PROIECT ABD – Universitatea Politehnica Timisoara

Master TI, studentă Iriza Ștefania

Anul I

În acest proiect voi reprezenta subpunctele a, b, c și d structurate în imaginile de mai jos.

1. Get the states with a total population of over 10 million.

db.america.aggregate([

{ "$group": { "\_id": "$state\_id", "state": { "$first": "$state\_name" }, "pop": { "$sum": "$population" } } },

{ "$match": { "pop": { "$gt": 10 \* 1000000 } } }

])

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1. Get the average city population by state.

db.america.aggregate([

{ "$group": { "\_id": { "state\_id": "$state\_id", "city": "$city" }, "city\_population": { "$sum": "$population" } } },

{ "$group": { "\_id": "$\_id.state\_id", "average\_city\_population": { "$avg": "$city\_population" } } },

{ "$project": { "state\_id": "$\_id", "average\_city\_population": { "$round": ["$average\_city\_population", 0] }, "\_id": 0 } }

])

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c) Get the largest and the smallest city in each state.

db.america.aggregate([

{ "$group": { "\_id": { "state\_id": "$state\_id", "city": "$city" }, "population": { "$sum": "$population" } } },

{ "$sort": { "population": 1 } },

{ "$group": {

"\_id": "$\_id.state\_id",

"smallest\_city": { "$first": "$\_id.city" },

"smallest\_population": { "$first": "$population" },

"largest\_city": { "$last": "$\_id.city" },

"largest\_population": { "$last": "$population" }

} }

])

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d) Get the largest and the smallest counties in each state.

db.america.aggregate([

{ "$group": { "\_id": { "state\_name": "$state\_name", "county\_name": "$county\_name" }, "population": { "$sum": "$population" } } },

{ "$sort": { "population": 1 } },

{ "$group": { "\_id": "$\_id.state\_name", "smallest\_county": { "$first": { "county\_name": "$\_id.county\_name", "population": "$population" } }, "largest\_county": { "$last": { "county\_name": "$\_id.county\_name", "population": "$population" } } } }

])

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