

# Exercise no: 14 - MongoDB

## 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: { $nin: ['American', 'Chinese'] } // Cuisines other than 'American' and
        'Chinese'
      },
      {
        name: { $regex: '^Wil', $options: 'i' } // Restaurant names that begin with 'Wil'
        (case-insensitive)
      }
    ]
  },
  {
    _id: 1,      // Retrieve the restaurant ID
    name: 1,     // Retrieve the restaurant name
    borough: 1,  // Retrieve the borough
    cuisine: 1   // Retrieve the cuisine
  }
)
```

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",           // Grade must be "A"
        "score": 11,           // Score must be 11
        "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
    }
  )

```

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 } // Regex to find names starting with 'Mad'  
    (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  
  }  
)
```

- 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  
      }  
    }  
  }  
)
```

# 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 country is named 'country'  
  }  
)
```

```
{
  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
  }
)
```