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CSCI 3287
HW6

Section 1

Please find operation tasks numbers 1-8 done below in order.

```
> use cities
switched to db cities
> db.dropDatabase()
{ "dropped" : "cities", "ok" : 1 }
> db.createCollection("states")
{ "ok" : 1 }
> db.states.drop()
true
> db.createCollection("USA")
{ "ok" : 1 }
> db.USA.insert({state: "Colorado", capital: "Denver"})
WriteResult({ "nInserted" : 1 })
> db.USA.find().pretty()
{
  "_id" : ObjectId("607b6f7b7d59b18867c31c6f"),
  "state" : "Colorado",
  "capital" : "Denver"
}
> db.USA.update({'state':'Colorado'}, {$set:{'state': 'New Colorado'}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.USA.find().pretty()
{
  "_id" : ObjectId("607b6f7b7d59b18867c31c6f"),
  "state" : "New Colorado",
  "capital" : "Denver"
}
> db.USA.find()
{ " _id" : ObjectId("607b6f7b7d59b18867c31c6f"), "state" : "New Colorado", "capital" : "Denver" }
> db.USA.remove({ state : "New Colorado" },1)
WriteResult({ "nRemoved" : 1 })
> db.USA.find()
> █
```

Section 2

1)

```
> db.restaurants.count()
25359
```

2)

```
> db.restaurants.distinct("cuisine")
[
  "Afghan",
  "African",
  "American",
  "Armenian",
  "Asian",
  "Australian",
  "Bagels/Pretzels",
  "Bakery",
  "Bangladeshi",
  "Barbecue",
  "Bottled beverages, including water, sodas, juices, etc.",
  "Brazilian",
  "Café/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",
  "Mediterranean",
  "Mexican",
  "Middle Eastern",
  "Moroccan",
  "Not Listed/Not Applicable",
  "Nuts/Confectionery",
  "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"
```

3)

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

4) Queens has the most Greek restaurants at 58 restaurants.

```
> db.restaurants.aggregate([{$match: {"cuisine":"Greek"}},{$group: {_id: "$borough", totalCount: { $sum: 1 } }},{$sort: {totalCount:-1 } }])
{ "_id" : "Queens", "totalCount" : 58 }
{ "_id" : "Manhattan", "totalCount" : 35 }
{ "_id" : "Brooklyn", "totalCount" : 14 }
{ "_id" : "Bronx", "totalCount" : 4 }
```

5)

```
Type "it" for more
> db.restaurants.find({"name":{"regex: /pho /, $options:"i"}}, {"name":1,_id:0}).pretty()
{ "name" : "Pho Bac Vietnamese Seafood Cuisine" }
{ "name" : "Pho Hoai Bay Ridge" }
{ "name" : "Pho Bang Restaurant" }
{ "name" : "Pho 32 & Shabu" }
{ "name" : "Pho Bang Restaurant" }
{ "name" : "Pho Viet-Nam Restaurant" }
{ "name" : "Pho Bang Restaurant" }
{ "name" : "Pho Grand" }
{ "name" : "Pho Vietnamese Restaurant" }
{ "name" : "Baquette Pho Sure" }
{ "name" : "Pho Hoai Rest" }
{ "name" : "Pho Mac Vietnamese Cuisine" }
{ "name" : "Pho Hoang" }
{ "name" : "Pho Viet" }
{ "name" : "Pho Tay Ho 86 Vietnamese Restaurant" }
{ "name" : "Pho Seng" }
{ "name" : "Pho 32" }
{ "name" : "Pho Vietnam 87 Corporation" }
{ "name" : "Pho Rainbow Inc" }
{ "name" : "Pho Thanh Hoai 1" }
Type "it" for more
```

6)

```
> db.restaurants.aggregate([{$match: {"cuisine":"Mexican"}},{$group: {_id: "$borough", totalCount: { $sum: 1 } }},{$sort: {totalCount:-1 } }])
{ "_id" : "Manhattan", "totalCount" : 273 }
{ "_id" : "Brooklyn", "totalCount" : 212 }
{ "_id" : "Queens", "totalCount" : 146 }
{ "_id" : "Bronx", "totalCount" : 89 }
{ "_id" : "Staten Island", "totalCount" : 33 }
{ "_id" : "Missing", "totalCount" : 1 }
```

7)

```
> db.restaurants.aggregate([{$match: {$and: [ {"cuisine": "Italian"}, {"borough": "Brooklyn"} ] }, {$unwind: "$grades"}, {$group: {_id: "$name", totalScores: { $sum: "$grades.score" } }}, {$sort: {totalScores:-1}}, {$limit: 5 }])
{ "_id" : "Joe'S Pizza", "totalScores" : 173 }
{ "_id" : "Anella", "totalScores" : 153 }
{ "_id" : "Tutta Pasta", "totalScores" : 124 }
{ "_id" : "Peppino'S", "totalScores" : 104 }
{ "_id" : "Doc Wine Bar", "totalScores" : 103 }
>
```