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MongoDB - Aggregation and Indexing: Design and Develop MongoDB Queries using aggregation and indexing with suitable example using MongoDB.

Output:

Please enter a MongoDB connection string (Default: mongodb://localhost/): mongo mongo

Current Mongosh Log ID: 66fff79d605fb35090c73bf7

Connecting to:

mongodb://127.0.0.1:27017/mongo?directConnection=true&serverSelectionTimeoutMS=200 0&appName=mongosh+2.3.1

Using MongoDB: 8.0.0

Using Mongosh: 2.3.1

For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/

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The server generated these startup warnings when booting

2024-10-04T05:52:52.759+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted

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mongo> show dbs

admin 40.00 KiB config 108.00 KiB local 72.00 KiB stu\_details 72.00 KiB mongo> use customer switched to db customer

customer> db.cust\_tab.insertMany([{Item\_id:01, Name: "Vinay", Product: "Red Wine", Amount: 29000}, {Item\_id:02, Name: "Vinay", Product: "White Wine", Amount: 15000},

{Item\_id:03, Name: "Vaishnavi", Product: "Italian Cuisine", Amount: 5500}, {Item\_id:04,

Name: "Vaishnavi", Product: "Coffee", Amount: 800}, {Item\_id:05, Name: "Gaurav",

Product: "Korean Ramen", Amount: 1800}]);

{

acknowledged: true, insertedIds: {

'0': ObjectId('66fff90c605fb35090c73bf8'),

'1': ObjectId('66fff90c605fb35090c73bf9'), '2': ObjectId('66fff90c605fb35090c73bfa'),

'3': ObjectId('66fff90c605fb35090c73bfb'),

'4': ObjectId('66fff90c605fb35090c73bfc')

} } customer> db.cust\_tab.aggregate({$group: {\_ID\_: "$Name", "Total": {$sum: "Amount"}}}); MongoServerError[Location40234]: The field '\_ID\_' must be an accumulator object customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$sum: "Amount"}}});

[

{ \_id: 'Vaishnavi', Total: 0 },

{ \_id: 'Vinay', Total: 0 },

{ \_id: 'Gaurav', Total: 0 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$sum: "$Amount"}}});

[

{ \_id: 'Vaishnavi', Total: 6300 },

{ \_id: 'Vinay', Total: 44000 },

{ \_id: 'Gaurav', Total: 1800 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$avg: "$Amount"}}});

[

{ \_id: 'Vaishnavi', Total: 3150 },

{ \_id: 'Vinay', Total: 22000 },

{ \_id: 'Gaurav', Total: 1800 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$min: "$Amount"}}});

[

{ \_id: 'Vaishnavi', Total: 800 },

{ \_id: 'Vinay', Total: 15000 },

{ \_id: 'Gaurav', Total: 1800 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$max: "$Amount"}}});

[

{ \_id: 'Vinay', Total: 29000 },

{ \_id: 'Gaurav', Total: 1800 },

{ \_id: 'Vaishnavi', Total: 5500 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$first: "$Amount"}}});

[

{ \_id: 'Vinay', Total: 29000 },

{ \_id: 'Vaishnavi', Total: 5500 },

{ \_id: 'Gaurav', Total: 1800 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$last: "$Amount"}}});

[

{ \_id: 'Vaishnavi', Total: 800 },

{ \_id: 'Vinay', Total: 15000 },

{ \_id: 'Gaurav', Total: 1800 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$push: "$Amount"}}});

[

{ \_id: 'Vinay', Total: [ 29000, 15000 ] },

{ \_id: 'Gaurav', Total: [ 1800 ] },

{ \_id: 'Vaishnavi', Total: [ 5500, 800 ] }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$sum:1}}});

[

{ \_id: 'Vinay', Total: 2 },

{ \_id: 'Gaurav', Total: 1 },

{ \_id: 'Vaishnavi', Total: 2 }

]

customer> db.cust\_tab.aggregate({$group: {\_id: "$Name", "Total": {$addToSet:"$Amount"}}});

[

{ \_id: 'Vinay', Total: [ 15000, 29000 ] },

{ \_id: 'Gaurav', Total: [ 1800 ] },

{ \_id: 'Vaishnavi', Total: [ 800, 5500 ] } ] customer> db.cust\_tab.createIndex({'Item\_id':1}) Item\_id\_1 customer> db.cust\_tab.createIndex({'Item\_id':2}) Item\_id\_2 customer> db.cust\_tab.createIndex({'Item\_id':4}) Item\_id\_4 customer> db.cust\_tab.dropIndex({'Item\_id':4})

{ nIndexesWas: 4, ok: 1 } customer> db.cust\_tab.dropIndex({'Item\_id':1})

{ nIndexesWas: 3, ok: 1 } customer> db.cust\_tab.getIndexes()

[

{ v: 2, key: { \_id: 1 }, name: '\_id\_' },

{ v: 2, key: { Item\_id: 2 }, name: 'Item\_id\_2' }

]

customer>