

Q1 Script: db.country.find({\$and: [{GNP:{\$gte : 10000}}, {GNP:{\$lte:15000}}]}, {Name:1,_id:0})

OUTPUT:

```
[
  { Name: 'Bulgaria' },
  { Name: 'Belarus' },
  { Name: 'Brunei' },
  { Name: 'Côte d'Ivoire' },
  { Name: 'Costa Rica' },
  { Name: 'Iraq' },
  { Name: 'Lithuania' },
  { Name: 'Sudan' },
  { Name: 'El Salvador' },
  { Name: 'Uzbekistan' }
]
```

Q2 Script: db.country.find({Capital : {\$exists:true}}).forEach(function(x) {db.country.update({ _id : x._id},{ \$set : {Capital : x.Capital.toString()}});}); db.country.find({Capital : /0/}).count()

OUTPUT:

63

Q3 Script: db.country.distinct('Continent').length

OUTPUT:

7

Q4 Script: db.country.find({}, {Name : 1, GNP : 1, _id : 0}).sort({GNP : -1}).limit(5)

OUTPUT:

```
[
  { Name: 'United States', GNP: 8510700 },
  { Name: 'Japan', GNP: 3787042 },
  { Name: 'Germany', GNP: 2133367 },
  { Name: 'France', GNP: 1424285 },
  { Name: 'United Kingdom', GNP: 1378330 }
]
```

Q5 Script: db.countrylanguage.distinct('Language', {Percentage : {\$gte : 95}, IsoOfficial : 'T'})

OUTPUT:

```
[
  'Albaniana',      'Arabic',
  'Bengali',        'Dhivehi',
  'Dutch',          'English',
  'Faroese',        'Greek',
  'Hungarian',      'Icelandic',
  'Italian',        'Japanese',
  'Kiribati',       'Kirundi',
  'Korean',         'Malagasy',
  'Maltese',        'Marshallese',
  'Norwegian',      'Polish',
  'Portuguese',     'Rwanda',
  'Serbo-Croatian', 'Somali',
  'Spanish',        'Tongan'
]
```

```
]
```

```
Q6 Script: db.city.find({ Name: /Los/i, Population : {$gte : 200000}},
{Name:1,_id:0})
```

```
OUTPUT:
```

```
[
  { Name: 'Santiago de los Caballeros' },
  { Name: 'Santo Domingo de los Colorados' },
  { Name: 'Ecatepec de Morelos' },
  { Name: 'San Nicolás de los Garza' },
  { Name: 'Los Angeles' }
]
```

```
Q7 Script: db.country.aggregate({$group : { _id : '$Continent', average_GNP : {$avg
: '$GNP'}}})
```

```
OUTPUT:
```

```
[
  { _id: 'Europe', average_GNP: 206497.0652173913 },
  { _id: 'Africa', average_GNP: 10006.465517241379 },
  { _id: 'Antarctica', average_GNP: 0 },
  { _id: 'North America', average_GNP: 261854.78918918918 },
  { _id: 'South America', average_GNP: 107991 },
  { _id: 'Oceania', average_GNP: 14991.953571428572 },
  { _id: 'Asia', average_GNP: 150105.72549019608 }
]
```

Find top-10 most popular official language, ranked by the number of countries where the language is official (i.e., the count). Return language and count.

```
db.countrylanguage.aggregate([{$match:{IsOfficial:"T"}},{ $group:
{_id:"$Language",Count:{$sum:1}}},{ $sort:{Count:-1}},{ $limit:10}])
```

```
Q8 Script: db.countrylanguage.aggregate({$match : {IsOfficial : 'T'}}, {$group :
{_id : '$Language', count : {$sum:1}}},{ $sort: {count : -1}},{ $limit:10})
```

```
OUTPUT:
```

```
[
  { _id: 'English', count: 44 },
  { _id: 'Arabic', count: 22 },
  { _id: 'Spanish', count: 20 },
  { _id: 'French', count: 18 },
  { _id: 'Portuguese', count: 6 },
  { _id: 'German', count: 6 },
  { _id: 'Dutch', count: 4 },
  { _id: 'Italian', count: 4 },
  { _id: 'Malay', count: 4 },
  { _id: 'Russian', count: 3 }
]
```

```
Q9 Script: db.country.aggregate({$match : {Continent : 'North America', GNP : {$gte
: 100000}}},{ $lookup : {from : 'city', localField : 'Capital', foreignField : 'ID',
as : 'res'}},{ $project : { Name : 1, "res.Name" : 1, _id : 0}})
```

```
OUTPUT:
```

```
[
  { Name: 'Canada', res: [ { Name: 'Ottawa' } ] },
  { Name: 'Mexico', res: [ { Name: 'Ciudad de México' } ] },
  { Name: 'United States', res: [ { Name: 'Washington' } ] }
]
```

```
]
```

```
Q10 Script: db.countrylanguage.aggregate({$lookup : {from : 'country', localField :  
'CountryCode', foreignField : 'Code', as : 'res'}}}, {$match : {"res.Continent" :  
'North America', Language : "English", IsOfficial : 'T'}}}, {$project :  
{"res.Name":1, _id : 0}})
```

```
OUTPUT:
```

```
[
```

```
  { res: [ { Name: 'Anguilla' } ] },  
  { res: [ { Name: 'Antigua and Barbuda' } ] },  
  { res: [ { Name: 'Belize' } ] },  
  { res: [ { Name: 'Bermuda' } ] },  
  { res: [ { Name: 'Barbados' } ] },  
  { res: [ { Name: 'Canada' } ] },  
  { res: [ { Name: 'Cayman Islands' } ] },  
  { res: [ { Name: 'Saint Kitts and Nevis' } ] },  
  { res: [ { Name: 'Saint Lucia' } ] },  
  { res: [ { Name: 'Montserrat' } ] },  
  { res: [ { Name: 'Turks and Caicos Islands' } ] },  
  { res: [ { Name: 'United States' } ] },  
  { res: [ { Name: 'Saint Vincent and the Grenadines' } ] },  
  { res: [ { Name: 'Virgin Islands, British' } ] },  
  { res: [ { Name: 'Virgin Islands, U.S.' } ] }
```

```
]
```