

# MongoDB Task

## Design database for Zen class programme

users

codekata

attendance

topics

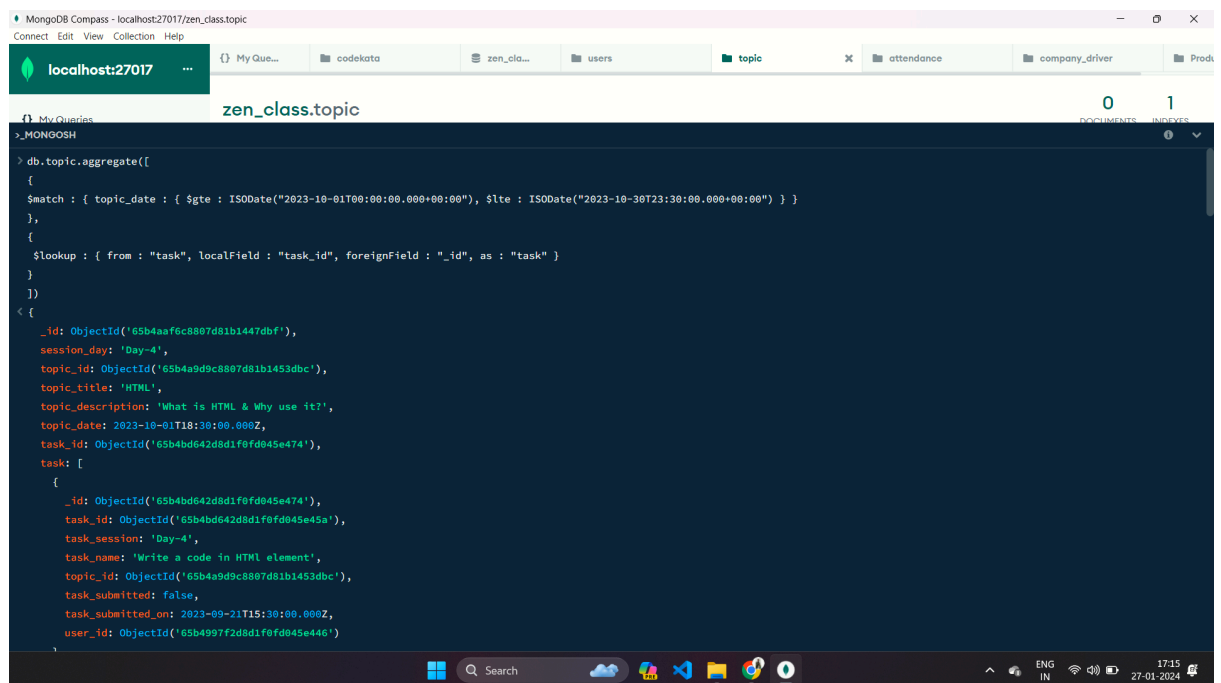
tasks

company\_drives

mentors

1. Find all the topics and tasks which are thought in the month of October

**ANS :**



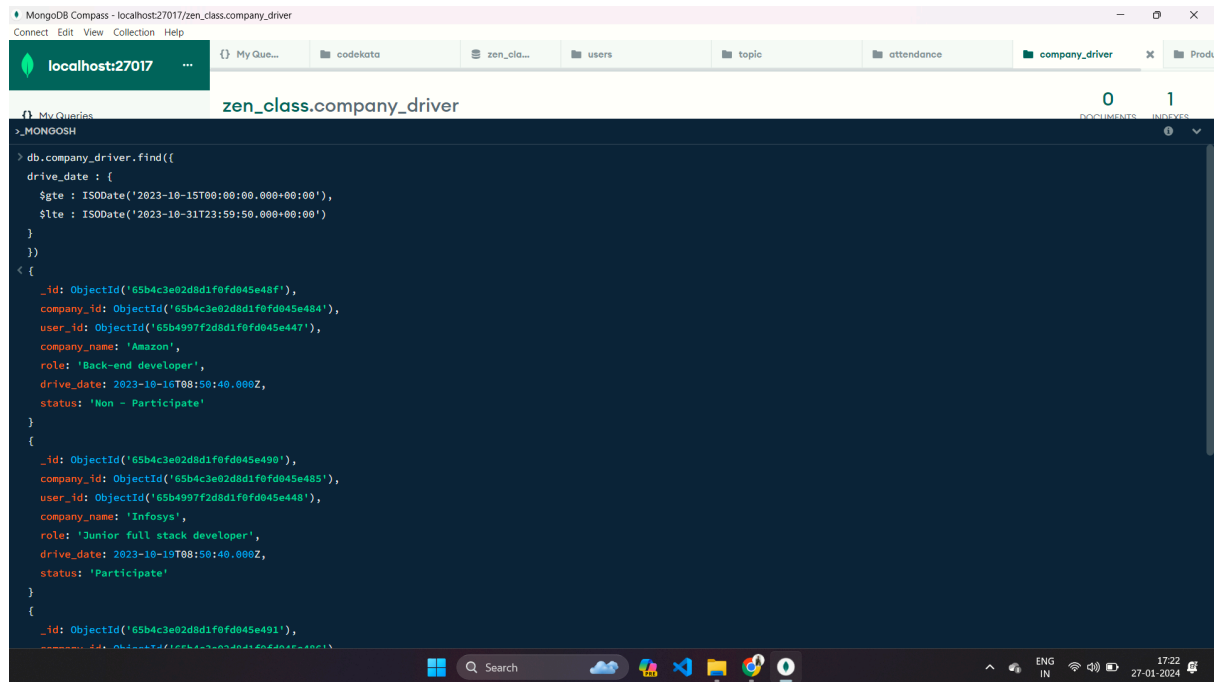
The screenshot shows the MongoDB Compass interface. The top bar indicates the connection to 'localhost:27017' and the current database is 'zen\_class'. The 'topic' collection is selected. The query editor shows an aggregate query that filters topics by date (October 2023) and includes tasks associated with them. The result shows a single document with details about a topic titled 'HTML' and its associated task 'Write a code in HTML element'.

```
> db.topic.aggregate([
  {
    $match : { topic_date : { $gte : ISODate("2023-10-01T00:00:00.000+00:00"), $lte : ISODate("2023-10-30T23:30:00.000+00:00") } }
  },
  {
    $lookup : { from : "task", localField : "task_id", foreignField : "_id", as : "task" }
  }
])
< {
  _id: ObjectId('65b4aaf6c8807d81b1447dbf'),
  session_day: 'Day-4',
  topic_id: ObjectId('65b4a9d9c8807d81b1453dbc'),
  topic_title: 'HTML',
  topic_description: 'What is HTML & Why use it?',
  topic_date: 2023-10-01T18:30:00.000Z,
  task_id: ObjectId('65b4bd642d8d1f0fd045e474'),
  task: [
    {
      _id: ObjectId('65b4bd642d8d1f0fd045e474'),
      task_id: ObjectId('65b4bd642d8d1f0fd045e45a'),
      task_session: 'Day-4',
      task_name: 'Write a code in HTML element',
      topic_id: ObjectId('65b4a9d9c8807d81b1453dbc'),
      task_submitted: false,
      task_submitted_on: 2023-09-21T15:30:00.000Z,
      user_id: ObjectId('65b4997f2d8d1f0fd045e446')
    }
  ]
}
```

```
db.topic.aggregate([
{
$match : { topic_date : { $gte :
ISODate("2023-10-01T00:00:00.000+00:00"), $lte :
ISODate("2023-10-30T23:30:00.000+00:00") } }
},
{
$lookup : { from : "task", localField : "task_id", foreignField : "_id", as :
"task" }
}
])
```

- Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020

**ANS :**



```
db.compan_y_driver.find({
  drive_date : {
    $gte : ISODate('2023-10-15T00:00:00.000+00:00'),
    $lte : ISODate('2023-10-31T23:59:50.000+00:00')
  }
})
```

```
{
  "_id": ObjectId("65b4c3e02d8d1f0fd045e48f"),
  "company_id": ObjectId("65b4c3e02d8d1f0fd045e484"),
  "user_id": ObjectId("65b4997f2d8d1f0fd045e447"),
  "company_name": "Amazon",
  "role": "Back-end developer",
  "drive_date": 2023-10-16T08:58:40.000Z,
  "status": "Non - Participate"
},
{
  "_id": ObjectId("65b4c3e02d8d1f0fd045e490"),
  "company_id": ObjectId("65b4c3e02d8d1f0fd045e485"),
  "user_id": ObjectId("65b4997f2d8d1f0fd045e448"),
  "company_name": "Infosys",
  "role": "Junior full stack developer",
  "drive_date": 2023-10-19T08:58:40.000Z,
  "status": "Participate"
},
{
  "_id": ObjectId("65b4c3e02d8d1f0fd045e491"),
  "company_id": ObjectId("65b4c3e02d8d1f0fd045e486"),
  "user_id": ObjectId("65b4997f2d8d1f0fd045e449"),
  "company_name": "Infosys",
  "role": "Junior full stack developer",
  "drive_date": 2023-10-19T08:58:40.000Z,
  "status": "Participate"
}
```

```
db.compan_y_driver.find({
  drive_date : {
    $gte : ISODate('2023-10-15T00:00:00.000+00:00'),
    $lte : ISODate('2023-10-31T23:59:50.000+00:00')
  }
})
```

- Find all the company drives and students who are appeared for the placement.

**ANS :**

```
db.compan_y_driver.aggregate([
  { $match : { status : "Participate" } },
  {
    $lookup : { from : "users", localField : "user_id", foreignField:
      "_id", as : "participated" }
  }
])
```



```
MongoDB Compass - localhost:27017/zen_class.company_driver
Connect Edit View Collection Help

localhost:27017
My Queue... codekata zen_cla... users topic attendance company_driver

zen_class.company_driver
0 1

> db.company_driver.aggregate([
  { $match : { status : "Participate" } },
  {
    $lookup : { from : "users", localField : "user_id", foreignField : "_id", as : "participated" }
  }
])
{
  "_id": ObjectId("65b4c3e02d8d1f0fd045e48b"),
  "company_id": ObjectId("65b4c3e03d8d1f0fd045e480"),
  "user_id": ObjectId("65b4997f2d8d1f0fd045e446"),
  "company_name": "Zoho",
  "role": "Front-end developer",
  "drive_date": 2023-09-17T08:50:40.000Z,
  "status": "Participate",
  "participated": [
    {
      "_id": ObjectId("65b4997f2d8d1f0fd045e446"),
      "user_name": "Madan",
      "user_email": "madanra@gmail.com",
      "user_phone": "+8907654323",
      "batch_name": "FSD-01",
      "mentor_name": "Vishnu",
      "task_id": "",
      "problem_id": "",
      "attendance": ""
    }
  ]
}
```

4. Find the number of problems solved by the user in codekata

ANS :

```
MongoDB Compass - localhost:27017/zen_class.users
Connect Edit View Collection Help

localhost:27017
My Queue... codekata zen_cla... users topic attendance company_driver

zen_class.users
0 1

> db.codekata.aggregate([
  {
    $match : { problem_solved : true }
  },
  {
    $group : {
      _id : "$user_id",
      total_sum_solved : { $sum : "$earned_points" }
    }
  }
])
{
  "_id": ObjectId("65b4997f2d8d1f0fd045e446"),
  "total_sum_solved": 22
}
{
  "_id": ObjectId("65b499b72d8d1f0fd045e447"),
  "total_sum_solved": 17
}
{
  "_id": ObjectId("65b499d12d8d1f0fd045e448"),
  "total_sum_solved": 5
}
zen_class>
```

```
db.codekata.aggregate([
{
  $match : { problem_solved : true}
},
{
```

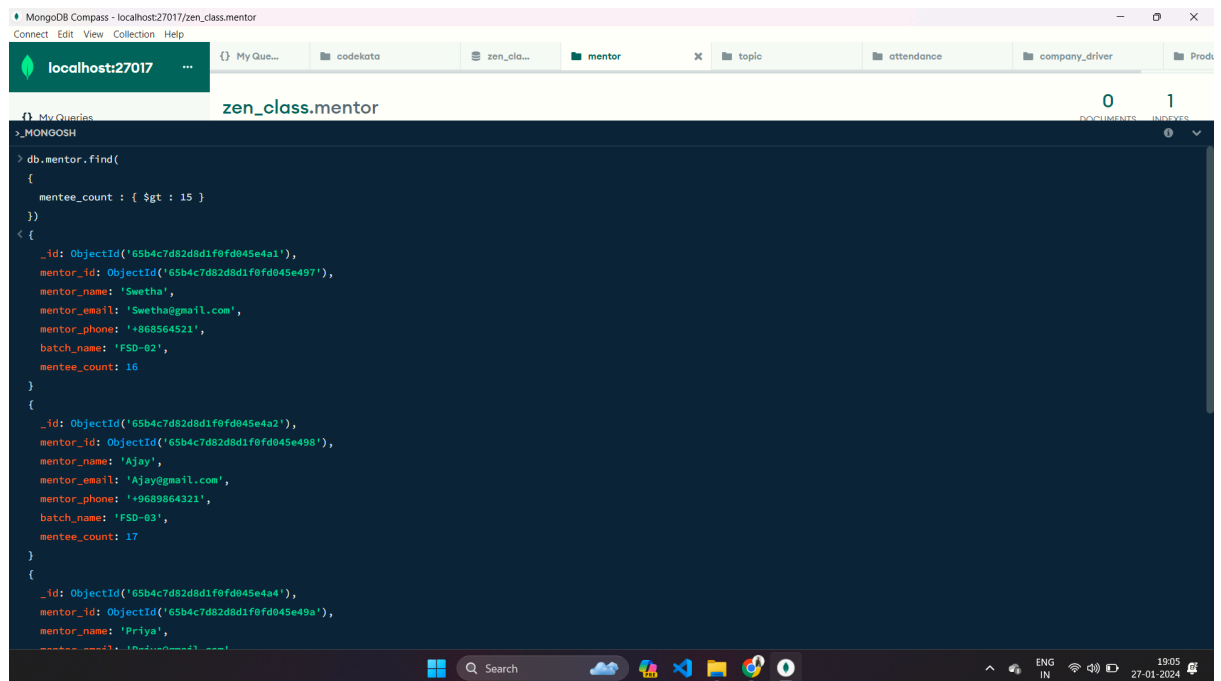
```

$group : {
  _id : "$user_id",
  total_sum_solved : { $sum : "$earned_points" }
}
}
)

```

- Find all the mentors with who has the mentee's count more than 15

**ANS :**



```

db.mentor.find(
{
  mentee_count : { $gt : 15 }
})

```

- Find the number of users who are absent and task is not submitted between 15 oct-2020 and 31-oct-2020

Ans:

```

{
  $match : { date : { $gte : ISODate("2023-10-01T00:00:00.000+00:00"), $lte : ISODate("2023-10-31T23:59:00.000+00:00") }, attendance_status : false }
},
{
  $lookup : { from : "task", localField : "user_id", foreignField : "user_id", as : "task" }
}

```

```

}
{
$match : { date : { $gte : ISODate("2023-10-01T00:00:00.000+00:00"), $lte
:ISODate("2023-10-31T23:59:00.000+00:00") }, "task.task_submitted" : false }
}
})

```

The screenshot shows the MongoDB Compass application running on localhost:27017. The database is 'zen\_class' and the collection is 'task'. A query is entered in the 'My Queries' tab, and the result is displayed in the 'Documents' tab.

**Query:**

```

db.attendance.aggregate([
  {
    $match : { date : { $gte : ISODate("2023-10-01T00:00:00.000+00:00"), $lte : ISODate("2023-10-31T23:59:00.000+00:00") }, attendance_status : false }
  },
  {
    $lookup : { from : "task", localField : "User_id", foreignField : "User_id", as : "task" }
  },
  {
    $match : { date : { $gte : ISODate("2023-10-01T00:00:00.000+00:00"), $lte : ISODate("2023-10-31T23:59:00.000+00:00") }, "task.task_submitted" : false }
  }
])

```

**Result:**

```

{
  "_id": ObjectId("65b4a5ccc8807d81b1447da1"),
  "user_id": ObjectId("65b4997f2d8d1f0fd045e446"),
  "date": 2023-10-11T08:30:00.000Z,
  "attendance_status": false,
  "task": [
    {
      "_id": ObjectId("65b4b7752d8d1f0fd045e452"),
      "task_id": ObjectId("65b4b7752d8d1f0fd045e452"),
      "task_session": "Day-1",
      "task_name": "Write a blog about javascript",
      "topic_id": ObjectId("65b4a9d9c8807d81b1447dbc"),
      "user_id": ObjectId("65b4997f2d8d1f0fd045e446"),
      "task_submitted": true,
      "task_submitted_on": 2023-09-11T15:30:00.000Z
    }
  ]
}

```