MONGODB TEST

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Q1. Find the total revenue (price × quantity) for each item, sorted from highest to lowest?

db.data.aggregate([

{

$project: {

\_id: 0,

name: 1,

totalRevenue: { $multiply: ["$price", "$quantity"] }

}

},

{

$sort: { totalRevenue: -1 }

}

]);

Q2. Calculate the total quantity sold per month in 2022?

db.data.aggregate([

{

$match: {

date: {

$gte: ISODate("2022-01-01T00:00:00Z"),

$lt: ISODate("2023-01-01T00:00:00Z")

}

}

},

{

$group: {

\_id: { month: { $month: "$date" } },

totalQuantity: { $sum: "$quantity" }

}

},

{

$sort: { "\_id.month": 1 }

}

]);

Q3 Find all items where price is greater than 10 and size is not 'Short’?

db.data.find({

price: { $gt: 10 },

size: { $ne: "Short" }

});

Q4 Get all Cappuccino sales with quantity between 10 and 20?

db.data.find({

item: "Cappuccino",

quantity: { $gte: 10, $lte: 20 }

});

Q5 Query to find items where the item name starts with "A"?  
db.data.find({

item: { $regex: /^A/, $options: 'i' }

});

Q6 Find all records that do not have the field size?

db.data.find({

size: { $exists: false }

});

Q7 Find all sales that are either "Grande" or "Tall" but not "Americanos"?

db.data.find({

size: { $in: ["Grande", "Tall"] },

item: { $ne: "Americanos" }

});

Q8 List all items sold in February 2022?

db.data.find(

{

date: {

$gte: ISODate("2022-02-01T00:00:00Z"),

$lt: ISODate("2022-03-01T00:00:00Z")

}

},

{

\_id: 0,

item: 1

}

);

Q9 Find sales where the quantity is more than twice the price?

db.data.find({

$expr: {

$gt: ["$quantity", { $multiply: [2, "$price"] }]

}

});

Q10 Find all sales where the price is greater than the average price of their respective size?

db.data.aggregate([

{

$group: {

\_id: "$size",

avgPrice: { $avg: "$price" }

}

},

{

$lookup: {

from: "data",

localField: "\_id",

foreignField: "size",

as: "items"

}

},

{ $unwind: "$items" },

{

$match: {

$expr: { $gt: ["$items.price", "$avgPrice"] }

}

},

{

$project: {

\_id: "$items.\_id",

item: "$items.item",

size: "$items.size",

price: "$items.price",

avgPrice: 1

}

}

]);

Q11 Find Sales Where the Day of Week Matches Quantity's Last Digit?

db.data.aggregate([

{

$addFields: {

dayOfWeek: { $dayOfWeek: "$date" },

lastDigit: { $mod: ["$quantity", 10] }

}

},

{

$match: {

$expr: { $eq: ["$dayOfWeek", "$lastDigit"] }

}

},

{

$project: {

\_id: 0,

item: 1,

date: 1,

quantity: 1,

dayOfWeek: 1,

lastDigit: 1

}

}

]);

Q12. Find Sales Where the Month is Prime and Quantity is Odd [Filter sales where the month (1-12) is a prime number (2,3,5,7,11) AND quantity is odd]?

db.data.aggregate([

{

$addFields: {

month: { $month: "$date" },

isOddQuantity: { $mod: ["$quantity", 2] }

}

},

{

$match: {

$expr: {

$and: [

{ $in: ["$month", [2, 3, 5, 7, 11]] },

{ $eq: ["$isOddQuantity", 1] }

]

}

}

},

{

$project: {

\_id: 0,

item: 1,

quantity: 1,

date: 1,

month: 1

}

}

]);

Q13. Find Sales with "Suspicious Quantities" (Divisible by 5 or 7) [Filter sales where quantity is divisible by 5 or 7] ?

db.data.aggregate([

{

$addFields: {

month: { $month: "$date" },

isOddQuantity: { $mod: ["$quantity", 2] }

}

},

{

$match: {

$expr: {

$and: [

{ $in: ["$month", [2, 3, 5, 7, 11]] },

{ $eq: ["$isOddQuantity", 1] } ]

}

}

},

{

$project: {

\_id: 0,

item: 1,

quantity: 1,

date: 1,

month: 1

}

}

]);