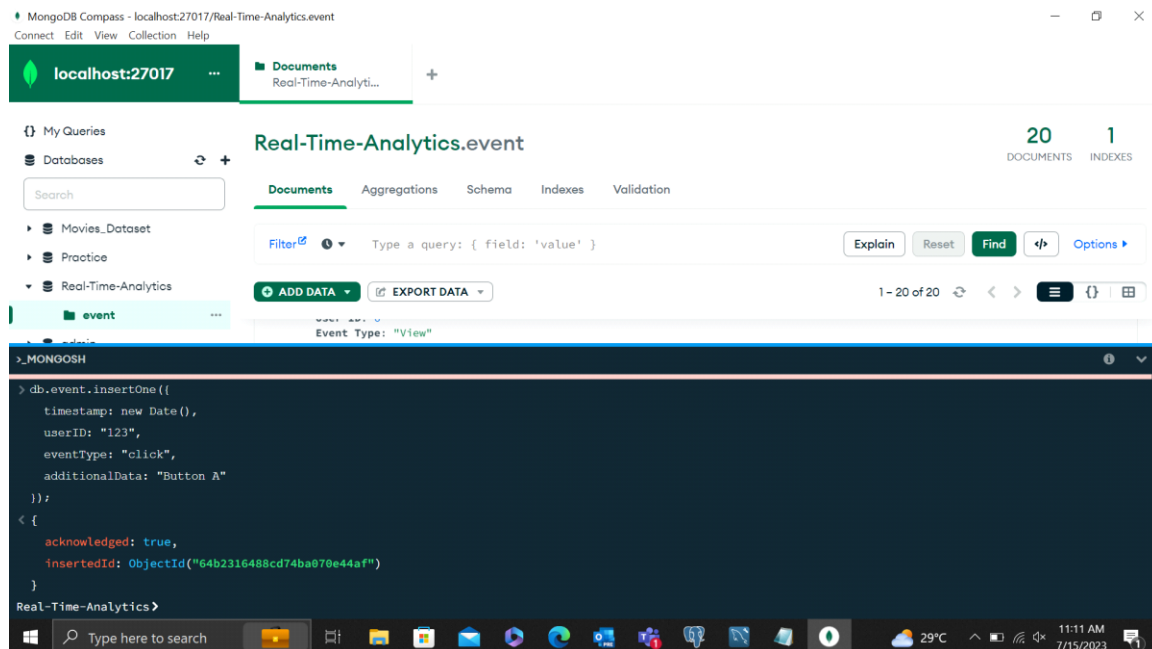Implement MongoDB queries for the following operations:

a. Insert a new event into the database.

-->db.event.insertOne({

timestamp: new Date(),

userID: "123",
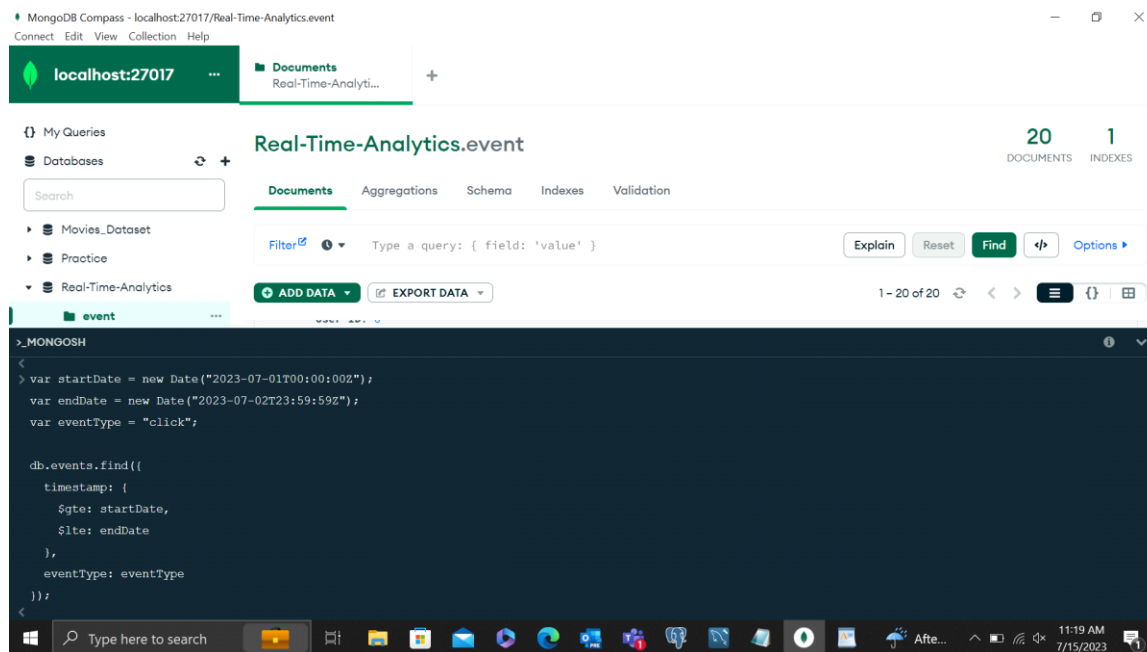
eventType: "click",

additionalData: "Button A"

});

b. Retrieve events within a specific time range, filtered by event type.

-->var startDate = new Date("2023-07-01T00:00:00Z");

var endDate = new Date("2023-07-02T23:59:59Z");

var eventType = "click";

```
db.event.find({

    timestamp: {

        $gte: startDate,

        $lte: endDate

    },

    eventType: eventType

});
```


c. Perform aggregation queries to calculate metrics like total events, events per hour, and user activity.

```
-->// Total events count

db.event.count();
```

```
// Events per hour

db.event.aggregate([

   {

      $group: {

         _id: { $hour: "$timestamp" },

         count: { $sum: 1 }

      }

   }

]);


// User activity

db.event.aggregate([

   {

      $group: {

         _id: "$userID",

         count: { $sum: 1 }

      }

   },

   {

      $sort: { count: -1 }

   }

]);
```

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>_MONGOSH

```
> db.event.count();
< 21
> db.event.aggregate([
    {
      $group: {
        _id: { $hour: "$timestamp" },
        count: { $sum: 1 }
      }
    }
]);
< {
    _id: null,
    count: 20
  }
  {
    _id: 5,
    count: 1
  }
> db.events.aggregate([
```

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>_MONGOSH

```
> db.event.aggregate([
    {
      $group: {
        _id: "$userID",
        count: { $sum: 1 }
      }
    },
    {
      $sort: { count: -1 }
    }
]);
< {
    _id: null,
    count: 20
  }
  {
    _id: '123',
    count: 1
  }
Real-Time-Analytics>
```

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d. Retrieve the top N users based on the number of events generated.

-->

```
var topN = 5;

db.event.aggregate([

    {

        $group: {

            _id: "$userID",

            count: { $sum: 1 }

        }

    },

    {

        $sort: { count: -1 }

    },

    {

        $limit: topN

    }

]);
```
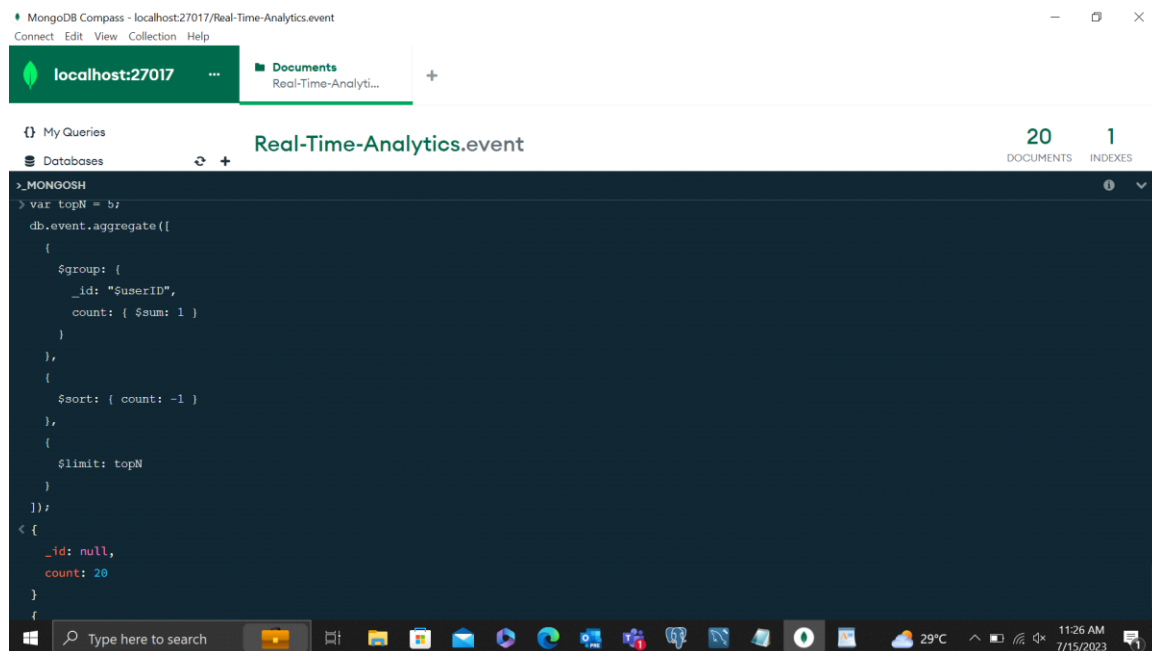
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```
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          count: { $sum: 1 }
        }
      },
      {
        $sort: { count: -1 }
      },
      {
        $limit: topN
      }
    ]);
< {
      _id: null,
      count: 20
    }
    {
      _id: '123',
      count: 1
    }
Real-Time-Analytics> |
```

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