## 1. Querying Restaurants Collection

3.1 How many “Chinese” (cuisine) restaurants are in “Queens” (borough)?

**Query:** db.restaurants.find( { cuisine: "Chinese", borough: "Queens"} ).count()

**Result:** 728

3.2 What is the \_id of the restaurant which has the grade with the highest ever score?

**Query:**

db.restaurants.aggregate([

{$project: {"grades.score": 1}},

{$unwind: "$grades"},

{$sort: {"grades.score": -1}},

{$limit: 1}

])

**Result:** { "\_id" : ObjectId("5a58d35221cf419367c8a30d"), "grades" : { "score" : 131 } }

3.3 Add a grade { grade: "A", score: 7, date: ISODate() } to every restaurant in “Manhattan” (borough).

**Query:**

db.restaurants.update(

{borough: "Manhattan"},

{$push: {

grades: {

grade: "A",

score: 7,

date: ISODate()

}

}},

{multi: true})

**Result:** WriteResult({ "nMatched" : 10258, "nUpserted" : 0, "nModified" : 10258 })

3.4 What are the names of the restaurants which have a grade at index 8 with score less then 7? Use projection to include only names without \_id

**Query:**

db.restaurants.find({"grades.7.score" : {$lt: 7}}, {name: 1, \_id: 0})

**Result**

{ "name" : "El Castillo De Madison" }

{ "name" : "Vee'S Restaurant" }

{ "name" : "Don Alex Restaurant" }

{ "name" : "Gahm Mi Oak Restaurant" }

{ "name" : "Au Za'Atar" }

{ "name" : "Sunshine 27 Seafood Restaurant" }

{ "name" : "New Chung Mee Restaurant" }

{ "name" : "Lucky 11 Bakery" }

{ "name" : "La Cueva Deli & Grocery" }

{ "name" : "Kennedy Fried Chicken" }

{ "name" : "New China Star" }

{ "name" : "Hoy Wong Restaurant" }

{ "name" : "Elena'S Restuarant" }

3.5 What are \_id and borough of “Seafood” (cuisine) restaurants which received at least one “B” grade in period from 2014-02-01 to 2014-03-01? Use projection to include only \_id and borough

**Query:**

db.restaurants.find({

cuisine: "Seafood",

grades: {

$elemMatch: {

grade: "B",

date: {

$gt: ISODate("2014-02-01"),

$lt: ISODate("2014-03-01")

}

}

}},

{\_id: 1, borough: 1})

**Result:**

{ "\_id" : ObjectId("5a58d35221cf419367c8d710"), "borough" : "Bronx" }

{ "\_id" : ObjectId("5a58d35221cf419367c8d996"), "borough" : "Manhattan" }

## 2. Indexing Restaurants Collection

1. Create an index which will be used by this query and provide proof (from explain() or Compass UI) that the index is indeed used by the winning plan:

db.restaurants.find({ name: "Glorious Food" })