" }
{"_id": ObjectId("5c767b3b25c0a48f82344a21"), "borough": "Queens", "cuisine": "Jewish/Kosher", "name": "Regestan", "restaurant_id": "41312517" }
{"_id": ObjectId("5c767b3b25c0a48f82344b72"), "borough": "Brooklyn", "cuisine": "American", "name": "Sheepshead Bay Regal Cinemas Theatre", "restaurant_id": "4133" }
{"_id": ObjectId("5c767b3b25c0a48f82345076"), "borough": "Manhattan", "cuisine": "American", "name": "Regal Union Square Stadium 14", "restaurant_id": "41402060" }
{"_id": ObjectId("5c767b3b25c0a48f823451b0"), "borough": "Manhattan", "cuisine": "American", "name": "St Regis New York - 20Th Floor Roof Ballroom", "restaurant_id": "41420313" }
{"_id": ObjectId("5c767b3b25c0a48f8234527e"), "borough": "Queens", "cuisine": "Chinese", "name": "Rego Garden Restaurant, Inc", "restaurant_id": "41430576" }
{"_id": ObjectId("5c767b3b25c0a48f8234527e"), "borough": "Queens", "cuisine": "Chinese", "name": "Regina's Cafe & Pizzeria", "restaurant_id": "41486945" }
{"_id": ObjectId("5c767b3b25c0a48f82345c23"), "borough": "Queens", "cuisine": "American", "name": "Rego Bangs", "restaurant_id": "41537221" }
{"_id": ObjectId("5c767b3b25c0a48f82345a6c"), "borough": "Queens", "cuisine": "Caribbean", "name": "Reggae Food Restaurant & Lounge", "restaurant_id": "41575236" }
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Q7.

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[{"_id": "ObjectID(\"5c767b3a25c04a8f82342a3f\")", "address": { "building": "2380", "coord": [ -73.8786113, 40.8502883 ], "street": "Southern Boulevard", "zipcode": "10450", "borough": "Bronx", "cuisine": "American", "grades": [ { "date": { "date": NumberLong("1439125000000"), "grade": "A", "score": 11 }, { "date": { "date": NumberLong("1371600000000"), "grade": "A", "score": 4 }, { "date": { "date": NumberLong("1340718400000"), "grade": "A", "score": 3 } ], "name": "Wild Asia", "restaurant_id": "40357217" }, {"_id": "ObjectID(\"5c767b3a25c04a8f82342a57\")", "address": { "building": "1236", "coord": [ -73.8893654, 40.81376179999999 ], "street": "238 Spofford Ave", "zipcode": "10474", "borough": "Bronx", "cuisine": "Chinese", "grades": [ { "date": { "date": NumberLong("1388361600000"), "grade": "A", "score": 8 }, { "date": { "date": NumberLong("1357603200000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1339459200000"), "grade": "B", "score": 15 } ], "name": "Happy Garden", "restaurant_id": "40363289" }, {"_id": "ObjectID(\"5c767b3a25c04a8f82342a6a\")", "address": { "building": "277", "coord": [ -73.8941893, 40.8634684 ], "street": "East Kingsbridge Road", "zipcode": "10458", "borough": "Bronx", "cuisine": "Chinese", "grades": [ { "date": { "date": NumberLong("1393804000000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1380158000000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1336361200000"), "grade": "A", "score": 11 }, { "date": { "date": NumberLong("1346198400000"), "grade": "A", "score": 11 }, { "date": { "date": NumberLong("1313593200000"), "grade": "A", "score": 13 } ], "name": "Happy Garden", "restaurant_id": "40364296" }, {"_id": "ObjectID(\"5c767b3a25c04a8f82342a71\")", "address": { "building": "658", "coord": [ -73.81363999999999, 40.8294100000001 ], "street": "Clarence Ave", "zipcode": "10465", "borough": "Bronx", "cuisine": "American", "grades": [ { "date": { "date": NumberLong("1403308000000"), "grade": "A", "score": 5 }, { "date": { "date": NumberLong("1341964800000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1379520000000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1336436300000"), "grade": "A", "score": 11 }, { "date": { "date": NumberLong("13497179999999999", 40.8304811 ], "street": "Haviland Avenue", "zipcode": "10462", "borough": "Bronx", "cuisine": "American", "grades": [ { "date": { "date": NumberLong("1418860800000"), "grade": "A", "score": 7 }, { "date": { "date": NumberLong("1398902400000"), "grade": "B", "score": 17 }, { "date": { "date": NumberLong("1363219200000"), "grade": "A", "score": 12 }, { "date": { "date": NumberLong("1348992000000"), "grade": "A", "score": 9 }, { "date": { "date": NumberLong("1328659200000"), "grade": "B", "score": 19 }, { "date": { "date": NumberLong("1326067200000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1337853600000"), "grade": "A", "score": 13 }, { "date": { "date": NumberLong("1326067200000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1337853600000"), "grade": "C", "score": 37 } ], "name": "Yankee Tavern", "restaurant_id": "40365499" }, {"_id": "ObjectID(\"5c767b3a25c04a8f82342a72\")", "address": { "building": "72", "coord": [ -73.82506, 40.8275556 ], "street": "East 161 Street", "zipcode": "10454", "borough": "Bronx", "cuisine": "American", "grades": [ { "date": { "date": NumberLong("1397520000000"), "grade": "A", "score": 9 }, { "date": { "date": NumberLong("1384387200000"), "grade": "A", "score": 4 }, { "date": { "date": NumberLong("1378556000000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1356910200000"), "grade": "B", "score": 15 }, { "date": { "date": NumberLong("1337836000000"), "grade": "A", "score": 13 }, { "date": { "date": NumberLong("1326067200000"), "grade": "A", "score": 10 }, { "date": { "date": NumberLong("1337836000000"), "grade": "C", "score": 37 } ], "name": "Yankee Tavern", "restaurant_id": "40365499" }
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Q8.

```
> db.restaurants.find().sort({"cuisine": "Afghan"}).pretty()
{"_id": {"$oid": "C5c767b3d25e0Aaf8f23459ad"}, "address": { "building": "259-11", "coord": [ -73.708831, 40.73748399999999 ], "street": "Hillside Avenue", "zipcode": "11804", "borough": "Queens", "cuisine": "Afghan", "grades": [ { "date": { "$date": "NumberLong(\"1410739200000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1379642400000\")\" }, "grade": "A", "score": 7 }, { "date": { "$date": "NumberLong(\"1366243200000\")\" }, "grade": "B", "score": 21 }, { "date": { "$date": "NumberLong(\"1346194000000\")\" }, "grade": "A", "score": 2 }, { "date": { "$date": "NumberLong(\"1328745600000\")\" }, "grade": "A", "score": 11 } ], "name": "Afghan Kebob House", "restaurant_id": "41535706" }, {"_id": {"$oid": "C5c767b3d25e0Aaf8f2345cd2"}, "address": { "building": "68-16", "coord": [ -73.79474420000001, 40.7332144 ], "street": "Fresh Meadow Lane", "zipcode": "11365", "borough": "Queens", "cuisine": "Afghan", "grades": [ { "date": { "$date": "NumberLong(\"1385164800000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1379044800000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1330308000000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1315008000000\")\" }, "grade": "C", "score": 34 }, { "date": { "$date": "NumberLong(\"1330308000000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1350808000000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1346194000000\")\" }, "grade": "A", "score": 2 }, { "date": { "$date": "NumberLong(\"1328745600000\")\" }, "grade": "A", "score": 11 } ], "name": "Bakhter Afghan Halal Kabab", "restaurant_id": "41559771" }, {"_id": {"$oid": "C5c767b3d25e0Aaf8f2345dc5"}, "address": { "building": "43-27", "coord": [ -73.8266645, 40.751886 ], "street": "Main Street", "zipcode": "11355", "borough": "Queens", "cuisine": "Afghan", "grades": [ { "date": { "$date": "NumberLong(\"1393286400000\")\" }, "grade": "A", "score": 12 }, { "date": { "$date": "NumberLong(\"1377734800000\")\" }, "grade": "B", "score": 15 }, { "date": { "$date": "NumberLong(\"1364741600000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1350808000000\")\" }, "grade": "P", "score": 5 }, { "date": { "$date": "NumberLong(\"1348416000000\")\" }, "grade": "B", "score": 17 }, { "date": { "$date": "NumberLong(\"1330308000000\")\" }, "grade": "A", "score": 13 }, { "date": { "$date": "NumberLong(\"1328745600000\")\" }, "grade": "A", "score": 11 } ], "name": "Chooan Kabab Restaurant", "restaurant_id": "41569151" }, {"_id": {"$oid": "C5c767b3d25e0Aaf8f234699d"}, "address": { "building": "1772-B", "coord": [ -73.8284147, 40.724243 ], "street": "Main St.", "zipcode": "11367", "borough": "Queens", "cuisine": "Afghan", "grades": [ { "date": { "$date": "NumberLong(\"1408492800000\")\" }, "grade": "A", "score": 4 }, { "date": { "$date": "NumberLong(\"1375228000000\")\" }, "grade": "A", "score": 5 }, { "date": { "$date": "NumberLong(\"1344038400000\")\" }, "grade": "A", "score": 5 } ], "name": "Bakhtar Kabab", "restaurant_id": "41661199" }
```

Q9.

```
db.restaurants.find({'address.street':{'exists:true'}})
{"_id": "ObjectID('5c767b3a25c04a8f82342a35')", "address": {"building": "2780", "coord": [{"date": "NumberLong('1402358400000')", "grade": "A", "score": 5}, {"date": "NumberLong('1376399400000')", "grade": "A", "score": 7}, {"date": "NumberLong('134275200000')", "grade": "A", "score": 12}, {"date": "NumberLong('1318377600000')", "grade": "A", "score": 12}], "name": "Riviera Caterers", "restaurant_id": "403550818"}, {"_id": "ObjectID('5c767b3a25c04a8f82342a36')", "address": {"building": "1007", "coord": [{"date": "NumberLong('139304800000')", "grade": "A", "score": 2}, {"date": "NumberLong('1378857600000')", "grade": "A", "score": 6}, {"date": "NumberLong('1358985600000')", "grade": "A", "score": 10}, {"date": "NumberLong('132086400000')", "grade": "A", "score": 9}, {"date": "NumberLong('1299715200000')", "grade": "B", "score": 14}], "name": "Morris Park Bakery Shop", "restaurant_id": "30075445"}, {"_id": "ObjectID('5c767b3a25c04a8f82342a37')", "address": {"building": "351", "coord": [{"date": "NumberLong('1409961600000')", "grade": "A", "score": 2}, {"date": "NumberLong('1374451200000')", "grade": "A", "score": 11}, {"date": "NumberLong('1343692800000')", "grade": "A", "score": 12}, {"date": "NumberLong('1325116800000')", "grade": "A", "score": 12}], "name": "DJ Reynolds Pub And Restaurant", "restaurant_id": "30191841"}, {"_id": "ObjectID('5c767b3a25c04a8f82342a38')", "address": {"building": "469", "coord": [{"date": "NumberLong('1419897600000')", "grade": "A", "score": 8}, {"date": "NumberLong('1404172800000')", "grade": "B", "score": 23}, {"date": "NumberLong('1367280000000')", "grade": "A", "score": 12}, {"date": "NumberLong('1336435200000')", "grade": "A", "score": 12}], "name": "Wendy S", "restaurant_id": "31121349"}]
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Q10.

```

> db.restaurants.find({$or:[{name:/^Wll/},{ $and:[{"cuisine":{$ne:"American"}},{cuisine":{$ne:"Chinese"}}]}]},{"restaurant_id":1,"name":1,"borough":1,"cuisine":1})
{ "_id" : ObjectId("5c767b3a25c04a8f82342a36"), "borough" : "Bronx", "cuisine" : "Bakery", "name" : "Morris Park Bake Shop", "restaurant_id" : "30075445" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a37"), "borough" : "Manhattan", "cuisine" : "Irish", "name" : "Dj Reynolds Pub And Restaurant", "restaurant_id" : "30191841" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a38"), "borough" : "Brooklyn", "cuisine" : "Hamburgers", "name" : "Wendy'S", "restaurant_id" : "30112340" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a39"), "borough" : "Queens", "cuisine" : "Jewish/Kosher", "name" : "Tov Kosher Kitchen", "restaurant_id" : "40356068" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a3b"), "borough" : "Staten Island", "cuisine" : "Jewish/Kosher", "name" : "Kosher Island", "restaurant_id" : "40356442" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a3c"), "borough" : "Brooklyn", "cuisine" : "Delicatessen", "name" : "Wilken'S Fine Food", "restaurant_id" : "40356483" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a3e"), "borough" : "Brooklyn", "cuisine" : "Ice Cream, Gelato, Yogurt, Ices", "name" : "Taste The Tropics Ice Cream", "restaurant_id" : "40356731" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a3f"), "borough" : "Bronx", "cuisine" : "American", "name" : "Wild Asia", "restaurant_id" : "40357217" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a41"), "borough" : "Brooklyn", "cuisine" : "Jewish/Kosher", "name" : "Seuda Foods", "restaurant_id" : "40360045" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a42"), "borough" : "Queens", "cuisine" : "Ice Cream, Gelato, Yogurt, Ices", "name" : "Carvel Ice Cream", "restaurant_id" : "40361322" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a44"), "borough" : "Brooklyn", "cuisine" : "Delicatessen", "name" : "Nordic Delicacies", "restaurant_id" : "40361390" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a48"), "borough" : "Queens", "cuisine" : "Delicatessen", "name" : "Sal'S Deli", "restaurant_id" : "40361618" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a49"), "borough" : "Brooklyn", "cuisine" : "Ice Cream, Gelato, Yogurt, Ices", "name" : "Carvel Ice Cream", "restaurant_id" : "40360076" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a4a"), "borough" : "Manhattan", "cuisine" : "Delicatessen", "name" : "Bully'S Deli", "restaurant_id" : "40361708" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a4b"), "borough" : "Queens", "cuisine" : "Delicatessen", "name" : "Steve Chu'S Deli & Grocery", "restaurant_id" : "40361998" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a4c"), "borough" : "Manhattan", "cuisine" : "Chicken", "name" : "Harriet'S Kitchen", "restaurant_id" : "40362098" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a4f"), "borough" : "Brooklyn", "cuisine" : "Hamburgers", "name" : "White Castle", "restaurant_id" : "40362344" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a52"), "borough" : "Brooklyn", "cuisine" : "Caribbean", "name" : "Shashamene Int'l Restaura", "restaurant_id" : "40362869" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a53"), "borough" : "Bronx", "cuisine" : "Ice Cream, Gelato, Yogurt, Ices", "name" : "Carvel Ice Cream", "restaurant_id" : "40363093" }
{ "_id" : ObjectId("5c767b3a25c04a8f82342a54"), "borough" : "Brooklyn", "cuisine" : "Donuts", "name" : "Dunkin' Donuts", "restaurant_id" : "40363098" }
type "it" for more

```