Day 5

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Date : 31/7/2024

Tasks

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

2.Write aggregation pipelines to:

- Calculate the total sales amount for each item.
- Find the average quantity sold per item.
- Group sales by month and calculate the total sales for each month and sort from the largest value.
- Display which year has the maximum sales.

Insert Documents :

```
Practice> db.sales.insertMany([
        { item: "apple", quantity: 10, price: 1, date: new ISODate("2023-01-01") },
        { item: "banana", quantity: 5, price: 2, date: new ISODate("2023-01-02") },
        { item: "apple", quantity: 15, price: 1, date: new ISODate("2023-02-01") },
        { item: "banana", quantity: 10, price: 2, date: new ISODate("2023-02-02") },
        { item: "orange", quantity: 20, price: 3, date: new ISODate("2023-03-01") }
    ]);
```

Calculate the Total Sales Amount for Each Item :

```
> db.sales.aggregate([
    {
      $group: {
        _id: "$item",
        totalSales: { $sum: { $multiply: ["$quantity", "$price"] } }
      }
    }
  ]);
< {
    _id: 'apple',
    totalSales: 25
  }
  {
    _id: 'banana',
    totalSales: 30
  }
  {
    _id: 'orange',
    totalSales: 60
  }
```

Find the Average Quantity Sold per Item :

```
> db.sales.aggregate([
    {
      $group: {
        _id: "$item",
        averageQuantity: { $avg: "$quantity" }
      }
    }
  ]);
< {
    _id: 'orange',
    averageQuantity: 20
  }
  {
    _id: 'apple',
    averageQuantity: 12.5
  }
  {
    _id: 'banana',
    averageQuantity: 7.5
  }
Practice>
```

Group Sales by Month and Calculate the Total Sales for Each Month and Sort from the Largest Value :

```
> db.sales.aggregate([
    {
      $group: {
        _id: { $month: "$date" },
        totalSales: { $sum: { $multiply: ["$quantity", "$price"] } }
      }
    },
    { $sort: { totalSales: -1 } }
  ]);
< {
    _id: 3,
    totalSales: 60
  }
  {
    _id: 2,
    totalSales: 35
  }
  {
    _id: 1,
    totalSales: 20
  }
```

Display Which Year Has the Maximum Sales:

```
> db.sales.aggregate([
    {
      $group: {
        _id: { $year: "$date" },
        totalSales: { $sum: { $multiply: ["$quantity", "$price"] } }
      }
    },
    { $sort: { totalSales: -1 } },
    { $limit: 1 }
  ]);
< {
    _id: 2023,
    totalSales: 115
  }
```