

For the purpose of this test, I have created a collection called orders in a database called prueba.

Then follow the next steps:

1. Use the prueba data base.
2. Insert one document into the orders collection.
3. Add other mock documents to the orders collection using db.orders.insertMany().
4. We will start generating queries based on this.

use prueba

```
db.orders.insertOne({
  "Date": "2024-06-20T15:30:00Z",
  "Amount": 250.75,
  "txHash": "0xabcdef1234567890abcdef1234567890abcdef1234567890"
})
db.orders.insertMany([
  {
    "Date": "2024-06-21T10:45:00Z",
    "Amount": 150.25,
    "txHash": "0x123456abcdef123456abcdef123456abcdef123456abcdef123456" },
  {
    "Date": "2024-05-01T12:00:00Z",
    "Amount": 300.00,
    "txHash": "0x7890abcdef1234567890abcdef1234567890abcdef1234567890abcdef123456" },
  {
    "Date": "2024-06-23T14:30:00Z",
    "Amount": 75.50,
    "txHash": "0xabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdef" },
  {
    "Date": "2024-06-24T09:15:00Z",
    "Amount": 200.00,
    "txHash": "0x456789abcdef456789abcdef456789abcdef456789abcdef456789" }
])
```

Please note that, since I have crated these documents, the _id:number will change but the query will work anyway

_id: ObjectId('66798c01c6cdce30237713d5')
Date : "2024-06-20T15:30:00Z"
Amount : 250.75
txHash : "0xabcdef1234567890abcdef1234567890abcdef1234567890abcdef1234567890"

_id: ObjectId('66798da6c6cdce30237713d6')
Date : "2024-06-20T15:30:00Z"
Amount : 250.75
txHash : "0xabcdef1234567890abcdef1234567890abcdef1234567890abcdef1234567890"

_id: ObjectId('66798da6c6cdce30237713d7')
Date : "2024-06-21T10:45:00Z"
Amount : 150.25
txHash : "0x123456abcdef123456abcdef123456abcdef123456abcdef123456abcdef123456"

_id: ObjectId('66798da6c6cdce30237713d8')
Date : "2024-05-01T12:00:00Z"
Amount : 300
txHash : "0x7890abcdef1234567890abcdef1234567890abcdef1234567890abcdef123456"



_id: ObjectId('66798da6c6cdce30237713d9')
Date : "2024-06-23T14:30:00Z"
Amount : 75.5
txHash : "0xabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdefabcdef"

_id: ObjectId('66798da6c6cdce30237713da')
Date : "2024-06-24T09:15:00Z"
Amount : 200
txHash : "0x456789abcdef456789abcdef456789abcdef456789abcdef456789abcdef456789"

1. Write a query that returns extract the Amount of the _id 66798c01c6cdce30237713d5

```
> db.orders.find({ _id: ObjectId("66798c01c6cdce30237713d5") },{Amount:1, _id:0})
< {
  Amount: 250.75
}
```

2. Write a query that filters the orders created from the 1st of May 2024 until the 1st of June 2024

```
> db.orders.find({
  Date: {
    $gte: "2024-05-01T00:00:00Z",
    $lt: "2024-06-01T00:00:00Z"
  }
})
< {
  _id: ObjectId('66798da6c6cdce30237713d8'),
  Date: '2024-05-01T12:00:00Z',
  Amount: 300,
  txHash: '0x7890abcdef1234567890abcdef1234567890abcdef123456'
}
```

3. Write a query that filter by amounts bigger than 100 and sort by Latest Orders

```
> db.orders.find({ Amount: { $gt: 100 } }).
  sort({ Date: -1 })
< {
  _id: ObjectId('66798da6c6cdce30237713da'),
  Date: '2024-06-24T09:15:00Z',
  Amount: 200,
  txHash: '0x456789abcdef456789abcdef456789abcdef456789abcdef456789'
}
{
  _id: ObjectId('66798da6c6cdce30237713d7'),
  Date: '2024-06-21T10:45:00Z',
  Amount: 150.25,
  txHash: '0x123456abcdef123456abcdef123456abcdef123456abcdef123456'
}
{
  _id: ObjectId('66798c01c6cdce30237713d5'),
  Date: '2024-06-20T15:30:00Z',
  Amount: 250.75,
  txHash: '0xabcdef1234567890abcdef1234567890abcdef1234567890'
}
{
  _id: ObjectId('66798da6c6cdce30237713d6'),
  Date: '2024-06-20T15:30:00Z',
  Amount: 250.75,
  txHash: '0xabcdef1234567890abcdef1234567890abcdef1234567890'
}
{
  _id: ObjectId('66798da6c6cdce30237713d8'),
  Date: '2024-05-01T12:00:00Z',
  Amount: 300,
  txHash: '0x7890abcdef1234567890abcdef1234567890abcdef123456'
}
```

4. Write a query to aggregate the total Amount of transactions per day

```
> db.orders.aggregate([
  { $group: { _id: { $dateToString: { format: "%Y-%m-%d", date: { $toDate: "$Date" } } },
    totalAmount: { $sum: "$Amount" } } },
  { $project: { date: "$_id", totalAmount: 1, _id: 0 } },
  { $sort: { date: 1 } }
])
< {
  totalAmount: 300,
  date: '2024-05-01'
}
{
  totalAmount: 501.5,
  date: '2024-06-20'
}
{
  totalAmount: 150.25,
  date: '2024-06-21'
}
{
  totalAmount: 75.5,
  date: '2024-06-23'
}
{
  totalAmount: 200,
  date: '2024-06-24'
}
```

5. Count the Number of Transactions Per Day

```
> db.orders.aggregate(
  [ {
    $group: {
      _id: { $dateToString: { format: "%Y-%m-%d", date: { $toDate: "$Date" } } },
      count: { $sum: 1 } }
    }, {
      $project: { date: "$_id", NumberOfTransactions: "$count", _id: 0 } },
    { $sort: { date: 1 } }
  ] )
< {
  date: '2024-05-01',
  NumberOfTransactions: 1
}
{
  date: '2024-06-20',
  NumberOfTransactions: 2
}
{
  date: '2024-06-21',
  NumberOfTransactions: 1
}
{
  date: '2024-06-23',
  NumberOfTransactions: 1
}
{
  date: '2024-06-24',
  NumberOfTransactions: 1
}
}
```