MongoDB - NoSQL

Practice – 2

Overview

In this practice session you will learn how to work with MongoDB. Upon completion of this practice, you should be able to:

- *Start MongoDB server and MongoDB shell*
- *Identify the basic command of MongoDB shell*
- *Choose a MongoDB database and create collections*
- *Query a collection to get the desired document(s)*
- *Query a collection to perform project*
- *Use different comparison operators of querying*
- *Arrange the documents in some order*
- *Use some basic MongoDB database tools*

Hands-on

NOTE: Open a Command Window and start the **MongoDB server**. Don't forget to specify the path where the data (files) should be stored.

NOTE: Open yet another Command Window and start your **MongDB shell.**

1. Import the **'restaurants'** collection which has been share with your **LabFiles** compressed file.

   The structure of the **'restaurants'** collection will look as shown below:


```
{
 "address": {
    "building": "1007",
    "coord": [ -73.856077, 40.848447 ],
    "street": "Morris Park Ave",
    "zipcode": "10462"
 },
 "borough": "Bronx",
 "cuisine": "Bakery",
 "grades": [
    { "date": { "$date": 1393804800000 }, "grade": "A", "score": 2 },
    { "date": { "$date": 1378857600000 }, "grade": "A", "score": 6 },
    { "date": { "$date": 1358985600000 }, "grade": "A", "score": 10 },
    { "date": { "$date": 1322006400000 }, "grade": "A", "score": 9 },
    { "date": { "$date": 1299715200000 }, "grade": "B", "score": 14 }
```

```
 ],
 "name": "Morris Park Bake Shop",
 "restaurant_id": "30075445"
}
```


The collection comprises of **3700+** documents.

2. Write a query to get a **count** of the number of documents in the **restaurants** collection.

3. Write a query to display all the documents of **restaurants** collection.

   NOTE: You will not be able to see the above counted number of documents

   [a] What should be done to view the next set of documents?
   [b] Is it possible to see from the 101st document onwards. If so how?
   [c] Display **ONLY** the 251, 252 and 253 document form the collection

4. Write a query to display the ONLY the fields restaurant_id, name, borough and cuisine for all the documents from the restaurants collection

   NOTE: Check if the _id field is displayed or not.

5. Write a query to display ONLY the fields restaurant_id, name, borough and cuisine, but **EXCLUDING** the field _id for all the documents from the restaurants collection.

   Record your observation.

6. Write a query to display ONLY the fields restaurant_id, name, borough and zip code, but EXCLUDE the field _id for all the documents from the restaurants collection.

   Observe the restaurant structure. The **zip code** is within the **address** field.

7. Write a query to display all the restaurants which is in the borough **Bronx**.

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

9. Write a query to display the **next 5** restaurants after **skipping first 5** which are in the borough **Bronx**

10. Write a query to find the restaurants who achieved a **score** of **more than 90**

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

12. Write a query to find the restaurants which are located in **latitude** value less than -**95.754168**

13. Write a 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**

14. Write a query to find the restaurants which do not prepare any cuisine of **'American'** and achieved a score more than **70** and are located in the **longitude** less than -**65.754168**.

    NOTE: Execute this query without using **$and** operator

15. Write a 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**.

    Moreover, the documents must be displayed according to the cuisine in descending order.

16. Write a query to find the restaurant Id, name, borough and cuisine for those restaurants which contain **'Wil'** as first three letters for its name.

17. Write a query to find the restaurant Id, name, borough and cuisine for those restaurants which contain **'ces'** as last three letters for its name.

18. Write a query to find the restaurant Id, name, borough and cuisine for those restaurants which contain **'Reg'** as three letters somewhere in its name.

19. Write a query to find the restaurants which belong to the borough **Bronx** and prepared either **American** or **Chinese** dish.

20. Write a query to find the restaurant Id, name, borough and cuisine for those restaurants which belong to the borough **Staten Island** or **Queens** or **Bronx** or **Brooklyn**.

21. Write a 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 **Bronx** or **Brooklyn**.

22. Write a query to find the restaurant Id, name, borough and cuisine for those restaurants which achieved a **score** which is **not** more than **10**.

23. Write a 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'**.

24. Write a 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.

25. Write a 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"**

26. Write a query to find the restaurant Id, name, address and geo-graphical location for those restaurants where 2nd element of **coord** array contains a value which is more than 42 and up to 52.

27. Write a query to arrange the name of the restaurants in ascending order

    [a] Along with all the columns
    [b] Only with the restaurant name

28. Write a query to arrange the name of the cuisine in ascending order and for that same cuisine borough should be in descending order

29. Write a query to know whether all the addresses **contain** the **street** or not.

30. Write a query which will select all documents in the restaurants collection where the coord field value is Double.

31. Write a 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.

32. Write a 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.

33. Write a 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.