

## 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.



```
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 },
  {
    _id: { borough: 'Queens', cuisine: 'Italian' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'American' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'French' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Greek' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Indian' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Japanese' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Korean' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Latin American' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Mediterranean' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Middle Eastern' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Moroccan' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Persian' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Portuguese' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Russian' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Spanish' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Swedish' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Thai' }, count: 10 },
  {
    _id: { borough: 'Manhattan', cuisine: 'Vietnamese' }, count: 10 }
]
```

9. В районе Бронкс 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
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
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' }
  }
}

```