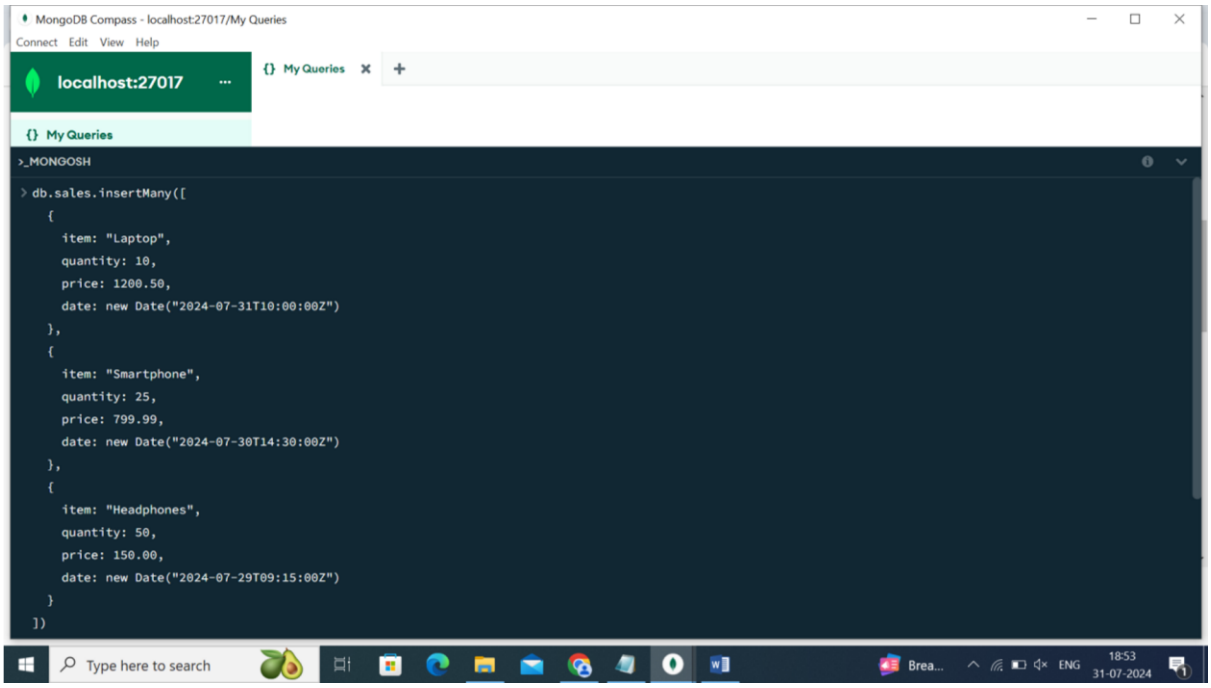
Assignment 2: Aggregation Framework

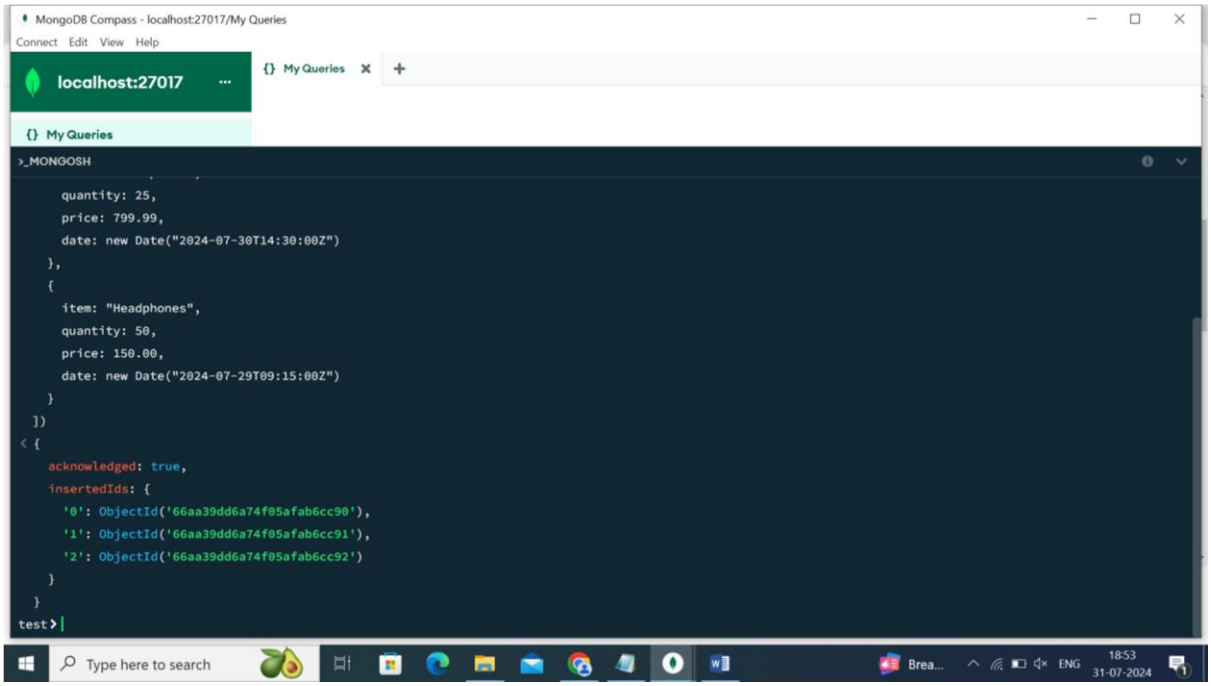
Objective: Understand and use the aggregation framework to perform complex data analysis.

DATE:31/07/2024

Tasks:

1.Insert documents into a sales collection with fields such asitem, quantity, price, and date.




MongoDB Compass - localhost:27017/My Queries
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localhost:27017
My Queries
My Queries
>_MONGOSH
quantity: 25,
price: 799.99,
date: new Date("2024-07-30T14:30:00Z")
},
{
item: "Headphones",
quantity: 50,
price: 150.00,
date: new Date("2024-07-29T09:15:00Z")
}
])
{
acknowledged: true,
insertedIds: {
'0': ObjectId('66aa39dd6a74f05afab6cc90'),
'1': ObjectId('66aa39dd6a74f05afab6cc91'),
'2': ObjectId('66aa39dd6a74f05afab6cc92')
}
}
test
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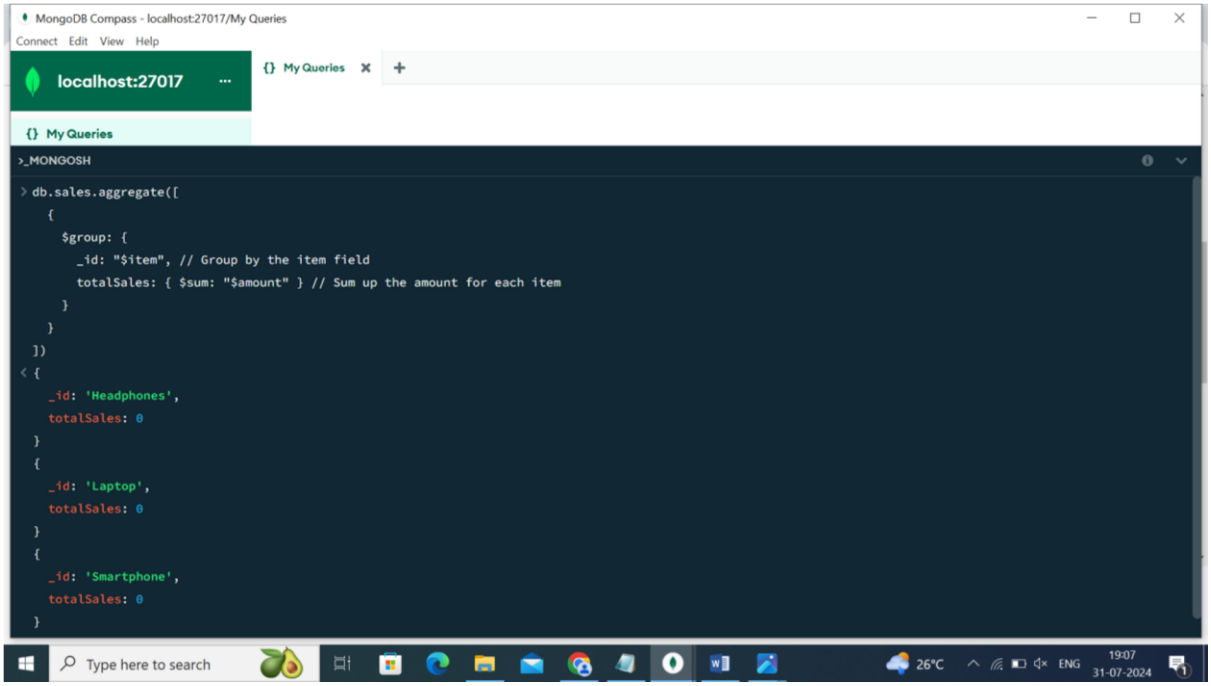
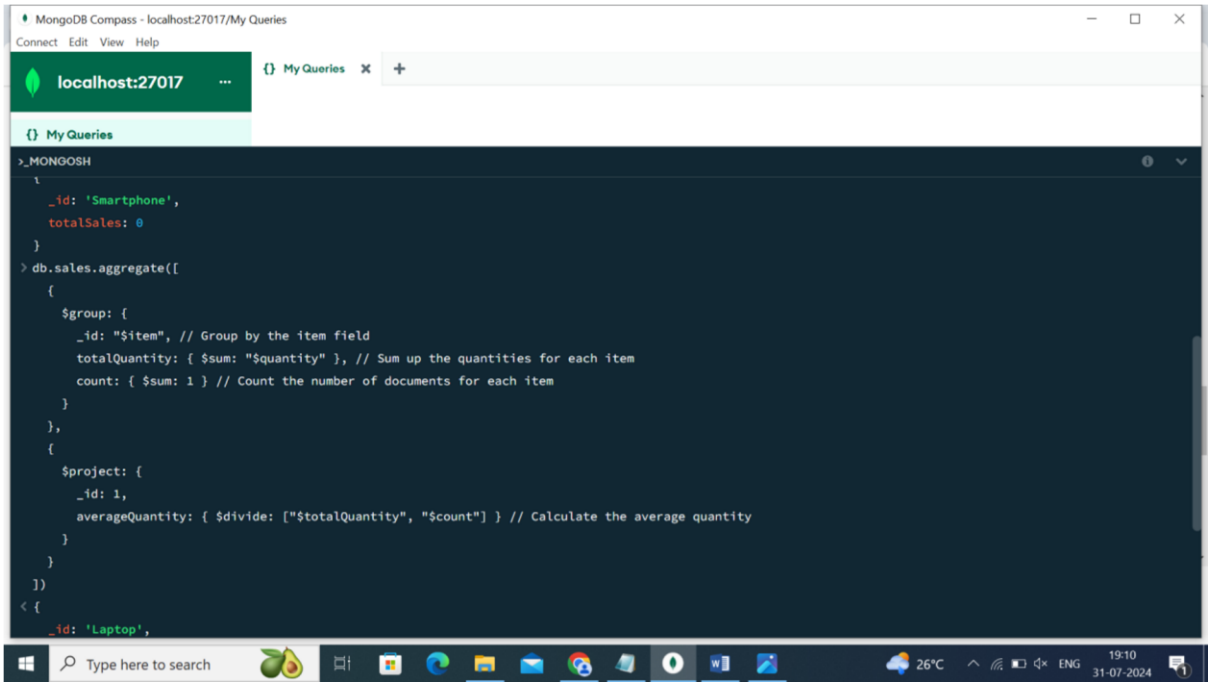
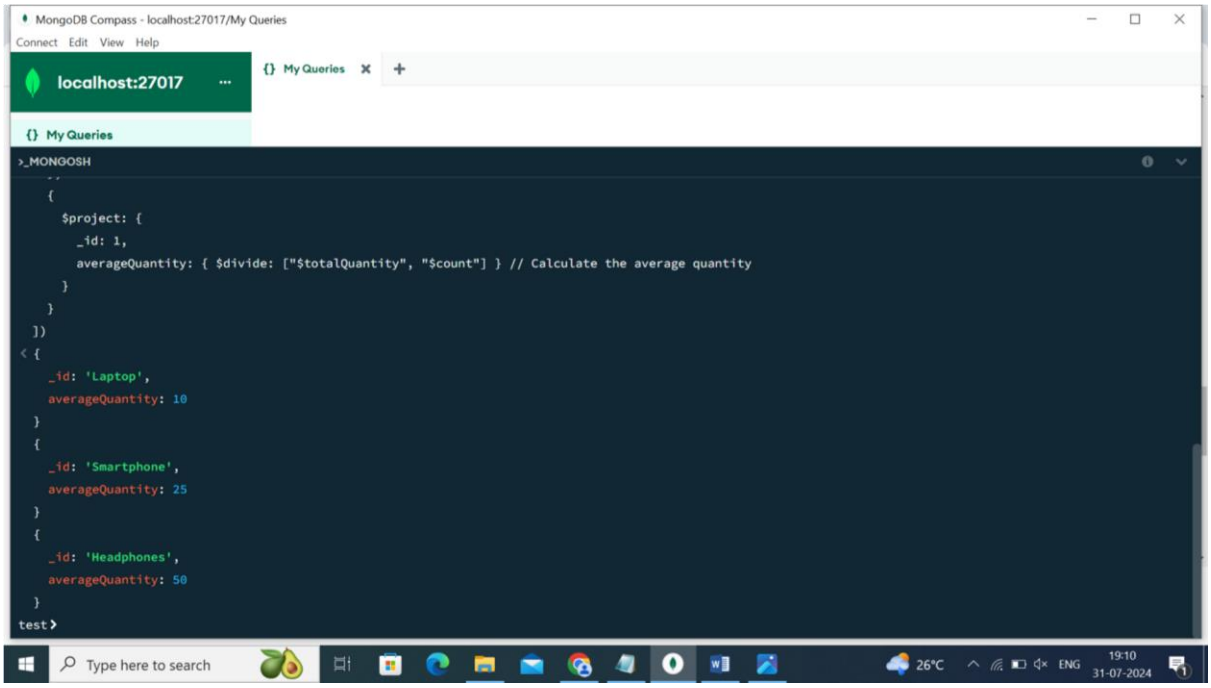
31-07-2024

2. Calculate the total sales amount for each item.





3. Find the average quantity sold per item


MongoDB Compass - localhost:27017/My Queries
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My Queries
My Queries
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{
$project: {
_id: 1,
averageQuantity: { $divide: ["$totalQuantity", "$count"] } // Calculate the average quantity
}
}
])
{
_id: 'Laptop',
averageQuantity: 10
}
{
_id: 'Smartphone',
averageQuantity: 25
}
{
_id: 'Headphones',
averageQuantity: 50
}
test
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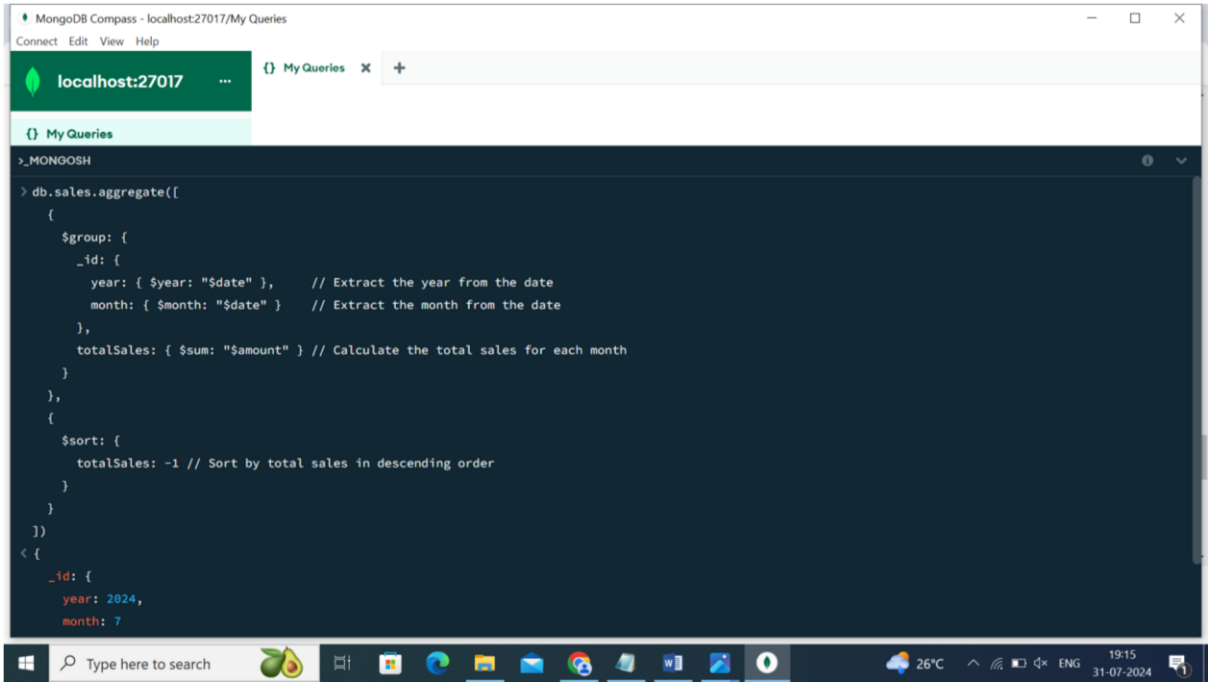
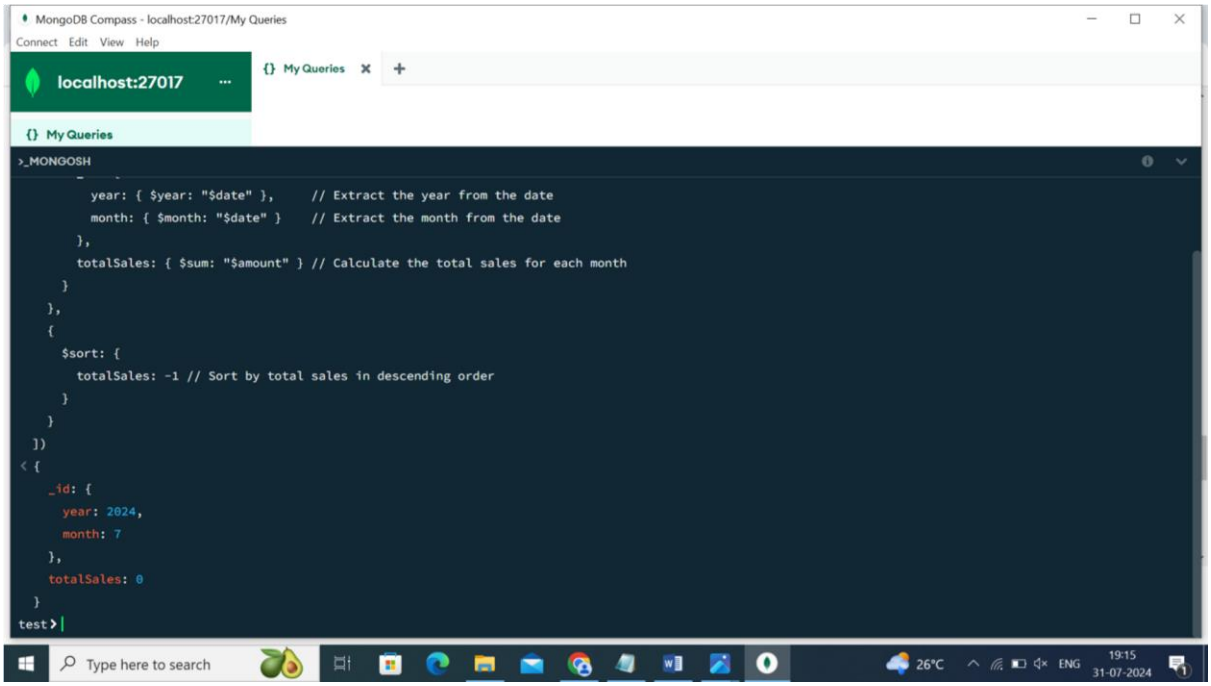
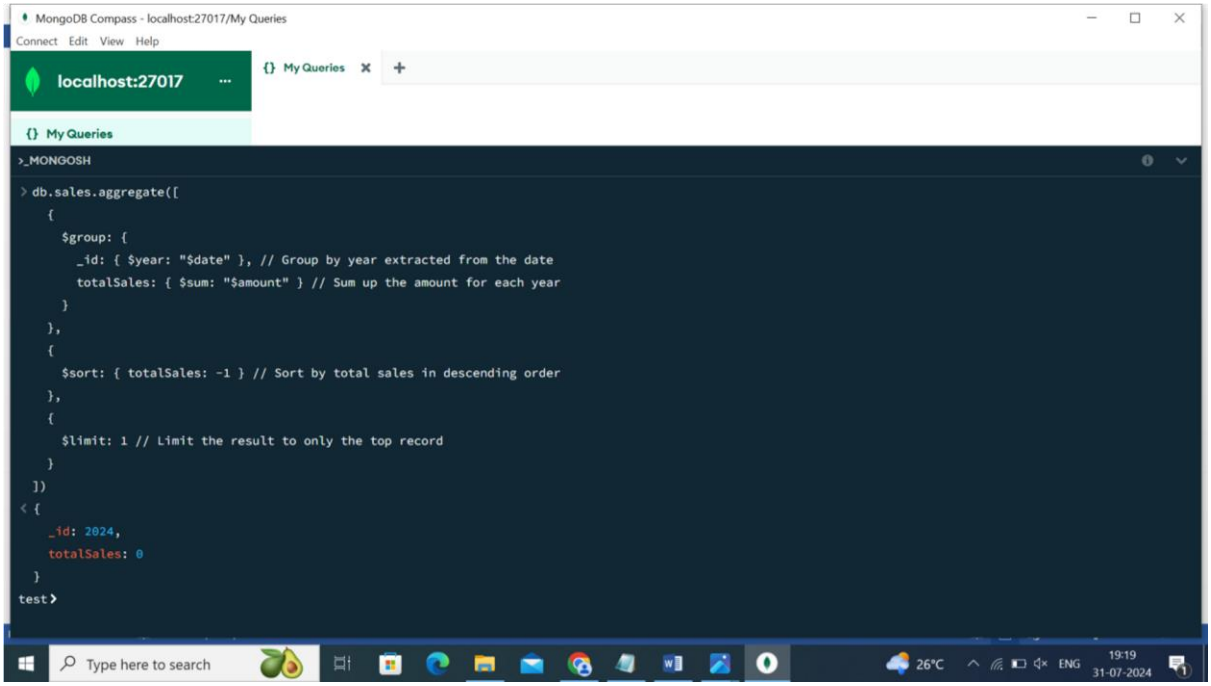
31-07-2024

4.Group sales by month and calculate the total sales foreach month and sort from the largest value




MongoDB Compass - localhost:27017/My Queries
Connect Edit View Help
localhost:27017
My Queries
My Queries
>_MONGOSH
year: { $year: "$date" }, // Extract the year from the date
month: { $month: "$date" } // Extract the month from the date
},
totalSales: { $sum: "$amount" } // Calculate the total sales for each month
}
},
{
$sort: {
totalSales: -1 // Sort by total sales in descending order
}
}
])
{
_id: {
year: 2024,
month: 7
},
totalSales: 0
}
test >
Type here to search
26°C
ENG
19:15
31-07-2024

5.Display which year has the maximum sales.



6. Write aggregation pipelines to: