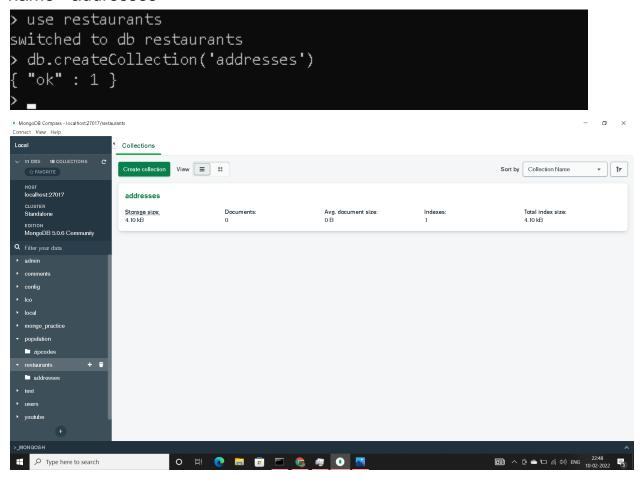
## Assignment 3 MongoDB – Complex Queries

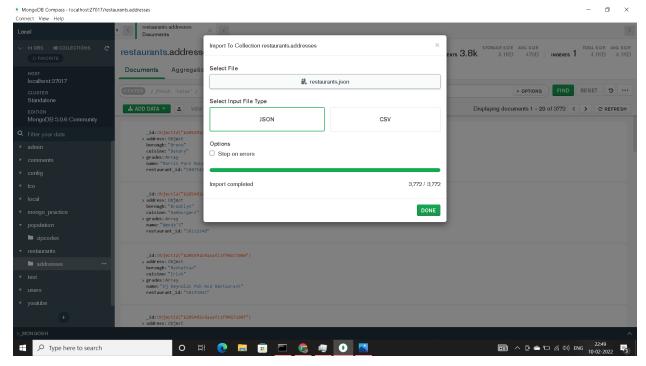
## **SHAIK MOHSIN S**

## **Mongo DB Exercises - With the Restaurants Data Set**

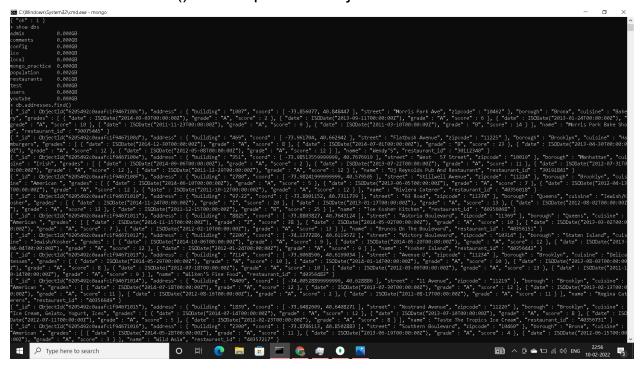
- 1. Download the restaurants.zip file
- 2. Unzip the file, you will see restaurants.json file
- 3. Run the mongod server
- 4. Run the following command to import the json file provided. It will load the

json file into the mongodb with database name - restaurants, collections name - addresses



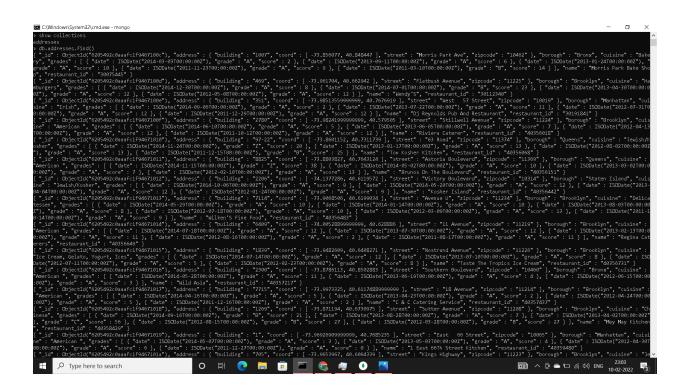


- 5. Run mongo shell command
- 6. show databases
- 7. use restaurants
- 8. db.addresses.find() should print entire json data



## **Exercise Questions**

1. Write a MongoDB query to display all the documents in the collection Addresses.



2. Write a MongoDB query to display the fields restaurant\_id, name, borough and cuisine for all the documents in the collection addresses.

- 3. 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 addresses.
- 4. 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 addresses.

```
dn.addresses.finct(), frestwarent.id" i. "ream": "berough":, Touisine" i. "3 (2007)

(*borough": "Brookly", "misine": "Balay", "mase": "Moris' Park Bake Shop, "restaurant.id": "30075405")

(*borough": "Brookly", "misine": "Hubburger", "name": "Mendy's", "restaurant.id": "3012300")

(*borough": "Brookly", "misine": "American ", "name": "Riviera Caterer", "restaurant.id": "30356018")

(*borough": "Brookly", "misine": "American ", "name": "Tou Kosher Kitchem", "restaurant.id": "40356018")

(*borough": "Queens", "misine": "American ", "name": "Tou Kosher Kitchem", "restaurant.id": "40356018")

(*borough": "Statem Island", "misine": "Buish/Kosher, "name": "Tou Kosher Kitchem", "restaurant.id": "40356018")

(*borough": "Brookly", "misine": "Delicatesser", "name": "Rejine Statemers, "restaurant.id": "40356031")

(*borough": "Brookly", "misine": "Delicatesser", "Regine Statemers, "restaurant.id": "40356033")

(*borough": "Brookly", "misine": "Toe Cream, Gelato, Yogort, Ices", "name: "Isste The Tropics Ice Gream, "restaurant.id": "40356031")

(*borough": "Brookly", "misine": "Gelato, "mise": "High My Kitchem", "restaurant.id": "40356031")

(*borough": "Brookly", "misine": "Chinese", "name": "Hay My Kitchem", "restaurant.id": "40356031")

(*borough: "Brookly", "misine": "Gelato, Yogort, Ices", "name": "Staturant.id": "40356031")

(*borough: "Brookly", "misine": "Jeadin/Kosher", "name": "Hay My Kitchem", "restaurant.id": "40356031")

(*borough: "Brookly", "misine": "Jeadin/Kosher", "name": "Hay My Kitchem", "restaurant.id": "40356005")

(*borough: "Brookly", "misine": "Jeadin/Kosher", "name": "Hay My Kitchem", "restaurant.id": "40356005")

(*borough: "Brookly", "misine": "Jeadin/Kosher", "name": "Hay My Kitchem", "restaurant.id": "40356005")

(*borough: "Brookly", "misine": "Jeac' (ream, Gelato, Yogurt, Ices", "name": "Carvel Ice Gream", "restaurant.id": "40356007")

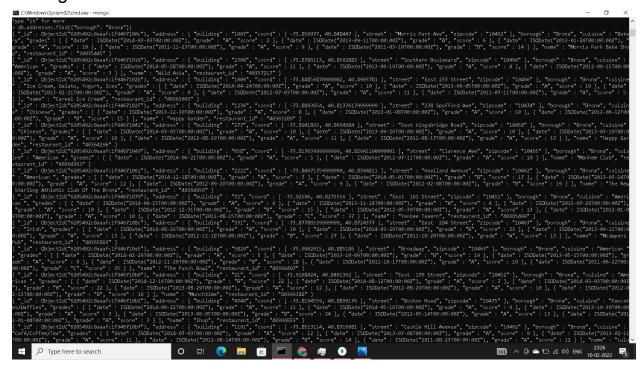
(*borough: "Brookly", "misine": "Jeac' (ream, Gelato, Yogurt, Ices", "name": "Gravel Ice Gream", "restaurant.id": "40356007")

(*borough: "Brookly", "misine"
```

5. Write a MongoDB query to display the first 5 restaurant which is in the borough Bronx.

```
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```

6. 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.

```
diaddresses.find("borough": "Bronx").sip(s).limit(s)

["id" c.DjectId("fobSodyCoasafc1464571045"), "address": ( "building": "658", "coord": [ -73.81363999999999, 40.83041100000001], "street": "Clarence Ave", "zipcode": "10465"], "borough": "Bronx", "cuisine": "American", "grades": [{ "date": ISODate("2014-06-21100:00:002"), "grade": "A", "score": 5 }, ("date": ISODate("2012-07-11100:00:002"), "grade": "A", "score": 10 }], "name": "Manhem Club", "restaurant_id": "40364587 }

["id" c.DjectId("6205492c0aasafc1694671061"), "address": { "building": "2222", "coord": [ -73.84971759999999, 40.8304811], "street": "Haviland Avenue", "zipcode": "10462" }, "borough": "Bronx", "cuisine": "American", "grades": [ { "date": ISODate("2014-12-18100:00:002"), "grade": "A", "score": 7 }, ("date": ISODate("2014-08-01100:00:002"), "grade": "A", "score": 17 }, ("date": ISODate("2014-08-01100:00:002"), "grade": "A", "score": 17 }, ("date": ISODate("2014-08-01100:00:002"), "grade": "A", "score": 17 }, ("date": ISODate("2014-08-1900:002"), "grade": "A", "score": 19 }, "name": "The New Starling Athletic Club Of The Bronx", "restaurant_id": "40364956" }

["id" c.DjectId("6205402c0aasafc14646714079"), "address": ("building": "72", "coord": [ -73.92506, 40.8275556 ], "street": "East 161 Street", "zipcode": "10451" }, "borough": "Bronx", "cuisine": "anne": "grades": "A", "score": 10 }, ("date": ISODate("2014-09-15700:00:002"), "grade": "A", "score": 13 }, ("date": ISODate("2014-09-157
```

8. Write a MongoDB query to find the restaurants who achieved a score more than 90.

```
> db.addresses.find([grades: { $elemMatch:{"score":{$gt: 90}}}))
{ ".id': ObjectId("62054920eaarCif9467116a"), "address": { "building": "65", "coord": [ -73.9782725, 40.7624022 ], "street": "West 54 Street", "zipcode": "10019" }, "borough": "Manhattan", "cuisine": "American", "grades": "A", "score": 11 }, ("date": ISODate("2014-08-22109:08-0027), "grade": "C", "score": 13 ], "date": ISODate("2013-08-20109:08-0027), "grade": "C", "score": 13 ], "date": ISODate("2013-08-08100:00.0027), "grade": "B", "score": 15 }, ("date": ISODate("2012-10-15100:00:0027), "grade": "A", "score": 13 ], "name": "Murals On 54/Randolphs'S", "restaurant_id": "40372466")
{ ".id': ObjectId("62054920eaaafc1546712007), "date": ISODate("2013-08-0910002"), "grade": "A", "score": 13 ], "name": "Manhattan", "cuisine": "Indian", "grades": [ "date": ISODate("2014-09-15100:00:0027), "grade": "A", "score": 13 ], "date": ISODate("2014-09-15100:00:0027), "grade": "A", "score": 14 ], "date": ISODate("2014-09-15100:00:0027), "grade": "A", "score": 15 ], "date": ISODate("2014-09-15100:00:0027), "grade": "A", "score": 15 ], "date": ISODate("2014-09-15100:00:0027), "grade": "A", "score": 19 ], "date": ISODate("2014-09-15100:00:002
```

9. Write a MongoDB query to find the restaurants that achieved a score, more than 80 but less than 100.

```
\( \text{discrete} \) \text{discrete} : \( \left\) \( \text{discrete} : \l
```

10. Write a MongoDB query to find the restaurants which locate in latitude value less than -95.754168.

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.

```
> db.addresses.find({$and:[("cuisine" : {$ne :"American "}],("grades.score" : {$gt : 70}),("address.coord" : {$lt : -65.754168})]))
{ ".id" : ObjectId("6205492c0aaafc1f9467120b"), "address" : { "building" : "345", "coord" : [ -73.9864626, 40.7266739 ], "street" : "East ndian", "grades" : [ { "date" : ISODate("2014-09-15700:00:002"), "grade" : "A", "score" : 2 }, { "date" : ISODate("2014-01-14700:00:002"), "grade" : "P", "score" : 2 }, { "date" : ISODate("2014-01-14700:00:002"), "grade" : "P", "score" : 2 }, { "date" : ISODate("2012-10-011 T00:00:002"), "grade" : "C", "score" : 2 }, { "date" : ISODate("2011-11-03700:00:007"), "grade" : "C", "score" : 4 } ], "name" : "Gandhi { ".id" : ObjectId("6205492c0aaafc1f9467136"), "address" : { "building" : "130", "coord" : [ -73.984785, 40.745793 ], "street" : "Madiso izza/Italian", "grades" : [ "date" : ISODate("2014-01-2-247100:00:002"), "grade" : "C", "score" : 31 }, { "date" : ISODate("2014-01-2-247100:00:002"), "grade" : "B", "score" : 31 }, { "date" : ISODate("2014-01-2-24710:00:002"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 21 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 12 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 12 }, { "date" : ISODate("2013-05-227100:00:007"), "grade" : "B", "score" : 14 }, { "date" : ISODate("2013-05-27100:00:007"), "grade" : "B", "score" : 14 }, { "date" : ISODate("2013-05-27100:00:007"), "grade" : "B", "score" : 14 }, { "date" : ISODate("2013-05-27100:00:007"), "grade" : "B", "score" : 18 }, { "date" : ISODate("2013-05-27100:00:007"), "grade" : "B", "score" : 18 }, { "date" : ISODate("2013-05-17100:0007"), "grade" : "B", "sc
```

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.

```
> db.addresses.find(
... (name: /^Wil/),
... (name: /^Wil/),
... "rame":1,"borough":1,
... "rame":1,"borough":1,
... "cuisine":1
... "cuisine":1
... }
... "cuisine":1
... }
... |
("id": ObjectId("6205492c0aaafc1f94671013"), "borough": "Brooklyn", "cuisine": "Delicatessen", "name": "Wilken'S Fine Food", "restaurant_id": "40356483" }
("id": ObjectId("6205492c0aaafc1f94671016"), "borough": "Bronx", "cuisine": "American ", "name": "Wild Asia", "restaurant_id": "40857217" )
("id": ObjectId("6205492c0aaafc1f94671016"), "borough": "Bronx", "cuisine": "Pizza", "name": "Wilbel Pizza", "restaurant_id": "40871979" )
... |
```

15. Write a MongoDB query to find the restaurant Id, 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(
... {
... "borough": "Bronx" ,
... $or : [
... { "cuisine" : "American " },
... { "cuisine" : "Chinese" }
... ]
... }
... )
{ "_id" : ObjectId("6205492c0aaafc1f94671016"), "address" : { "building" : "2300", "cool "American ", "grades" : [ { "date" : ISODate("2014-05-28T00:00:00Z"), "grade" : "A", "scionZ"), "grade" : "A", "scion
```

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.

```
> db.addresses.find(
... {"borough" :{$nin :["Staten Island","Queens","Bronx","Brooklyn"]}},
... {
... "restaurant_id" : 1,
... "name":1,"borough":1,
... "cuisine" :1
... }
... )
{
   "_id" : ObjectId("6205492c0aaafc1f9467100e"), "borough" : "Manhattan", "cuisine" : "Irish", "name" : "Dj Reynolds Pub And Restaurant",
   "_id" : ObjectId("6205492c0aaafc1f94671019"), "borough" : "Manhattan", "cuisine" : "American ", "name" : "1 East 661h Street Kitchen",
   "_id" : ObjectId("6205492c0aaafc1f9467101e"), "borough" : "Manhattan", "cuisine" : "American ", "name" : "Glorious Food", "restaurant_id"
```

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.

```
> db.addresses.find(
... {"grades.score" :
... { $not:
... { $st : 10}
... }
... }
... }
... {
... "restaurant_id" : 1,
... "name":1,"borough":1,
... "cuisine" : 1
... }
... }
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... {
... "cuisine" : 1
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```

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'.

```
db.addresses.find(
... {$or: [
... {name: /^Wil/},
... {"$and": [
... {"cuisine": {$ne: "American "}},
... {"cuisine": {$ne: "Chinees"}}
... {"cuisine": {$ne: "Chinees"}}
... {"cuisine": {$ne: "Chinees"}}
... ]}
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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..

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"

```
> 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")
ore" : 11 } ], "name" : "Club Macanudo (Cigar Bar)", "restaurant_id" : "40526406" }
```

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.

```
> db.addresses.find().sort({"name":1})

{ "_id" : ObjectId("6205492c0aaafc1f94671c9c"), "address" : { "building" : "129", "coo

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" :

00:00:00Z"), "grade" : "A", "score" : 6 }, { "date" : ISODate("2011-12-27T00:00:00Z"),
```

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.

28. 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.

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.

```
> db.addresses.find(
... {"grades.score" :
... {$mod : [7,0]}
... },
... {"restaurant_id" : 1,"name":1,"grades":1}
... )
{ "_id" : ObjectId("6205492c0aaafc1f9467100c"), "grades" : [ { "date" : ISODate("2014-03-03T00:00:00Z"), "grade" : "A"
    "date" : ISODate("2013-01-24T00:00:00Z"), "grade" : "A", "score" : 10 }, { "date" : ISODate("2011-11-23T00:00:00Z"), "grade" : "A"
e" : 14 } ], "name" : "Morris Park Bake Shop", "restaurant_id" : "30075445" }
{ " id" : ObjectId("6205492c0aaafc1f9467100f"). "grades" : [ { "date" : ISODate("2014-06-10T00:00:00Z"). "grade" : "A"
}
```

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.