

Задание 1

1. Выведите все документы коллекции Ресторан в формате: restaurant_id, name, borough и cuisine, вывод _id для всех документов исключить.

```
restaurants> db.restaurants.find(
...     {},
...     {
...         _id: 0,
...         restaurant_id: 1,
...         name: 1,
...         borough: 1,
...         cuisine: 1
...     }
... )
```

```
{
  borough: 'Bronx',
  cuisine: 'Bakery',
  name: 'Morris Park Bake Shop',
  restaurant_id: '30075445'
},
{
  borough: 'Brooklyn',
  cuisine: 'Hamburgers',
  name: "Wendy'S",
  restaurant_id: '30112340'
},
{
  borough: 'Manhattan',
  cuisine: 'Irish',
  name: 'Dj Reynolds Pub And Restaurant',
  restaurant_id: '30191841'
},
{
  borough: 'Brooklyn',
  cuisine: 'American',
  name: 'Riviera Caterer',
  restaurant_id: '40356018'
},
{
  borough: 'Queens',
  cuisine: 'Jewish/Kosher',
  name: 'Tov Kosher Kitchen',
  restaurant_id: '40356068'
},
```

2. Выведите первые 5 ресторанов в алфавитном порядке, которые находятся в районе Bronx.

```
restaurants> db.restaurants.find({borough: "Bronx"}, {
...     _id:0, restaurant_id:1, name:1, borough:1, cuisine:1})
... .sort({name:1}).limit(5)
```

```
[
  {
    borough: 'Bronx',
    cuisine: 'American',
    name: 'African Market (Baboon Cafe)',
    restaurant_id: '40368026'
  },
  {
    borough: 'Bronx',
    cuisine: 'African',
    name: 'African Terrace',
    restaurant_id: '40368021'
  },
  {
    borough: 'Bronx',
    cuisine: 'Caribbean',
    name: 'Al Cholo Bakery',
    restaurant_id: '40424273'
  },
  {
    borough: 'Bronx',
    cuisine: 'Caribbean',
    name: "Ali'S Roti Shop",
    restaurant_id: '40738028'
  },
  {
    borough: 'Bronx',
    cuisine: 'American',
    name: 'Ambassador Diner',
    restaurant_id: '40403946'
  }
]
```

3. Найдите рестораны, которые набрали более 80, но менее 100 баллов.

```

[{"borough": "Manhattan", "cuisine": "American", "grades": [{"score": 11}, {"score": 131}, {"score": 11}, {"score": 25}, {"score": 11}, {"score": 13}], "name": "Murals On 54/Randolph's S", "restaurant_id": "40372466"}, {"borough": "Manhattan", "cuisine": "Indian", "grades": [{"score": 5}, {"score": 8}, {"score": 12}, {"score": 2}, {"score": 9}, {"score": 92}, {"score": 41}], "name": "Gandhi", "restaurant_id": "40381295"}, {"borough": "Bronx", "cuisine": "Bakery", "grades": [{"score": 100}], "name": "Morris Park Bake Shop", "restaurant_id": "30075445"}, {"borough": "Manhattan", "cuisine": "Irish", "grades": [{"score": 100}], "name": "Dj Reynolds Pub And Restaurant", "restaurant_id": "30191841"}, {"borough": "Queens", "cuisine": "Jewish/Kosher", "grades": [{"score": 100}], "name": "Tov Kosher Kitchen", "restaurant_id": "40356068"}]

```

4. Найдите рестораны, которые не относятся к типу кухни American, получили оценку «A», не расположены в районе Brooklyn. Документ должен отображаться в соответствии с кухней в порядке убывания.

```

[{"borough": "Bronx", "cuisine": "Bakery", "grades": [{"score": 100}], "name": "Morris Park Bake Shop", "restaurant_id": "30075445"}, {"borough": "Manhattan", "cuisine": "Irish", "grades": [{"score": 100}], "name": "Dj Reynolds Pub And Restaurant", "restaurant_id": "30191841"}, {"borough": "Queens", "cuisine": "Jewish/Kosher", "grades": [{"score": 100}], "name": "Tov Kosher Kitchen", "restaurant_id": "40356068"}]

```

5. Найдите идентификатор ресторана, название, район и кухню для тех ресторанов, чье название начинается с первых трех букв назвали «Wil»

```

restaurants> db.restaurants.find(
...   {
...     name: /^Wil/
...   },
...   {
...     _id: 0,
...     restaurant_id: 1,
...     name: 1,
...     borough: 1,
...     cuisine: 1
...   }
... )

```

```

[
  {
    borough: 'Brooklyn',
    cuisine: 'Delicatessen',
    name: "Wilken'S Fine Food",
    restaurant_id: '40356483'
  },
  {
    borough: 'Bronx',
    cuisine: 'American',
    name: 'Wild Asia',
    restaurant_id: '40357217'
  },
  {
    borough: 'Bronx',
    cuisine: 'Pizza',
    name: 'Wilbel Pizza',
    restaurant_id: '40871979'
  }
]

```

6. Найдите рестораны, которые относятся к району Bronx и готовят American или Chinese блюда.

```

restaurants> db.restaurants.find(
...   {
...     borough: "Bronx",
...     cuisine: { $in: ["American", "Chinese"] }
...   },
...   {
...     _id: 0,
...     restaurant_id: 1,
...     name: 1,
...     borough: 1,
...     cuisine: 1
...   }
... )

```

```

[{
  {
    borough: 'Bronx',
    cuisine: 'Chinese',
    name: 'Happy Garden',
    restaurant_id: '40363289'
  },
  {
    borough: 'Bronx',
    cuisine: 'Chinese',
    name: 'Happy Garden',
    restaurant_id: '40364296'
  },
  {
    borough: 'Bronx',
    cuisine: 'Chinese',
    name: 'China Wok II',
    restaurant_id: '40510328'
  }
]

```

7. Найдите идентификатор ресторана, название и оценки для тех ресторанов, которые «2014-08-11T00:00:00Z» набрали 9 баллов за оценку A

```

restaurants> db.restaurants.find({
...   "grades": {
...     $elemMatch: {
...       "grade": "A",
...       "score": 9,
...       "date.$date": 1407715200000
...     }
...   }
... }, {
...   _id: 0,
...   restaurant_id: 1,
...   name: 1,
...   grades: 1
... })

```

```
[  
 {  
   grades: [  
     { date: { '$date': 1407715200000 }, grade: 'A', score: 9 },  
     { date: { '$date': 1389225600000 }, grade: 'A', score: 8 },  
     { date: { '$date': 1368403200000 }, grade: 'B', score: 26 },  
     { date: { '$date': 1346716800000 }, grade: 'B', score: 27 },  
     { date: { '$date': 1328486400000 }, grade: 'B', score: 27 }  
   ],  
   name: 'Naim Kosher Pizza',  
   restaurant_id: '40401060'  
 },  
 {  
   grades: [  
     { date: { '$date': 1421020800000 }, grade: 'A', score: 10 },  
     { date: { '$date': 1407715200000 }, grade: 'A', score: 9 },  
     { date: { '$date': 1389657600000 }, grade: 'A', score: 13 },  
     { date: { '$date': 1360195200000 }, grade: 'A', score: 10 },  
     { date: { '$date': 1335744000000 }, grade: 'A', score: 11 }  
   ],  
   name: 'Club Macanudo (Cigar Bar)',  
   restaurant_id: '40526406'  
 }  
 ]
```

8. В каждом районе посчитайте количество ресторанов по каждому виду кухни. Документ должен иметь формат borough, cuisine, count

```
restaurants> db.restaurants.aggregate([
...   {
...     $group: {
...       _id: {
...         borough: "$borough",
...         cuisine: "$cuisine"
...       },
...       count: {
...         $sum: 1
...       }
...     }
...   }
... ])
```

```
[  
  {  
    _id: { borough: 'Manhattan', cuisine: 'Jewish/Kosher' },  
    count: 14  
  },  
  { _id: { borough: 'Manhattan', cuisine: 'Chicken' }, count: 9 },  
  { _id: { borough: 'Staten Island', cuisine: 'Pizza' }, count: 10 },  
  { _id: { borough: 'Queens', cuisine: 'Chinese/Cuban' }, count: 1 },  
  {  
    _id: { borough: 'Staten Island', cuisine: 'Hamburgers' },  
    count: 12  
  },  
  { _id: { borough: 'Queens', cuisine: 'Egyptian' }, count: 1 },  
  { _id: { borough: 'Queens', cuisine: 'Pizza' }, count: 80 },  
  { _id: { borough: 'Manhattan', cuisine: 'English' }, count: 2 },  
  { _id: { borough: 'Queens', cuisine: 'Delicatessen' }, count: 21 },  
  { _id: { borough: 'Bronx', cuisine: 'Hamburgers' }, count: 41 },  
  { _id: { borough: 'Brooklyn', cuisine: 'Mexican' }, count: 16 },  
]
```

9. В районе Bronx найдите ресторан с минимальной суммой набранных баллов.

```
restaurants> db.restaurants.aggregate([
...   {
...     $match: {
...       borough: "Bronx"
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       name: 1,
...       borough: 1,
...       total_score: {
...         $sum: "$grades.score"
...       }
...     }
...   },
...   {
...     $sort: {
...       total_score: 1
...     }
...   },
...   {
...     $limit: 1
...   }
... ])
[ { borough: 'Bronx', name: 'Ambassador Diner', total_score: 4 } ]
```

10. Добавьте в коллекцию свой любимый ресторан.

```
restaurants> db.restaurants.insertOne({
...   "address": {
...     "building": "29",
...     "coord": [37.7513, 55.7914],
...     "street": "Первомайская улица",
...     "zipcode": 105203
...   },
...   "borough": "Восточный",
...   "cuisine": "Паназиатская",
...   "grades": [
...     {
...       "date": new Date("2024-01-15T00:00:00Z"),
...       "grade": "A",
...       "score": 9
...     },
...     {
...       "date": new Date("2024-06-20T00:00:00Z"),
...       "grade": "A+",
...       "score": 10
...     }
...   ],
...   "name": "Tantra",
...   "restaurant_id": "50012345"
... })
{
  acknowledged: true,
  insertedId: ObjectId('6947c6e3844c779e1116c9b5')
}
```

11. В добавленном ресторане укажите информацию о времени его работы.

```
restaurants> db.restaurants.updateOne(
...   { name: "Tantra" },
...   {
...     $set: {
...       "opening_hours": {
...         "monday": { "open": "12:00", "close": "00:00" },
...         "tuesday": { "open": "12:00", "close": "00:00" },
...         "wednesday": { "open": "12:00", "close": "00:00" },
...         "thursday": { "open": "12:00", "close": "00:00" },
...         "friday": { "open": "12:00", "close": "01:00" },
...         "saturday": { "open": "12:00", "close": "01:00" },
...         "sunday": { "open": "12:00", "close": "00:00" }
...       }
...     }
...   }
... )
```

```
restaurants> db.restaurants.findOne({name: "Tantra"}, {name: 1, working_hours: 1, hours: 1, opening_hours: 1})
{
  _id: ObjectId('6947c6e3844c779e1116c9b5'),
  name: 'Tantra',
  opening_hours: {
    monday: { open: '12:00', close: '00:00' },
    tuesday: { open: '12:00', close: '00:00' },
    wednesday: { open: '12:00', close: '00:00' },
    thursday: { open: '12:00', close: '00:00' },
    friday: { open: '12:00', close: '01:00' },
    saturday: { open: '12:00', close: '01:00' },
    sunday: { open: '12:00', close: '00:00' }
  }
}
```

12. Измените время работы вашего любимого ресторана.

```
restaurants> db.restaurants.updateOne(
...   { name: "Tantra" },
...   {
...     $set: {
...       "opening_hours": {
...         "monday": { "open": "11:00", "close": "23:00" },
...         "tuesday": { "open": "11:00", "close": "23:00" },
...         "wednesday": { "open": "11:00", "close": "23:00" },
...         "thursday": { "open": "11:00", "close": "23:00" },
...         "friday": { "open": "11:00", "close": "00:00" },
...         "saturday": { "open": "11:00", "close": "00:00" },
...         "sunday": { "open": "12:00", "close": "22:00" }
...       }
...     }
...   }
... )
```

```
restaurants> db.restaurants.findOne({name: "Tantra"}, {name: 1, working_hours: 1, hours: 1, opening_hours: 1})
{
  _id: ObjectId('6947c6e3844c779e1116c9b5'),
  name: 'Tantra',
  opening_hours: {
    monday: { open: '11:00', close: '23:00' },
    tuesday: { open: '11:00', close: '23:00' },
    wednesday: { open: '11:00', close: '23:00' },
    thursday: { open: '11:00', close: '23:00' },
    friday: { open: '11:00', close: '00:00' },
    saturday: { open: '11:00', close: '00:00' },
    sunday: { open: '12:00', close: '22:00' }
  }
}
```