**MONGODB TEST ANSWERS**

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

db.sales.aggregate([

{

$project: {

item:1,

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

}

},{

$group: {

\_id: "$item",

revenue: {$sum: "$revenue"}

}

},

{

$sort: {revenue:-1}

}

])

1. Calculate the total quantity sold per month in 2022.

db.sales.aggregate([

{

$match: {

date: {

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

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

}

}

},

{

$group: {

\_id: {

year: {$year: "$date" },

month: {$month: "$date"}

},

total: {$sum: "$quantity"}

}

},

{

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

}

])

1. Find all items where price is greater than 10 and size is not 'Short'.

db.sales.find({

price: {$gt: 10},

size: {$ne: "Short"}

})

1. Get all Cappuccino sales with quantity between 10 and 20.

db.sales.find({

item: "Cappuccino",

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

});

1. Query to find items where the item name starts with "A".

db.sales.find({

item: {$regex: /^A/}

});

1. Find all records that do not have the field size.

db.sales.find({

size: {$exists: false}

});

1. List all items sold in February 2022.

db.sales.find({

date: {

$gte: ISODate("2022-02-21T00:00:00Z"),

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

}

})

1. Find all sales that are either "Grande" or "Tall" but not "Americanos".

db.sales.find({

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

item: {$ne: "Americanos"}

})

1. Find sales where the quantity is more than twice the price.

db.sales.find({

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

})

1. Find all sales where the price is greater than the average price of their respective size.

db.sales.aggregate([

{

$group: {

\_id: "$size",

avgPrice: {$avg: "%price"}

}

},])

1. Find Sales Where the Month is Prime and Quantity is Odd

db.sales.find({

$expr: {

$and: [

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

{ $eq: [ { $mod: ["$quantity", 2] }, 1 ] }

]

}

});

1. Find Sales with "Suspicious Quantities" (Divisible by 5 or 7)

db.sales.find({

$expr: {

$or: [

{$eq: [{$mod: ["$quantity",5]},0]},

{$eq:[{$mod:["$quantity",7]},0]}

]

}

})