

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.count({"Capital":{"\$in":["0",0]}})

OUTPUT:

```
world> db.country.count({"Capital":{"$in":["0",0]}})
DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.
7
```

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

OUTPUT:

```
world> db.country.distinct("Continent").length
7
```

Q4 Script:

db.country.aggregate({\$group:{\_id:"\$Name",max\_gnp:{\$max:"\$GNP"}},{ \$sort:{max\_gnp:-1}},{ \$limit:5})

OUTPUT:

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

Q5 Script: db.countrylanguage.distinct("Language",{IsOfficial:/T/},{Percentage:{\$gt:95}})

OUTPUT:

```
[
  'Afrikaans',      'Aimara',      'Albanian',     'Arabic',
  'Armenian',      'Azerbaijani', 'Belarusian',   'Bengali',
  'Bislama',       'Bulgarian',   'Burmese',      'Catalan',
  'Chamorro',     'Chichewa',    'Chinese',      'Comorian',
  'Czech',        'Danish',      'Dari',         'Dhivehi',
  'Dutch',        'Dzongkha',    'English',      'Estonian',
  'Ewe',          'Faroese',     'Fijian',       'Finnish',
  'French',       'Georgian',    'German',       'Greek',
  'Greenlandic',  'Guaraní',     'Hebrew',       'Hindi',
  'Hungarian',    'Icelandic',   'Irish',        'Italian',
  'Japanese',     'Kabyäc',      'Kazakh',       'Ketšua',
  'Khmer',        'Kirgiz',      'Kiribati',     'Kirundi',
  'Korean',       'Lao',         'Latvian',      'Lithuanian',
  'Luxembourgish', 'Macedonian',  'Malagasy',     'Malay',
  'Maltese',      'Mandarin Chinese', 'Maori',      'Marshallese',
  'Mongolian',    'Nauru',       'Nepali',       'Norwegian',
  'Palau',        'Papiamentu',  'Pashto',      'Persian',
  'Pilipino',     'Polish',      'Portuguese',   'Romani',
  'Romanian',     'Romansh',     'Russian',      'Rwanda',
  'Samoan',       'Serbo-Croatian', 'Singali',     'Slovak',
  'Slovene',      'Somali',      'Sotho',       'Spanish',
  'Swahili',      'Swazi',       'Swedish',     'Tadzhik',
  'Tamil',        'Thai',        'Tigrinya',    'Tongan',
  'Turkish',      'Turkmenian',  'Tuvalu',     'Ukrainian',
  'Urdu',         'Uzbek',       'Vietnamese',  'Wolof',
  ... 2 more items
]
```

Q6 Script: db.city.find({\$and:[{Population: { \$gte: 200000 } }, { Name: /los/i}],{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", stat:{\$avg:"\$GNP"}}})

OUTPUT:

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

Q8 Script:

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

OUTPUT:

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

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

OUTPUT:

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

Q10 Script: db.countrylanguage.aggregate({\$match:  
{\$and:[{Language:/English/i},{IsOfficial:/T/}]}, { \$lookup: { from: "country", localField:  
"CountryCode", foreignField: "Code", as: "res" }},{ \$match:{"res.Continent":"North America"}}  
,\$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.' } ] }
]
```