Ex.No.: 14		MongoDB
Date:	30/10/24	

Restaurant Collection

1. **Write a MongoDB query to find the restaurant Id, name, borough and cuisine for those restaurants which prepared dishes except 'American' and 'Chinese' or restaurant's name begins with letter 'Wil'.**

```
db.restaurants.find({ $or: [ { cuisine: 'Chinese' }, { cuisine: { $nin: ['American', 'Chinese'] }, name: { $regex: '^Wil', $options: 'i' } } ] }, { _id: 1, name: 1, borough: 1, cuisine: 1 })
```

2. **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 "2014-08-11 T00:00:00Z" among many of survey dates.**

```
db.restaurants.find({ "grades": { $elemMatch: { "grade": "A", "score": 11, "date": ISODate("2014-08-11T00:00:00Z") } } }, { _id: 1, name: 1, grades: 1 })
```

3. **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.restaurants.find(
   {
      "grades.1": { // Accessing the 2nd element (index 1) of the grades array
         "grade": "A",  // Grade must be "A"
         "score": 9,                          // Score must be 9
         "date": ISODate("2014-08-11T00:00:00Z") // Date must match the specified
ISODate
      } },
   {
      _id: 1,      // Retrieve the restaurant ID name:
      1,  // Retrieve the restaurant name grades: 1
         // Retrieve the
      grades
   }
)
```

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

```
db.restaurants.find(
   {
      "coord.1": { $gt: 42, $lte: 52 } // Accessing the 2nd element (index 1) of the coord
array
   }, {
      _id: 1,      // Retrieve the restaurant ID name:
      1,  // Retrieve the restaurant name
      address: 1, // Retrieve the address
      coord: 1      // Retrieve the geographical location (coord)
   }
)
```

5. **Write a MongoDB query to arrange the name of the restaurants in ascending order along with all the columns.**

```
db.restaurants.find().sort({ name: 1 })
```

6. **Write a mongoDB query to arrange the name of the restaurants in descending order along with all the columns.**

```
db.restaurants.find().sort({ name: -1 })
```

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

```
db.restaurants.find().sort({ cuisine: 1, borough: -1 })
```

8. **Write a MongoDB query to know whether all the addresses contains the street or not.**

```
db.restaurants.find({ "address.street": { $exists: false } })
```

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

```
db.restaurants.find({
   "coord": { $type: "double" } // or you can use $type: 1
})
```

10. **Write a mongoDB query which will select the restaurant Id, name and grades for those restaurants which return 0 as a remainder after dividing the score by 7.**

```
db.restaurants.find(
   {
      "grades": {
         $elemMatch: {
            $expr: {
               $eq: [{ $mod: ["$score", 7] }, 0] // Check if score % 7 == 0
            }
         }
      } },
   {
      _id: 1,      // Retrieve the restaurant ID name:
      1,  // Retrieve the restaurant name grades: 1
         // Retrieve the grades
   }
)
```

11. 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.

```
db.restaurants.find(
   {
      name: { $regex: /mon/i } // Regex to find 'mon' anywhere in the
name (case-insensitive)
   },
   {
      name: 1,       // Retrieve the restaurant
      name borough: 1,                    // Retrieve
      the borough
      "coord.0": 1, // Retrieve longitude (assuming longitude is the first element in the
coord array)
      "coord.1": 1, // Retrieve latitude (assuming latitude is the second element in the
coord array) cuisine: 1, // Retrieve the cuisine
      _id: 0        // Exclude the restaurant ID from the results
   }
)
```

12. Write a mongodb query to find the restaurant name, borough, longitude and attitude and cuisine for those restaurants which contains 'Mad' as first three letters in its name.

```
db.restaurants.find({ name: { $regex: /^Mad/i } }, { name: 1, borough: 1, "coord.0":
1, "coord.1": 1, cuisine: 1, _id: 0 })
```

13. Write a mongoDB query to find the restaurants that have at least one grade with a score of less than 5.

```
db.restaurants.find(
   {
      "grades": {
         $elemMatch: { score: { $lt: 5 } // Score must be
            less than 5
         }
      }
   }
)
```

14. Write a mongoDB query to find the restaurants that have at least one grade with a score of less than 5 and that are located in the borough of Manhattan.

```
db.restaurants.find(
   {
      borough: "Manhattan", // Condition to filter by borough
      "grades": {
         $elemMatch: { score: { $lt: 5 } // Condition to filter grades with score
            less than 5
         }
      }
   }
)
```

15. Write a mongoDB query to find the restaurants that have at least one grade with a score of less than 5 and that are located in the borough of Manhattan or Brooklyn.

```
db.restaurants.find(
   {
      $or: [
         { borough: "Manhattan" }, // Condition to filter by borough Manhattan
{ borough: "Brooklyn" }          // Condition to filter by borough Brooklyn
      ],
      "grades": {
         $elemMatch: { score: { $lt: 5 } // Condition to filter grades with score
            less than 5
         } }
```

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Movies Collection

1. **Find all movies with full information from the 'movies' collection that released in the year 1893.**

```
db.movies.find(
   {
       releaseYear: 1893 // Assuming the field for the release year is named 'releaseYear'
   }
)
```

2. **Find all movies with full information from the 'movies' collection that have a runtime greater than 120 minutes.**

```
db.movies.find(
   {
      runtime: { $gt: 120 } // Assuming the field for runtime is named 'runtime'
   }
)
```

3. **Find all movies with full information from the 'movies' collection that have "Short" genre.**

```
db.movies.find(
   {
      genres: "Short" // Assuming the field for genres is an array named 'genres'
   }
)
```

4. **Retrieve all movies from the 'movies' collection that were directed by "William K. L. Dickson" and include complete information for each movie.**

```
db.movies.find(
   {
      director: "William K. L. Dickson" // Assuming the field for the director is named
'director' }
)
```

5. **Retrieve all movies from the 'movies' collection that were released in the USA and include complete information for each movie.**

```
db.movies.find(
```

```
    {
        country: "USA" // Assuming the field for the release country is named 'country'
    }
)
```

6. **Retrieve all movies from the 'movies' collection that have complete information and are rated as "UNRATED".**

```
db.movies.find(
    {
        rating: "UNRATED" // Assuming the field for the rating is named 'rating'
    }
)
```

7. **Retrieve all movies from the 'movies' collection that have complete information and have received more than 1000 votes on IMDb.**

```
db.movies.find(
    {
        votes: { $gt: 1000 } // Assuming the field for votes is named 'votes'
    }
)
```

8. **Retrieve all movies from the 'movies' collection that have complete information and have an IMDb rating higher than 7.**

```
db.movies.find(
    {
        imdbRating: { $gt: 7 } // Assuming the field for IMDb rating is named 'imdbRating'
    }
)
```

9. **Retrieve all movies from the 'movies' collection that have complete information and have a viewer rating higher than 4 on tomatoes.**

```
db.movies.find(
    {
        tomatoes: { viewer: { $gt: 4 } } // Assuming the viewer rating is nested within a
'tomatoes' object
    }
)
```