

MongoDB Assignment 3 (Complex Queries)

Command Prompt - mongo

```
> show dbs;
admin      0.000GB
config     0.000GB
local      0.000GB
restaurants 0.001GB
> use restaurants
switched to db restaurants
> db.addresses.find().pretty()
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
```

Q1)

```
Command Prompt - mongo
> db.addresses.find().pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
```

Q2) & Q3)

```
Command Prompt - mongo
>
> db.addresses.find({},{"restaurant_id":1, "name":1, "borough":1, "cuisine":1, "_id":0}).pretty();
{
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
{
  "borough" : "Manhattan",
  "cuisine" : "Irish",
  "name" : "Dj Reynolds Pub And Restaurant",
  "restaurant_id" : "30191841"
}
{
  "borough" : "Brooklyn",
  "cuisine" : "Hamburgers",
  "name" : "Wendy'S",
  "restaurant_id" : "30112340"
}
{
  "borough" : "Brooklyn",
  "cuisine" : "American ",
  "name" : "Riviera Caterer",
  "restaurant_id" : "40356018"
}
{
  "borough" : "Queens",
  "cuisine" : "Jewish/Kosher",
  "name" : "Tov Kosher Kitchen",
  "restaurant_id" : "40356068"
}
{
  "borough" : "Staten Island",
  "cuisine" : "Jewish/Kosher",
  "name" : "Kosher Island",
  "restaurant_id" : "40356442"
}
{
  "borough" : "Queens",
  "cuisine" : "American ",
  "name" : "Brunos On The Boulevard",
  "restaurant_id" : "40356151"
}
```

Q4)

```
Command Prompt - mongo
> db.addresses.find({},{"restaurant_id":1, "name":1, "borough":1, "address.zipcode":1, "_id":0}).pretty();
{
  "address" : {
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
{
  "address" : {
    "zipcode" : "10019"
  },
  "borough" : "Manhattan",
  "name" : "Dj Reynolds Pub And Restaurant",
  "restaurant_id" : "30191841"
}
{
  "address" : {
    "zipcode" : "11225"
  },
  "borough" : "Brooklyn",
  "name" : "Wendy'S",
  "restaurant_id" : "30112340"
}
{
  "address" : {
    "zipcode" : "11224"
  },
  "borough" : "Brooklyn",
  "name" : "Riviera Caterer",
  "restaurant_id" : "40356018"
}
{
  "address" : {
    "zipcode" : "11374"
  },
  "borough" : "Queens",
  "name" : "Tov Kosher Kitchen",
  "restaurant_id" : "40356068"
}
```

Q5)

```
Command Prompt - mongo
>
> db.addresses.find({"borough":"Bronx"}).limit(5).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
}
```

Q6)

```
Command Prompt - mongo
> db.addresses.find({"borough":"Bronx"}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
```

Q7)

```
Command Prompt - mongo
>
> db.addresses.find({"borough":"Bronx"}).skip(5).limit(5).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7481"),
  "address" : {
    "building" : "658",
    "coord" : [
      -73.81363999999999,
      40.82941100000001
    ],
    "street" : "Clarence Ave",
    "zipcode" : "10465"
  },
  "borough" : "Bronx",
  "cuisine" : "American ",
  "grades" : [
    {
      "date" : ISODate("2014-06-21T00:00:00Z"),
      "grade" : "A",
      "score" : 5
    },
    {
      "date" : ISODate("2012-07-11T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    }
  ],
  "name" : "Manhem Club",
  "restaurant_id" : "40364363"
}
{
  "_id" : ObjectId("612074dce8170814872a7499"),
  "address" : {
    "building" : "2222",
    "coord" : [
      -73.84971759999999,
      40.8304811
    ],
    "street" : "Haviland Avenue",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "American ",
```

Q8)

```
Command Prompt - mongo
> db.addresses.find({grades : { $elemMatch:{ "score":{ $gt : 90}}}}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a75a1"),
  "address" : {
    "building" : "65",
    "coord" : [
      -73.9782725,
      40.7624022
    ],
    "street" : "West 54 Street",
    "zipcode" : "10019"
  },
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "grades" : [
    {
      "date" : ISODate("2014-08-22T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2014-03-28T00:00:00Z"),
      "grade" : "C",
      "score" : 131
    },
    {
      "date" : ISODate("2013-09-25T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2013-04-08T00:00:00Z"),
      "grade" : "B",
      "score" : 25
    },
    {
      "date" : ISODate("2012-10-15T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2011-10-19T00:00:00Z"),
```


Q9)

```
Command Prompt - mongo
> db.addresses.find({grades : { $elemMatch:{ "score":{ $gt : 80, $lt:100}}}}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7644"),
  "address" : {
    "building" : "345",
    "coord" : [
      -73.9864626,
      40.7266739
    ],
    "street" : "East 6 Street",
    "zipcode" : "10003"
  },
  "borough" : "Manhattan",
  "cuisine" : "Indian",
  "grades" : [
    {
      "date" : ISODate("2014-09-15T00:00:00Z"),
      "grade" : "A",
      "score" : 5
    },
    {
      "date" : ISODate("2014-01-14T00:00:00Z"),
      "grade" : "A",
      "score" : 8
    },
    {
      "date" : ISODate("2013-05-30T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2013-04-24T00:00:00Z"),
      "grade" : "P",
      "score" : 2
    },
    {
      "date" : ISODate("2012-10-01T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2012-04-06T00:00:00Z"),
```

Q10)

```
Command Prompt - mongo
> db.addresses.find({"address.coord":{"$lt":-95.754168}}).pretty();
{
  "_id" : ObjectId("612074dde8170814872a7a8c"),
  "address" : {
    "building" : "3707",
    "coord" : [
      -101.8945214,
      33.5197474
    ],
    "street" : "82 Street",
    "zipcode" : "11372"
  },
  "borough" : "Queens",
  "cuisine" : "American ",
  "grades" : [
    {
      "date" : ISODate("2014-06-04T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2013-11-07T00:00:00Z"),
      "grade" : "B",
      "score" : 19
    },
    {
      "date" : ISODate("2013-05-17T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2012-08-29T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2012-04-03T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2011-11-16T00:00:00Z"),
      "grade" : "A",
```

Q11)

```
Command Prompt - mongo
> db.addresses.find(
...     {$and:
...     [
...         {"cuisine" : {$ne : "American "}},
...         {"grades.score" : {$gt : 70}},
...         {"address.coord" : {$lt : -65.754168}}
...     ]
...     }
...     ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7644"),
  "address" : {
    "building" : "345",
    "coord" : [
      -73.9864626,
      40.7266739
    ],
    "street" : "East 6 Street",
    "zipcode" : "10003"
  },
  "borough" : "Manhattan",
  "cuisine" : "Indian",
  "grades" : [
    {
      "date" : ISODate("2014-09-15T00:00:00Z"),
      "grade" : "A",
      "score" : 5
    },
    {
      "date" : ISODate("2014-01-14T00:00:00Z"),
      "grade" : "A",
      "score" : 8
    },
    {
      "date" : ISODate("2013-05-30T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2013-04-24T00:00:00Z"),
      "grade" : "P",
      "score" : 2
    },
  ],
}
```

Q12)

```
Command Prompt - mongo
> db.addresses.find(
...     {
...         "cuisine" : {$ne : "American "},
...         "grades.score" : {$gt: 70},
...         "address.coord" : {$lt : -65.754168}
...     }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7644"),
  "address" : {
    "building" : "345",
    "coord" : [
      -73.9864626,
      40.7266739
    ],
    "street" : "East 6 Street",
    "zipcode" : "10003"
  },
  "borough" : "Manhattan",
  "cuisine" : "Indian",
  "grades" : [
    {
      "date" : ISODate("2014-09-15T00:00:00Z"),
      "grade" : "A",
      "score" : 5
    },
    {
      "date" : ISODate("2014-01-14T00:00:00Z"),
      "grade" : "A",
      "score" : 8
    },
    {
      "date" : ISODate("2013-05-30T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2013-04-24T00:00:00Z"),
      "grade" : "P",
      "score" : 2
    },
    {
      "date" : ISODate("2012-10-01T00:00:00Z"),
```

Q13)

```
Command Prompt - mongo
> db.addresses.find(
...     {
...         "cuisine" : {$ne : "American "},
...         "grades.grade" : "A",
...         "borough": {$ne : "Brooklyn"}
...     }
... ).sort({"cuisine":-1}).pretty();
{
  "_id" : ObjectId("612074dde8170814872a7b50"),
  "address" : {
    "building" : "89",
    "coord" : [
      -73.9995899,
      40.7168015
    ],
    "street" : "Baxter Street",
    "zipcode" : "10013"
  },
  "borough" : "Manhattan",
  "cuisine" : "Vietnamese/Cambodian/Malaysia",
  "grades" : [
    {
      "date" : ISODate("2014-08-21T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2013-08-31T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2013-04-11T00:00:00Z"),
      "grade" : "C",
      "score" : 3
    },
    {
      "date" : ISODate("2012-10-17T00:00:00Z"),
      "grade" : "A",
      "score" : 4
    },
    {
      "date" : ISODate("2012-05-15T00:00:00Z"),
```

Q14)

```
Command Prompt - mongo
> db.addresses.find(
... {name: /^Wil/},
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a744b"),
  "borough" : "Brooklyn",
  "cuisine" : "Delicatessen",
  "name" : "Wilken'S Fine Food",
  "restaurant_id" : "40356483"
}
{
  "_id" : ObjectId("612074dce8170814872a744d"),
  "borough" : "Bronx",
  "cuisine" : "American ",
  "name" : "Wild Asia",
  "restaurant_id" : "40357217"
}
{
  "_id" : ObjectId("612074dde8170814872a8252"),
  "borough" : "Bronx",
  "cuisine" : "Pizza",
  "name" : "Wilbel Pizza",
  "restaurant_id" : "40871979"
}
```

Q15)

```
Command Prompt - mongo
> db.addresses.find(
... {name: /ces$/},
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dde8170814872a78d6"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Pieces",
  "restaurant_id" : "40399910"
}
{
  "_id" : ObjectId("612074dde8170814872a7995"),
  "borough" : "Queens",
  "cuisine" : "American ",
  "name" : "S.M.R Restaurant Services",
  "restaurant_id" : "40403857"
}
{
  "_id" : ObjectId("612074dde8170814872a799c"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Good Shepherd Services",
  "restaurant_id" : "40403989"
}
{
  "_id" : ObjectId("612074dde8170814872a7e4e"),
  "borough" : "Queens",
  "cuisine" : "Ice Cream, Gelato, Yogurt, Ices",
  "name" : "The Ice Box-Ralph'S Famous Italian Ices",
  "restaurant_id" : "40690899"
}
{
  "_id" : ObjectId("612074dde8170814872a8051"),
  "borough" : "Brooklyn",
  "cuisine" : "Jewish/Kosher",
  "name" : "Alices",
  "restaurant_id" : "40782042"
}
```

Q16)

```
Command Prompt - mongo
> db.addresses.find(
... {name: /.*Reg.*"/},
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a744c"),
  "borough" : "Brooklyn",
  "cuisine" : "American ",
  "name" : "Regina Caterers",
  "restaurant_id" : "40356649"
}
{
  "_id" : ObjectId("612074dce8170814872a7549"),
  "borough" : "Manhattan",
  "cuisine" : "Café/Coffee/Tea",
  "name" : "Caffe Reggio",
  "restaurant_id" : "40369418"
}
{
  "_id" : ObjectId("612074dce8170814872a7658"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Regency Hotel",
  "restaurant_id" : "40382679"
}
{
  "_id" : ObjectId("612074dde8170814872a7976"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Regency Whist Club",
  "restaurant_id" : "40402377"
}
{
  "_id" : ObjectId("612074dde8170814872a7a58"),
  "borough" : "Queens",
  "cuisine" : "American ",
  "name" : "Rego Park Cafe",
  "restaurant_id" : "40523342"
}
```


Q17)

```
Command Prompt - mongo

> db.addresses.find(
... {
...   "borough": "Bronx" ,
...   $or : [
...     { "cuisine" : "American " },
...     { "cuisine" : "Chinese" }
...   ]
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a744d"),
  "address" : {
    "building" : "2300",
    "coord" : [
      -73.8786113,
      40.8502883
    ],
    "street" : "Southern Boulevard",
    "zipcode" : "10460"
  },
  "borough" : "Bronx",
  "cuisine" : "American ",
  "grades" : [
    {
      "date" : ISODate("2014-05-28T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2013-06-19T00:00:00Z"),
      "grade" : "A",
      "score" : 4
    },
    {
      "date" : ISODate("2012-06-15T00:00:00Z"),
      "grade" : "A",
      "score" : 3
    }
  ],
  "name" : "Wild Asia",
  "restaurant_id" : "40357217"
}
```

Q18)

```
Command Prompt - mongo
> db.addresses.find(
... {"borough" :{$in :["Staten Island","Queens","Bronx","Brooklyn"]}},
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
{
  "_id" : ObjectId("612074dce8170814872a7446"),
  "borough" : "Brooklyn",
  "cuisine" : "Hamburgers",
  "name" : "Wendy'S",
  "restaurant_id" : "30112340"
}
{
  "_id" : ObjectId("612074dce8170814872a7447"),
  "borough" : "Brooklyn",
  "cuisine" : "American ",
  "name" : "Riviera Caterer",
  "restaurant_id" : "40356018"
}
{
  "_id" : ObjectId("612074dce8170814872a7448"),
  "borough" : "Queens",
  "cuisine" : "Jewish/Kosher",
  "name" : "Tov Kosher Kitchen",
  "restaurant_id" : "40356068"
}
{
  "_id" : ObjectId("612074dce8170814872a7449"),
  "borough" : "Staten Island",
  "cuisine" : "Jewish/Kosher",
  "name" : "Kosher Island",
  "restaurant_id" : "40356442"
}
```

Q19)

```
Command Prompt - mongo
> db.addresses.find(
... {"borough" :{$nin :["Staten Island","Queens","Bronx","Brooklyn"]}},
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7445"),
  "borough" : "Manhattan",
  "cuisine" : "Irish",
  "name" : "Dj Reynolds Pub And Restaurant",
  "restaurant_id" : "30191841"
}
{
  "_id" : ObjectId("612074dce8170814872a7450"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "1 East 66Th Street Kitchen",
  "restaurant_id" : "40359480"
}
{
  "_id" : ObjectId("612074dce8170814872a7457"),
  "borough" : "Manhattan",
  "cuisine" : "Delicatessen",
  "name" : "Bully'S Deli",
  "restaurant_id" : "40361708"
}
{
  "_id" : ObjectId("612074dce8170814872a745a"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Glorious Food",
  "restaurant_id" : "40361521"
}
{
  "_id" : ObjectId("612074dce8170814872a745b"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "P & S Deli Grocery",
  "restaurant_id" : "40362264"
}
```

Q20)

```
Command Prompt - mongo
> db.addresses.find(
... {"grades.score" : { $not: { $gt : 10 } } },
... {
...   "restaurant_id" : 1,
...   "name":1,"borough":1,
...   "cuisine" :1
... }
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7450"),
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "1 East 66Th Street Kitchen",
  "restaurant_id" : "40359480"
}
{
  "_id" : ObjectId("612074dce8170814872a7454"),
  "borough" : "Brooklyn",
  "cuisine" : "American ",
  "name" : "C & C Catering Service",
  "restaurant_id" : "40357437"
}
{
  "_id" : ObjectId("612074dce8170814872a7455"),
  "borough" : "Brooklyn",
  "cuisine" : "Delicatessen",
  "name" : "Nordic Delicacies",
  "restaurant_id" : "40361390"
}
{
  "_id" : ObjectId("612074dce8170814872a745d"),
  "borough" : "Brooklyn",
  "cuisine" : "Hamburgers",
  "name" : "White Castle",
  "restaurant_id" : "40362344"
}
{
  "_id" : ObjectId("612074dce8170814872a7472"),
  "borough" : "Brooklyn",
  "cuisine" : "American ",
  "name" : "Sonny'S Heros",
  "restaurant_id" : "40363744"
}
```

Q21)

```
Command Prompt - mongo
> db.addresses.find({$or: [{name: /^Wil/}, {"$and": [{"cuisine" : {$ne : "America
n "}}, {"cuisine" : {$ne : "Chinees"}}]}]}, {"restaurant_id" : 1, "name": 1, "borough"
: 1, "cuisine" : 1}
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
{
  "_id" : ObjectId("612074dce8170814872a7445"),
  "borough" : "Manhattan",
  "cuisine" : "Irish",
  "name" : "Dj Reynolds Pub And Restaurant",
  "restaurant_id" : "30191841"
}
{
  "_id" : ObjectId("612074dce8170814872a7446"),
  "borough" : "Brooklyn",
  "cuisine" : "Hamburgers",
  "name" : "Wendy'S",
  "restaurant_id" : "30112340"
}
{
  "_id" : ObjectId("612074dce8170814872a7448"),
  "borough" : "Queens",
  "cuisine" : "Jewish/Kosher",
  "name" : "Tov Kosher Kitchen",
  "restaurant_id" : "40356068"
}
{
  "_id" : ObjectId("612074dce8170814872a7449"),
  "borough" : "Staten Island",
  "cuisine" : "Jewish/Kosher",
  "name" : "Kosher Island",
  "restaurant_id" : "40356442"
}
{
  "_id" : ObjectId("612074dce8170814872a744b"),
  "borough" : "Brooklyn",
  "cuisine" : "Delicatessen",
```

Q22)

```
Command Prompt - mongo
> db.addresses.find(
... {
...     "grades.date": ISODate("2014-08-11T00:00:00Z"),
...     "grades.grade": "A" ,
...     "grades.score" : 11
... },
... {"restaurant_id" : 1,"name":1,"grades":1}
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a74c0"),
  "grades" : [
    {
      "date" : ISODate("2014-08-11T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2013-07-22T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2013-03-14T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    },
    {
      "date" : ISODate("2012-07-02T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2012-02-02T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-08-24T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    }
  ],
  "name" : "Neary'S Pub",
}
```

Q23)

```
Command Prompt - mongo
> db.addresses.find(
... { "grades.1.date": ISODate("2014-08-11T00:00:00Z"),
...     "grades.1.grade": "A" ,
...     "grades.1.score" : 9
... },
... {"restaurant_id" : 1, "name": 1, "grades": 1}
... ).pretty();
{
  "_id" : ObjectId("612074dde8170814872a7a6d"),
  "grades" : [
    {
      "date" : ISODate("2015-01-12T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2014-08-11T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2014-01-14T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2013-02-07T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2012-04-30T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    }
  ],
  "name" : "Club Macanudo (Cigar Bar)",
  "restaurant_id" : "40526406"
}
```

Q24)

```
Command Prompt - mongo
> db.addresses.find(
...     {
...         "address.coord.1": {$gt : 42, $lte : 52}
...     },
...     {"restaurant_id" : 1,"name":1,"address":1,"coord":1}
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a76e6"),
  "address" : {
    "building" : "47",
    "coord" : [
      -78.877224,
      42.895461999999999
    ],
    "street" : "Broadway @ Trinity Pl",
    "zipcode" : "10006"
  },
  "name" : "T.G.I. Friday'S",
  "restaurant_id" : "40387990"
}
{
  "_id" : ObjectId("612074dce8170814872a7712"),
  "address" : {
    "building" : "1",
    "coord" : [
      -0.7119979,
      51.6514664
    ],
    "street" : "Pennplaza E, Penn Sta",
    "zipcode" : "10001"
  },
  "name" : "T.G.I. Fridays",
  "restaurant_id" : "40388936"
}
{
  "_id" : ObjectId("612074dde8170814872a796a"),
  "address" : {
    "building" : "3000",
    "coord" : [
      -87.865676999999999,
      42.611509200000001
    ],
    "street" : "47 Avenue",
  },
  "name" : "T.G.I. Fridays",
  "restaurant_id" : "40388936"
}
```


Q25)

```
Command Prompt - mongo
> db.addresses.find().sort({"name":1}).pretty();
{
  "_id" : ObjectId("612074dde8170814872a80d2"),
  "address" : {
    "building" : "129",
    "coord" : [
      -73.962943,
      40.685007
    ],
    "street" : "Gates Avenue",
    "zipcode" : "11238"
  },
  "borough" : "Brooklyn",
  "cuisine" : "Italian",
  "grades" : [
    {
      "date" : ISODate("2014-03-06T00:00:00Z"),
      "grade" : "A",
      "score" : 5
    },
    {
      "date" : ISODate("2013-08-29T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-03-08T00:00:00Z"),
      "grade" : "A",
      "score" : 7
    },
    {
      "date" : ISODate("2012-06-27T00:00:00Z"),
      "grade" : "A",
      "score" : 7
    },
    {
      "date" : ISODate("2011-11-17T00:00:00Z"),
      "grade" : "A",
      "score" : 12
    }
  ],
  "name" : "(Lewis Drug Store) Locanda Vini E Olii",
  "restaurant_id" : "40804423"
}
```

Q26)

```
Command Prompt - mongo
> db.addresses.find().sort({"name":-1}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7503"),
  "address" : {
    "building" : "6946",
    "coord" : [
      -73.8811834,
      40.7017759
    ],
    "street" : "Myrtle Avenue",
    "zipcode" : "11385"
  },
  "borough" : "Queens",
  "cuisine" : "German",
  "grades" : [
    {
      "date" : ISODate("2014-09-24T00:00:00Z"),
      "grade" : "A",
      "score" : 11
    },
    {
      "date" : ISODate("2014-04-17T00:00:00Z"),
      "grade" : "A",
      "score" : 7
    },
    {
      "date" : ISODate("2013-03-12T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2012-10-02T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2012-05-09T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2011-12-28T00:00:00Z"),
      "grade" : "B",
```

Q27)

```
Command Prompt - mongo
> db.addresses.find().sort({"cuisine":1, "borough":-1}).pretty();
{
  "_id" : ObjectId("612074dde8170814872a7b2e"),
  "address" : {
    "building" : "1345",
    "coord" : [
      -73.959249,
      40.768076
    ],
    "street" : "2 Avenue",
    "zipcode" : "10021"
  },
  "borough" : "Manhattan",
  "cuisine" : "Afghan",
  "grades" : [
    {
      "date" : ISODate("2014-10-07T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2013-10-23T00:00:00Z"),
      "grade" : "A",
      "score" : 8
    },
    {
      "date" : ISODate("2012-10-26T00:00:00Z"),
      "grade" : "A",
      "score" : 13
    },
    {
      "date" : ISODate("2012-04-26T00:00:00Z"),
      "grade" : "A",
      "score" : 7
    },
    {
      "date" : ISODate("2012-01-12T00:00:00Z"),
      "grade" : "P",
      "score" : 10
    }
  ],
  "name" : "Afghan Kebab House",
  "restaurant_id" : "40552806"
```

Q28)

```
Command Prompt - mongo
> db.addresses.find({"address.street":{"$exists:true"}}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
```

Q29)

```
Command Prompt - mongo
> db.addresses.find({"address.coord":{"$type:1"}}).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "address" : {
    "building" : "1007",
    "coord" : [
      -73.856077,
      40.848447
    ],
    "street" : "Morris Park Ave",
    "zipcode" : "10462"
  },
  "borough" : "Bronx",
  "cuisine" : "Bakery",
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
```

Q30)

```
Command Prompt - mongo

> db.addresses.find(
...   {"grades.score":
...     {$mod:[7,0]}}
...   ),
...   {"restaurant_id":1,"name":1,"grades":1}
... ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a7444"),
  "grades" : [
    {
      "date" : ISODate("2014-03-03T00:00:00Z"),
      "grade" : "A",
      "score" : 2
    },
    {
      "date" : ISODate("2013-09-11T00:00:00Z"),
      "grade" : "A",
      "score" : 6
    },
    {
      "date" : ISODate("2013-01-24T00:00:00Z"),
      "grade" : "A",
      "score" : 10
    },
    {
      "date" : ISODate("2011-11-23T00:00:00Z"),
      "grade" : "A",
      "score" : 9
    },
    {
      "date" : ISODate("2011-03-10T00:00:00Z"),
      "grade" : "B",
      "score" : 14
    }
  ],
  "name" : "Morris Park Bake Shop",
  "restaurant_id" : "30075445"
}
{
  "_id" : ObjectId("612074dce8170814872a7447"),
  "grades" : [
    {
      "date" : ISODate("2014-06-10T00:00:00Z"),
```

Q31)

```
Command Prompt - mongo
> db.addresses.find(
...   { name :
...     { $regex : "mon.*", $options: "i" }
...     },
...     {
...       "name":1,
...       "borough":1,
...       "address.coord":1,
...       "cuisine" :1
...     }
...   ).pretty();
{
  "_id" : ObjectId("612074dce8170814872a74d6"),
  "address" : {
    "coord" : [
      -73.98306099999999,
      40.7441419
    ]
  },
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Desmond'S Tavern"
}
{
  "_id" : ObjectId("612074dce8170814872a74e1"),
  "address" : {
    "coord" : [
      -73.8221418,
      40.7272376
    ]
  },
  "borough" : "Queens",
  "cuisine" : "Jewish/Kosher",
  "name" : "Shimons Kosher Pizza"
}
{
  "_id" : ObjectId("612074dce8170814872a74ed"),
  "address" : {
    "coord" : [
      -74.10465599999999,
      40.58834
    ]
  },
}
```

Q32)

```
Command Prompt - mongo
> db.addresses.find(
...   { name :
...     { $regex :/^Mad/i,}
...   },
...   {
...     "name":1,
...     "borough":1,
...     "address.coord":1,
...     "cuisine" :1
...   }
... ).pretty();
{
  "_id" : ObjectId("612074dde8170814872a797f"),
  "address" : {
    "coord" : [
      -73.9860597,
      40.7431194
    ]
  },
  "borough" : "Manhattan",
  "cuisine" : "American ",
  "name" : "Madison Square"
}
{
  "_id" : ObjectId("612074dde8170814872a7a4e"),
  "address" : {
    "coord" : [
      -73.98302199999999,
      40.742313
    ]
  },
  "borough" : "Manhattan",
  "cuisine" : "Indian",
  "name" : "Madras Mahal"
}
{
  "_id" : ObjectId("612074dde8170814872a7cfd"),
  "address" : {
    "coord" : [
      -74.000002,
      40.72735
    ]
  },
}
```