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

db.sales.aggregate([

{$group:{

\_id:'$item',

revenue: { $sum: {$multiply: ['$price','$quantity']} }

}},

{

$sort: {revenue: -1}

}

])

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

db.sales.aggregate([

{$match: { date:{

$gte: new ISODate(‘2022-01-01’),

$lte: new ISODate('2022-12-31')

}}},

{$group:{

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

totalQuantity: { $sum: '$quantity'}

}}

])

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: /^A/})

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

db.sales.find({

size: {$exists:false}

})

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

db.sales.find({

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

item:{$ne: 'Americanos'}

})

1. **List all items sold in February 2022**

db.sales.find({

date:{

$gte: new ISODate('2022-02-01'),

$lte: new ISODate('2022-02-29')

}}

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

db.sales.find({

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

})

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'}

}},

{$match:{

$expr: {$gt: ['$price','$avgPrice']}}

}

])

1. **Find Sales Where the Day of Week Matches Quantity's Last Digit**

db.sales.find({

$where: function(){

return this.date.getDay()==this.quantity%10;

}

})

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

db.sales.find({

$where: function(){

return [2,3,5,7,11].includes(this.date.getMonth()+1) && this.quantity%2==1;

}

})

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

db.sales.find({

$where: function(){

return this.quantity%5==0 || this.quantity%7==0;

}

})