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Mongo Homework 5
CSCI 3287

SECTION 1:

```
mongo-client> use new_mongo_db
switched to db new_mongo_db
new_mongo_db> db.dropDatabase()
{ ok: 1, dropped: 'new_mongo_db' }
new_mongo_db> use new_mongo_db
already on db new_mongo_db
new_mongo_db> db.createCollection("mycol", { capped : true, autoIndexId : true, size : 6142800, max : 1
[... 0000 })
Uncaught:
[SyntaxError: Unexpected token, expected "," (2:0)

   1 | db.createCollection("mycol", { capped : true, autoIndexId : true, size : 6142800, max : 1
 > 2 | 0000 })
     | ^
   3 |

new_mongo_db> db.createCollection("test_collection")
{ ok: 1 }
new_mongo_db> db.createCollection("mycol", { capped : true, autoIndexId : true, size : 6142800, max : 1
... 0000 })
Uncaught:
[SyntaxError: Unexpected token, expected "," (2:0)

   1 | db.createCollection("mycol", { capped : true, autoIndexId : true, size : 6142800, max : 1
 > 2 | 0000 })
     | ^
   3 |

new_mongo_db> db.test_collection.drop()
true
new_mongo_db> db.test_collection.insert({
...                              title: "Mongo Db practice",
...                              description: "this is my first MongoDB document"
...                              })
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId("637acde3c095be418b7910a7") }
}
new_mongo_db> db.test_collection.find().pretty()
[
  {
    _id: ObjectId("637acde3c095be418b7910a7"),
    title: 'Mongo Db practice',
    description: 'this is my first MongoDB document'
  }
]
new_mongo_db> db.test_collection.update({'title':'MongoDB practice'},
...                       {$set:{ 'title':'Updated MongoDB practice'}})
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
new_mongo_db> db.test_collection.remove({ status : "P" }, 1)
DeprecationWarning: Collection.remove() is deprecated. Use deleteOne, deleteMany, findOneAndDelete, or bulkWrite.
{ acknowledged: true, deletedCount: 0 }
new_mongo_db> db.test_collection.remove({ status : "P" })
{ acknowledged: true, deletedCount: 0 }
new_mongo_db>
```

```
(base) Jonathans-MacBook-Pro:Database_Systems iiicemane$ cd HW5
(base) Jonathans-MacBook-Pro:HW5 iiicemane$ docker cp primer-data.json 4478e65e1211:primer-data.json
(base) Jonathans-MacBook-Pro:HW5 iiicemane$ docker exec -it 4478e65e1211 /bin/bash
root@4478e65e1211:/# mongoimport
2022-11-21T00:43:40.297+0000    no collection specified
2022-11-21T00:43:40.298+0000    using filename '' as collection
2022-11-21T00:43:40.298+0000    error validating settings: invalid collection name: collection name cannot be an empty string
root@4478e65e1211:/# mongoimport -c test_collection -d mongo_db --drop < primer-data.json
2022-11-21T00:44:22.241+0000    connected to: mongodb://localhost/
2022-11-21T00:44:22.243+0000    dropping: mongo_db.test_collection
2022-11-21T00:44:23.617+0000    25359 document(s) imported successfully. 0 document(s) failed to import.
root@4478e65e1211:/# exit
exit
(base) Jonathans-MacBook-Pro:HW5 iiicemane$ docker run -it --network mongo-network --rm mongo mongosh --host mongo-server mongo-client
Current Mongosh Log ID: 637aca59cbfbf682485509ad
Connecting to:          mongodb://mongo-server:27017/mongo-client?directConnection=true&appName=mongosh+1.6.0
Using MongoDB:          6.0.3
Using Mongosh:          1.6.0

For mongosh info see: https://docs.mongodb.com/mongodb-shell/


To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy).
You can opt-out by running the disableTelemetry() command.

------
   The server generated these startup warnings when booting
   2022-11-20T23:46:57.851+00:00: Using the XFS filesystem is strongly recommended with the WiredTiger storage engine. See http://dochub.mongodb.org/core/prodnotes-filesystem
   2022-11-20T23:46:58.384+00:00: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
   2022-11-20T23:46:58.384+00:00: vm.max_map_count is too low
------

------
   Enable MongoDB's free cloud-based monitoring service, which will then receive and display
   metrics about your deployment (disk utilization, CPU, operation statistics, etc).

   The monitoring data will be available on a MongoDB website with a unique URL accessible to you
   and anyone you share the URL with. MongoDB may use this information to make product
   improvements and to suggest MongoDB products and deployment options to you.
```

SECTION 2:

(1) How many restaurants are there in this collection?

25359

```
      },
      {
        date: ISODate("2013-11-14T00:00:00.
        grade: 'A',
        score: 2
      },
      {
        date: ISODate("2012-12-05T00:00:00.
        grade: 'A',
        score: 13
      },
      {
        date: ISODate("2012-05-17T00:00:00.
        grade: 'A',
        score: 11
      }
    ],
    name: 'The Movable Feast',
    restaurant_id: '40361606'
  }
]
Type "it" for more
[new_mongo_db> db.restaurants.find().count()
25359
new_mongo_db>
```

(2) List in alphabetical order each different (distinct) cuisine represented in this collection.

```
new_mongo_db> db.restaurants.distinct("cuisine")
[
  'Afghan',
  'African',
  'American',
  'Armenian',
  'Asian',
  'Australian',
  'Bagels/Pretzels',
  'Bakery',
  'Bangladeshi',
  'Barbecue',
  'Bottled beverages, including water, sodas, juices, etc.',
  'Brazilian',
  'CafÃ©/Coffee/Tea',
  'Café/Coffee/Tea',
  'Cajun',
  'Californian',
  'Caribbean',
  'Chicken',
  'Chilean',
  'Chinese',
  'Chinese/Cuban',
  'Chinese/Japanese',
  'Continental',
  'Creole',
  'Creole/Cajun',
  'Czech',
  'Delicatessen',
  'Donuts',
  'Eastern European',
  'Egyptian',
  'English',
  'Ethiopian',
  'Filipino',
  'French',
  'Fruits/Vegetables',
  'German',
  'Greek',
  'Hamburgers',
  'Hawaiian',
  'Hotdogs',
  'Hotdogs/Pretzels',
  'Ice Cream, Gelato, Yogurt, Ices',
  'Indian',
  'Indonesian',
  'Iranian',
  'Irish',
  'Italian',
  'Japanese',
  'Jewish/Kosher',
  'Juice, Smoothies, Fruit Salads',
  'Korean',
  'Latin (Cuban, Dominican, Puerto Rican, South & Central American)',
  'Mediterranean',
  'Mexican',
  'Middle Eastern',
```

```
  'Middle Eastern',
  'Moroccan',
  'Not Listed/Not Applicable',
  'Nuts/Confectionary',
  'Other',
  'Pakistani',
  'Pancakes/Waffles',
  'Peruvian',
  'Pizza',
  'Pizza/Italian',
  'Polish',
  'Polynesian',
  'Portuguese',
  'Russian',
  'Salads',
  'Sandwiches',
  'Sandwiches/Salads/Mixed Buffet',
  'Scandinavian',
  'Seafood',
  'Soul Food',
  'Soups',
  'Soups & Sandwiches',
  'Southwestern',
  'Spanish',
  'Steak',
  'Tapas',
  'Tex-Mex',
  'Thai',
  'Turkish',
  'Vegetarian',
  'Vietnamese/Cambodian/Malaysia'
]
new_mongo_db>
```

(3) Return the name of all restaurants within the zipcode 10023 which serve Italian cuisine. Return only the names of the restaurants.

```
[new_mongo_db> db.restaurants.find({ "address.zipcode": "10023", "cuisine":"Italian" }, { "_id": 0, "name": 1 })
[
  { name: 'Fiorellos' },
  { name: "Gabriel'S Bar & Grill" },
  { name: 'Il Violino' },
  { name: 'Pomodoro Ristorante' },
  { name: 'Arte Cafe' },
  { name: "Nick And Toni'S Cafe" },
  { name: 'Bello Giardino' },
  { name: 'Cesca' },
  { name: 'Arte Around The Corner' },
  { name: 'Riposo 72' },
  { name: 'Salumeria Rossi Parmacotto' },
  { name: 'Luce Restaurant & Enoteca' },
  { name: 'Gina La Fornarina' },
  { name: 'Lincoln Ristorante' },
  { name: 'The Leopard At Des Artistes' },
  { name: 'Pappardella' },
  { name: 'Joanne Trattoria' }
]
```

(4) Which Borough has the most Greek restaurants? How many are there?

Queens has the most with 58. In total there are 111

```
Type "it" for more
[new_mongo_db> db.restaurants.find({"cuisine": "Greek"},{"borough": 1}).count()
111
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Queens" },{"borough": 1}).coun
58
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Queens" }).count()
58
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Bronx" }).count()
4
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Brooklyn" }).count()
14
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Manhattan" }).count()
35
[new_mongo_db> db.restaurants.find({"cuisine": "Greek","borough": "Staten Island" }).count()
0
new_mongo_db> 
```

(5) Return a list of restaurants (names) which have the string "Pho " in their name. ("Pho" is a wonderful and delicious Vietnamese noodle soup.)

```
[new_mongo_db> db.restaurants.find({ "name": { $regex: /pho/, $options: "i" } }, { "name": 1, _id: 0 }).pretty()
[
  { name: 'Phoenix Garden' },
  { name: 'Pho Bac Vietnamese Seafood Cuisine' },
  { name: 'Pho Hoai Bay Ridge' },
  { name: 'Pho Bang Restaurant' },
  { name: "Phoebe'S" },
  { name: "Phoebe'S" },
  { name: 'Green Symphony' },
  { name: 'Pho 32 & Shabu' },
  { name: 'Paphos Diner' },
  { name: 'Pho Bang Restaurant' },
  { name: 'Pho Viet-Nam Restaurant' },
  { name: 'Golden Phoenix' },
  { name: 'Pho Bang Restaurant' },
  { name: 'Pho Grand' },
  { name: 'Pho Vietnamese Restaurant' },
  { name: 'Baoguette Pho Sure' },
  { name: 'Pho Hoai Rest' },
  { name: 'International Center Of Photography' },
  { name: 'Pho Mac Vietnamese Cuisine' },
  { name: 'Phoenix' }
]
Type "it" for more
[new_mongo_db> it
[
  { name: 'Tribeca Taphouse' },
  { name: 'Pho Hoang' },
  { name: 'Mehtaphor' },
  { name: 'Spice Symphony' },
  { name: 'Pho Viet' },
  { name: 'New Phoenix' },
  { name: 'Euphoria Lounge' },
  { name: 'Phoenix Park' },
  { name: 'Pho Tay Ho 86 Vietnamese Restaurant' },
  { name: 'Pho Seng' },
  { name: '8 Dragon & Phoenix Chinese Restaurant' },
  { name: 'Cafe Euphoria' },
  { name: 'Phos & Banh Mi' },
  { name: 'Pho' },
  { name: "Jasper'S Taphouse & Kitchen" },
  { name: 'Pho 32' },
  { name: 'New Phoenix Palace' },
  { name: 'Pho Vietnam 87 Corporation' },
  { name: 'Pho Rainbow Inc' },
  { name: 'Hua Lumphong' }
]
Type "it" for more
[new_mongo_db> it
[ { name: 'Pho Thanh Hoai 1' }, { name: 'Pho Saigon' } ]
new_mongo_db> 
```

(6) Return a list of boroughs ranked by the number of Italian restaurants in the borough. That is, for each borough, find how many restaurants serve Italian cuisine and print the borough and the number of such restaurants sorted descending by this number. (HINT: use the aggregate Page 6 method, and use a $group and a $sum.)

```
[new_mongo_db> db.restaurants.aggregate([{$match: {"cuisine" : "Italian"}},{$group: {total:{$sum: 1}, _id: "$borough"}},{$sort: {total: -1}}])
[
  { _id: 'Manhattan', total: 621 },
  { _id: 'Brooklyn', total: 192 },
  { _id: 'Queens', total: 131 },
  { _id: 'Staten Island', total: 73 },
  { _id: 'Bronx', total: 52 }
]
new_mongo_db>
```

(7) Find the top 5 Greek restaurants in Brooklyn that have the highest total score. Return for each restaurant the restaurant's name and the total score. (HINT: use the aggregate method with $unwind to parse out the scores array, followed by a $group and a $sum.)

```
new_mongo_db> db.restaurants.aggregate([{$match: {$and: [{"borough": "Brooklyn"},{"cuisine": "Greek"}]}}, {$unwind: "$grades"},{$group: {_id: "$name", totalScores: {$sum: "$grades.score"}}},{$sort: {totalScores:-1}},{$limit:5}])
[
  { _id: 'Spartan Souvlaki', totalScores: 81 },
  { _id: 'Yiasou', totalScores: 44 },
  { _id: 'Plaka Restaurant', totalScores: 41 },
  { _id: 'Faros Restaurant', totalScores: 40 },
  { _id: 'Meze', totalScores: 39 }
]
new_mongo_db>
```