

## 5 – DAY – TASK (31-07-2024)

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

Query & Output:

```
> db.sales.insertMany([
  { item: "item1", quantity: 10, price: 100, date: new Date("2024-01-15") },
  { item: "item2", quantity: 5, price: 200, date: new Date("2024-01-18") },
  { item: "item1", quantity: 15, price: 100, date: new Date("2024-02-20") },
  { item: "item3", quantity: 20, price: 300, date: new Date("2024-02-25") }
]);
< {
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('66aa6010ca9aee7a3f5fdb0'),
    '1': ObjectId('66aa6010ca9aee7a3f5fdb1'),
    '2': ObjectId('66aa6010ca9aee7a3f5fdb2'),
    '3': ObjectId('66aa6010ca9aee7a3f5fdb3')
  }
}
```

2. Calculate the total sales amount for each item:

Query & Output:

```
> db.sales.aggregate([
  {
    $group: {
      _id: "$item",
      totalSalesAmount: { $sum: { $multiply: ["$quantity", "$price"] } }
    }
  }
]);
< {
  _id: 'item2',
  totalSalesAmount: 1000
}
{
  _id: 'item1',
  totalSalesAmount: 2500
}
{
  _id: 'item3',
  totalSalesAmount: 6000
}
Sanjeev >
```

3. Find the average quantity sold per item:

Query & Output:

```
> db.sales.aggregate([
  {
    $group: {
      _id: "$item",
      averageQuantitySold: { $avg: "$quantity" }
    }
  }
]);
< {
  _id: 'item1',
  averageQuantitySold: 12.5
}
{
  _id: 'item3',
  averageQuantitySold: 20
}
{
  _id: 'item2',
  averageQuantitySold: 5
}
Sanjeev> |
```

4. Group sales by month and calculate the total sales for each month and sort from the largest value:

Query & Output:

```
> db.sales.aggregate([
  {
    $group: {
      _id: { $month: "$date" },
      totalMonthlySales: { $sum: { $multiply: ["$quantity", "$price"] } }
    }
  },
  { $sort: { totalMonthlySales: -1 } }
]);
< {
  _id: 2,
  totalMonthlySales: 7500
}
{
  _id: 1,
  totalMonthlySales: 2000
}
Sanjeev>
```

5. Display which year has the maximum sales:

Query & Output:

```
> db.sales.aggregate([
  {
    $group: {
      _id: { $year: "$date" },
      totalYearlySales: { $sum: { $multiply: ["$quantity", "$price"] } }
    }
  },
  { $sort: { totalYearlySales: -1 } },
  { $limit: 1 }
]);
< {
  _id: 2024,
  totalYearlySales: 9500
}
Sanjeev> |
```