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DSCI551

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

Output:

[

{ Name: 'Bulgaria' },

{ Name: 'Belarus' },

{ Name: 'Brunei' },

{ Name: 'CÃ´te dÂ’Ivoire' },

{ Name: 'Costa Rica' },

{ Name: 'Iraq' },

{ Name: 'Lithuania' },

{ Name: 'Sudan' },

{ Name: 'El Salvador' },

{ Name: 'Uzbekistan' }

]

Q2 Script: db.country.aggregate({$set:{Capital:{$toString: '$Capital'}}},{$match: {"Capital":/0/}},{$group: {\_id:null, Count:{$sum:1}}})

Output: 63

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

Output:

[

'Africa',

'Antarctica',

'Asia',

'Europe',

'North America',

'Oceania',

'South America'

]

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",{$and:[{"IsOfficial":"T"},{"Percentage":{$gte:95}}]})

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({$and:[{"Name":/Los/i},{"Population":{$gte:200000}}]},{"Name":1,"\_id":0})

Output:

[

{ Name: 'Santiago de los Caballeros' },

{ Name: 'Santo Domingo de los Colorados' },

{ Name: 'Ecatepec de Morelos' },

{ Name: 'San NicolÃ¡s de los Garza' },

{ Name: 'Los Angeles' }

]

Q7 Script: db.country.aggregate({$group: {\_id: "$Continent",avg\_gnp:{$avg: "$GNP"}}})

Output:

[

{ \_id: 'Asia', avg\_gnp: 150105.72549019608 },

{ \_id: 'North America', avg\_gnp: 261854.78918918918 },

{ \_id: 'Europe', avg\_gnp: 206497.0652173913 },

{ \_id: 'Oceania', avg\_gnp: 14991.953571428572 },

{ \_id: 'Antarctica', avg\_gnp: 0 },

{ \_id: 'Africa', avg\_gnp: 10006.465517241379 },

{ \_id: 'South America', avg\_gnp: 107991 }

]

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: 'Italian', cnt: 4 },

{ \_id: 'Dutch', cnt: 4 },

{ \_id: 'Danish', cnt: 3 }

]

Q9 Script: db.country.aggregate({$match:{"Continent":'North America'}},{$lookup:{from:'city',localField:'Capital',foreignField:'ID', as:'res'}},{$match:{GNP:{$gte:100000}}},{$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.country.aggregate({$match:{"Continent":'North America'}},{$lookup:{from:'countrylanguage',localField:'Code',foreignField:'CountryCode', as:'res'}},{$match:{$and:[{"res.Language":"English"},{"res.IsOfficial":"T"}]}},{$project:{Name:1, \_id:0}})

Output:

[

{ Name: 'Aruba' },

{ Name: 'Anguilla' },

{ Name: 'Netherlands Antilles' },

{ Name: 'Antigua and Barbuda' },

{ Name: 'Belize' },

{ Name: 'Bermuda' },

{ Name: 'Barbados' },

{ Name: 'Canada' },

{ Name: 'Cayman Islands' },

{ Name: 'Saint Kitts and Nevis' },

{ Name: 'Saint Lucia' },

{ Name: 'Montserrat' },

{ Name: 'Puerto Rico' },

{ Name: 'Turks and Caicos Islands' },

{ Name: 'United States' },

{ Name: 'Saint Vincent and the Grenadines' },

{ Name: 'Virgin Islands, British' },

{ Name: 'Virgin Islands, U.S.' }

]