CS 660 - Introduction to Database Systems

PA3: NoSQL Databases **Gur Asees Singh Chandok -U95489771**

I. restaurant ID of "Caffe Dante".

```
db.restaurants.find({"name":"Caffe Dante"},{"_id":0,"restaurant_id":1})
```

II. **restaurants whose name has "Ice Cream" in it:**

```
db.restaurants.ensureIndex({name:"text"})
db.restaurants.find( {$text:{$search:"Ice Cream"} } , {"_id":0, "restaurant_id":1, "name":1}
)
```

III. restaurants that serve either Italian or American cuisine and are located in the Brooklyn

```
db.restaurants.ensureIndex({cuisine:"text"})
db.restaurants.find({$and:[{$text:{$search:"American Italian"}} , {"borough":"Brooklyn"}]}
, {"_id":0,"name":1})
```

IV. **list of boroughs ranked by the number of American restaurants in it**

```
db.restaurants.ensureIndex({cuisine:"text"})
db.restaurants.aggregate([{$match:{$text:{$search: "American"}}},{$group : {_id :
"$borough", no_of_restaurants : {$sum : 1}}},{$sort:{no_of_restaurants:-1}}])
```

V. **top 5 American restaurants in Manhattan that have the highest total score.**

```
db.restaurants.ensureIndex({cuisine:"text"})
db.restaurants.aggregate([{$match:{$and:[{borough:"Manhattan"},{$text:{$search:"Ame
rican"}}]}},{$unwind:"$grades"},{$group:{_id:"$name",totalscore:{$sum:"$gra
des.score"}}},{$limit:5},{$sort:{totalscore:-1}}])
```

VI. **Consider a rectangle area on the location field, in which the vertices are [-74 , 40.5] , [-74 , 40.7] , [-73.5 , 40.5] and [-73.5 , 40.7]. Find the number of restaurants in this area that have received a grade score (at least one) more than 50.**

```
db.restaurants.aggregate([{$unwind:"$grades"} , {$match: { $and: [
{"address.coord": { $geoWithin: { $box: [ [ -74.0, 40.5 ], [ -73.5, 40.7] ] } } } ,
{"grades.score":{$gt:50}}]}},{$count :"restaurant_id" } ] )
```