ASSIGNMENT 3 S.yuvan karthick

MongoDB – Complex Queries

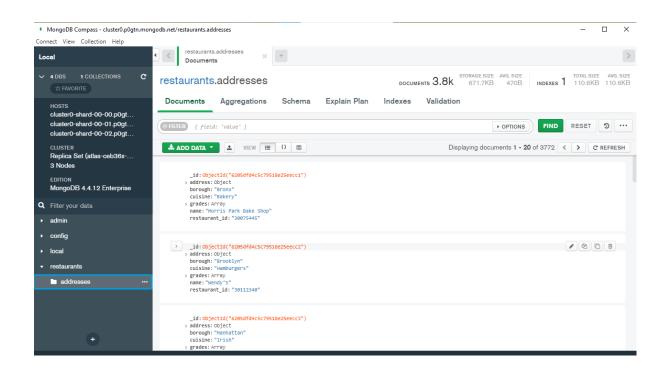
Mongo DB Exercises - With the Restaurants Data Set

- 1. Download the restaurants.zip file
- 2. Unzip the file, you will see restaurants.json file
- 3. Run the mongod server
- 4. Run the following command to import the json file provided. It will load the json file into the mongodb with database name - restaurants, collections name - addresses

mongoimport --db restaurants --collection addresses --file restaurants.json

- 5. Run mongo shell command
- 6. show databases
- 7. use restaurants
- 8. db.addresses.find() should print entire json data
- Then start working on the following exercises and submit your queries as the answers to the questions

```
> use restaurants
switched to db restaurants
 db.createCollection('addresses')
          "ok"
                 : 0,
 show dbs
admin
             0.000GB
config
             0.000GB
local
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mongo_practice 0.000GB
population
             0.000GB
 restaurants
             0.000GB
             0.000GB
users
```



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Exercise Questions

- Write a MongoDB query to display all the documents in the collection restaurants.
- 2. Write a MongoDB query to display the fields restaurant_id, name, borough and cuisine for all the documents in the collection restaurant.
- Write a MongoDB query to display the fields restaurant_id, name, borough and cuisine, but exclude the field _id for all the documents in the collection restaurant.
- Write a MongoDB query to display the fields restaurant_id, name, borough and zip code, but exclude the field _id for all the documents in the collection restaurant.

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[1]: Object [750344208assef:19407180.7], "sdoress." [*bilding." 1967, "coord." [-73.85017, 40.84442], "street." 1967: Park Are., "licode." 194047], "borough." [Force." A. "coord." [-73.85017, 40.84442], "street." 1967: Park Are., "licode." 1950aste(1910-1910-191080.0027), "grade." 1/A", "score." 10.] [*coord." 19.] [*coord.

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                                                                                                                                                                                          "11215"
```

- 5. Write a MongoDB query to display the first 5 restaurant which is in the borough Bronx.
- Write a MongoDB query to display all the restaurant which is in the borough Bronx.
- 7. Write a MongoDB query to display the next 5 restaurants after skipping first 5 which are in the borough Bronx.
- 8. Write a MongoDB query to find the restaurants who achieved a score more than 90.
- 9. Write a MongoDB query to find the restaurants that achieved a score, more than 80 but less than 100.
- 10. Write a MongoDB query to find the restaurants which locate in latitude value less than -95.754168.

```
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```

- 11. Write a MongoDB query to find the restaurants that do not prepare any cuisine of 'American' and their grade score more than 70 and latitude less than -65.754168.
- 12. Write a MongoDB query to find the restaurants which do not prepare any cuisine of 'American' and achieved a score more than 70 and located in the longitude less than -65.754168.
- 13. Write a MongoDB query to find the restaurants which do not prepare any cuisine of 'American' and achieved a grade point 'A' not belongs to the borough Brooklyn. The document must be displayed according to the cuisine in descending order.
- 14. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which contain 'Wil' as first three letters for its name.
- 15. Write a MongoDB query to find the restaurant ld, name, borough and cuisine for those restaurants which contain 'ces' as last three letters for its name.
- 16. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which contain 'Reg' as three letters somewhere in its name.
- 17. Write a MongoDB query to find the restaurants which belong to the borough Bronx and prepared either American or Chinese dish.

```
> db.addresses.find({\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fr
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db.addresses.find({"cuisine" : {\$ne : "American "},"grades.score" :{\$gt: 70},"address.coord":{\$lt : -65.754168}})

"_id" : ObjectId("6205492c0aaafc1f9467120b"), "address" : { "building" : "345", "coord" : [-73.9864626, 40.7266739],
dian", "grades" : [{ "date" : ISODate("2014-09-15T00:00:00Z"), "grade" : "A", "score" : 5 }, { "date" : ISODate("2014-0
"grade" : "A", "score" : 12 }, { "date" : ISODate("2013-04-24T00:00:00Z"), "grade" : "P", "score" : 2 }, { "date" : ISO
00:00Z"), "grade" : "C", "score" : 92 }, { "date" : ISODate("2011-11-03T00:00:00Z"), "grade" : "C", "score" : 41 }],
"_id" : ObjectId("6205492c0aaafc1f9467136e"), "address" : { "building" : "130", "coord" : [-73.984758, 40.7457939], "
zza/Italian", "grades" : [{ "date" : ISODate("2014-12-24T00:00:00Z"), "grade" : "Z", "score" : 31 }, { "date" : ISODate
00:00Z"), "grade" : "C", "score" : 32 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-22T00:00:00Z"), "g

```
db.addresses.find( {
                                                                                                                                                                   "cuisine" : {$ne : "American "},
"grades.grade" :"A",
                                                                                                                                                                   "borough": {$ne : "Brooklyn"}
                                                                                                                                      }
                                                                                                                       ).sort({"cuisine":-1})
  e" : "Thai Son", "restaurant_id" : "40559606" }
{ "_id" : ObjectId("6205492c0aaafc1f946717d1"), "address" : { "building" : "8278", "coord" : [
ietnamese/Cambodian/Malaysia", "grades" : [ { "date" : ISODate("2014-06-12T00:00:00Z"), "grade
e("2012-12-26T00:00:00Z"), "grade" : "A", "score" : 10 }, { "date" : ISODate("2012-12-03T00:00
ame" : "Pho Bac Vietnamese Seafood Cuisine", "restaurant_id" : "40578058" }
{ "_id" : ObjectId("6205492c0aaafc1f94671bba"), "address" : { "building" : "148", "coord" : [
etnamese/Cambodian/Malaysia", "grades" : [ { "date" : ISODate("2014-10-01T00:00:00Z"), "grade"
2013-11-15T00:00:00Z"), "grade" : "B", "score" : 14 }, { "date" : ISODate("2013-03-08T00:00:00
e" : ISODate("2011-10-27T00:00:00Z"), "grade" : "A", "score" : 9 } ], "name" : "Nha-Trang Cent
{ "_id" : ObjectId("6205492c0aaafc1f946712bc"), "address" : { "building" : "300", "coord" : [
egetarian", "grades" : [ { "date" : TSODate("2014-02-05T00:007"), "grade" : "A", "score" :
  egetarian", "grades" : [ { "date" : ISODate("2014-02-05T00:00:00Z"), "grade" : "Á", "score"
     db.addresses.find(
    .. {name: /^Wil/},
            "restaurant_id" : 1,
           "name":1, "borough":1,
    .. "cuisine" :1
     __id" : ObjectId("6205492c0sasfc1f94671013"), "borough" : "Brooklyn", "cuisine" : "Delicatessen", "name" : "Wilken'S Fine Food", "restaurant_id" : "40356483" }
    __id" : ObjectId("6205492c0sasfc1f94671016"), "borough" : "Bronx", "cuisine" : "American ", "name" : "Wild Asia", "restaurant_id" : "40357217" }
    __id" : ObjectId("6205492c0sasfc1f94671e1b"), "borough" : "Bronx", "cuisine" : "Pizza", "name" : "Wilbel Pizza", "restaurant_id" : "40871979" }
          "name":1,"borough":1,
"cuisine" :1
          ]
id": ObjectId("6205492c0maafc1f9467149f"), "borough": "Manhattan", "cuisine": "American ", "name": "Pieces", "restaurant_id": "40399910" ]
id": ObjectId("6205492c0maafc1f9467155e"), "borough": "Queens", "cuisine": "American ", "name": "S.M.R Restaurant Services", "restaurant_id": "40403857" }
id": ObjectId("6205492c0maafc1f94671554"), "borough": "Manhattan", "cuisine": "American ", "name": "Good Shepherd Services", "restaurant_id": "40403857" }
id": ObjectId("6205492c0maafc1f94671a17"), "borough": "Queens", "cuisine": "Ice Cream, Gelato, Yogurt, Ices", "name": "The Ice Box-Ralph'S Famous Italian Ices", "restaurant_id": "40690899
id": ObjectId("6205492c0maafc1f94671c19"), "borough": "Brooklyn", "cuisine": "Jewish/Kosher", "name": "Alices", "restaurant_id": "40782042" }
id": ObjectId("6205492c0maafc1f94671c35"), "borough": "Manhattan", "cuisine": "American ", "name": "Re: Sources", "restaurant_id": "40876068" }
                 addresses.find(
"name": /.*Reg.*/},
             "name":1, "borough":
"cuisine":1
            )
id : ObjectId("6205492c0aaafc1f94671014"), "borough" : "Brooklyn", "cuisine" : "American ", "name" : "Regina Caterers", "restaurant_id" : "40356649" }
id : ObjectId("6205492c0aaafc1f94671111"), "borough" : "Manhattan", "cuisine" : "Café/Coffee/Tea", "name" : "Caffe Reggio", "restaurant_id" : "40360418" }
id : ObjectId("6205492c0aaafc1f94671220"), "borough" : "Manhattan", "cuisine" : "American ", "name" : "Regency Hotel", "restaurant_id" : "40382679" }
id : ObjectId("6205492c0aaafc1f9467153d"), "borough" : "Manhattan", "cuisine" : "American ", "name" : "Regency Whist Club", "restaurant_id" : "40402377" }
id : ObjectId("6205492c0aaafc1f94671620"), "borough" : "Queens", "cuisine" : "American ", "name" : "Rego Park Cafe", "restaurant_id : "40523342" }
id : ObjectId("6205492c0aaafc1f94671c8e"), "borough" : "Queens", "cuisine" : "Pizza", "name" : "Regina Pizza", "restaurant_id : "40801325" }
```

```
> db.addresses.find(
--- {
--- "borough": "Bronx" ,
--- $or : [
--- { "cuisine" : "American " },
--- { "cuisine" : "Chinese" }
--- ]
--- }
--- ]
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```

- 18. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which belong to the borough Staten Island or Queens or Bronxor Brooklyn.
- 19. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which are not belonging to the borough Staten Island or Queens or Bronxor Brooklyn.
- 20. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which achieved a score which is not more than 10.
- 21. Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which prepared dish except 'American' and 'Chinees' or restaurant's name begins with letter 'Wil'.
- 22. Write a MongoDB query to find the restaurant Id, name, and grades for those restaurants which achieved a grade of "A" and scored 11 on an ISODate "2014-08-11T00:00:00Z" among many of survey dates..

```
db.addresses.find(
... "borough":{$in:["Staten Island","Queens","Bronx","Brooklyn"]}},
... (
... "restaurant_id": 1,
... "name":1,"borough":1,
... cuisine":1
... }
... |
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```
> db.addresses.find(
... { grades.score" :
... { $nct :
... { $nc
```

- 23. Write a MongoDB query to find the restaurant Id, name and grades for those restaurants where the 2nd element of grades array contains a grade of "A" and score 9 on an ISODate "2014-08-11T00:00:00Z"
- 24. Write a MongoDB query to find the restaurant Id, name, address and geographical location for those restaurants where 2nd element of coord array contains a value which is more than 42 and upto 52...
- 25. Write a MongoDB query to arrange the name of the restaurants in ascending order along with all the columns.
- 26. Write a MongoDB query to arrange the name of the restaurants in descending along with all the columns.
- 27. Write a MongoDB query to arranged the name of the cuisine in ascending order and for that same cuisine borough should be in descending order.
- Write a MongoDB query to know whether all the addresses contains the street or not.
- 29. Write a MongoDB query which will select all documents in the restaurants collection where the coord field value is Double.

```
"grades.date": ISODate("2014-08-11T00:00:00Z"),
"grades.grade":"A" ,
                  "grades.score" : 11
                 },
{"restaurant_id" : 1,"name":1,"grades":1}
...
[ "_id" : ObjectId("6205492c0aaafc1f9467108a"), "grades" : [ { "date" : ISODate("2014-08-11T00:00:00Z"), "grade" : "A", "score" : 1
"date" : ISODate("2013-03-14T00:00:00Z"), "grade" : "A", "score" : 12 }, { "date" : ISODate("2012-07-02T00:00:00Z"), "grade" : "A"
ore" : 10 }, { "date" : ISODate("2011-08-24T00:00:00Z"), "grade" : "A", "score" : 11 } ], "name" : "Neary'S Pub", "restaurant_id" :
 db.addresses.find(
                          { "grades.1.date": ISODate("2014-08-11T00:00:00Z"),
                            grades.1.grade":"A" ,
                           "grades.1.score" : 9
                           {"restaurant_id" : 1,"name":1,"grades":1}
   id" : ObjectId("6205492c0aaafc1f94671637"), "grades" : [ { "date" : ISODate("2015-01-12T00:00:00Z"), "grade" :
  date" : ISODate("2014-01-14T00:00:00Z"), "grade" : "A", "score" : 13 }, { "date" : ISODate("2013-02-07T00:00:00Z
 db.addresses.find(
                    {
    "address.coord.1": {$gt : 42, $1te : 52}
                      {"restaurant_id" : 1,"name":1,"address":1,"coord":1}
  _id" : ObjectId("6205492c0aaafc1f946712ae"), "address" : { "building" : "47", "coord" : [ -78.877224, 42.89546199999999 ], "street" : "Broadw
  restaurant_id" : "40387990" }
 _id" : ObjectId("6205492c0aaafc1f946712da"), "address" : { "building" : "1", "coord" : [ -0.7119979, 51.6514664 ], "street" : "Pennplaza E, F
  id": ObjectId("6205492c0aaafc1f94671533"), "address": { "building": "3000", "coord": [ -87.8656769999999, 42.61150920000001 ],
  db.addresses.find().sort({"name":1})
  __id" : ObjectId("6205492c0aaafc1f94671c9c"), "address" : { "building" : "129", "cod
an", "grades" : [ { "date" : ISODate("2014-03-06T00:00:00Z"), "grade" : "A", "score"
grade" : "A", "score" : 7 }, { "date" : ISODate("2012-06-27T00:00:00Z"), "grade" : "A
canda Vini E Olii", "restaurant_id" : "40804423" }
  __id" : ObjectId("6205492c0aaafc1f94671019"), "address" : { "building" : "1", "coord
ne" : "American ", "grades" : [ { "date" : ISODate("2014-05-07T00:00:00Z"), "grade" :
  db.addresses.find().sort(
                                                {"cuisine":1,"borough" : -1,}
  de" : "A", "score" : 13 }, { "date" : ISODate("2012-04-26T00:00:00Z"),
estaurant_id" : "40552806"
  db.addresses.find(
                                 {"address.street" :
                                       { $exists : true }
[ "_id" : ObjectId("6205492c0aaafc1f9467100c"), "address" : {    "building" : "1007",
ry", "grades" : [ {    "date" : ISODate("2014-03-03T00:00:00Z"),    "grade" : "A",    "score
grade" : "A", "score" : 10 }, {    "date" : ISODate("2011-11-23T00:00:00Z"),    "grade"
```

30. Write a MongoDB query which will select the restaurant Id, name and grades for those restaurants which returns 0 as a remainder after dividing the score by 7.

- 31. Write a MongoDB query to find the restaurant name, borough, longitude and attitude and cuisine for those restaurants which contains 'mon' as three letters somewhere in its name.
- 32. Write a MongoDB query to find the restaurant name, borough, longitude and latitude and cuisine for those restaurants which contain 'Mad' as first three letters of its name.