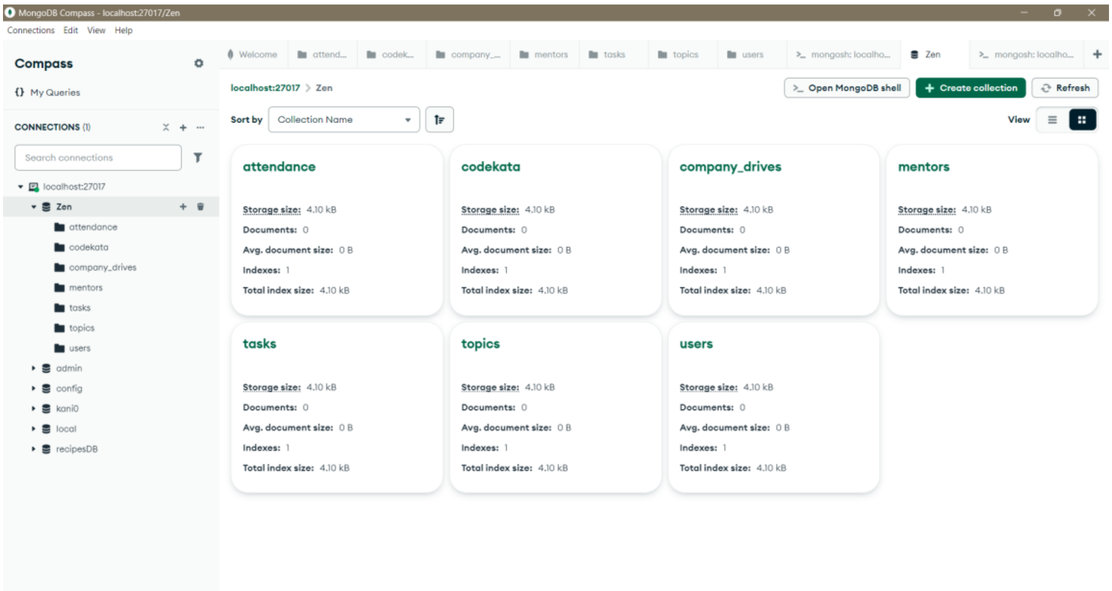
# MongoDB Task

## Design database for Zen class programme

users<br>
codekata<br>
attendance<br>
topics<br>
tasks<br>
company_drives<br>
mentors



**attendance**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

**codekata**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

**company_drives**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

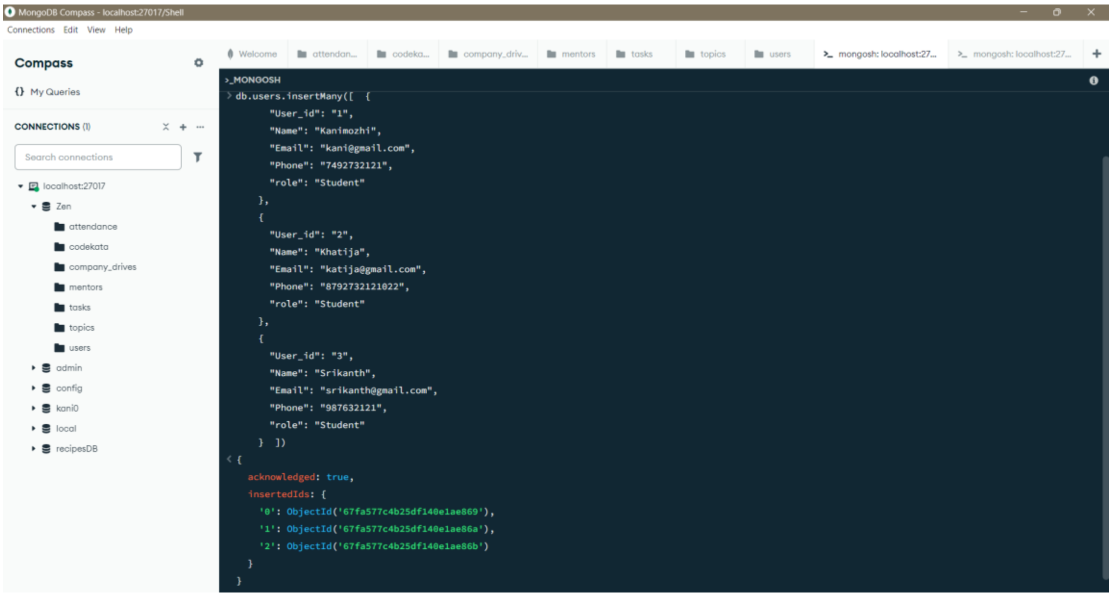
**mentors**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

**tasks**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

**topics**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

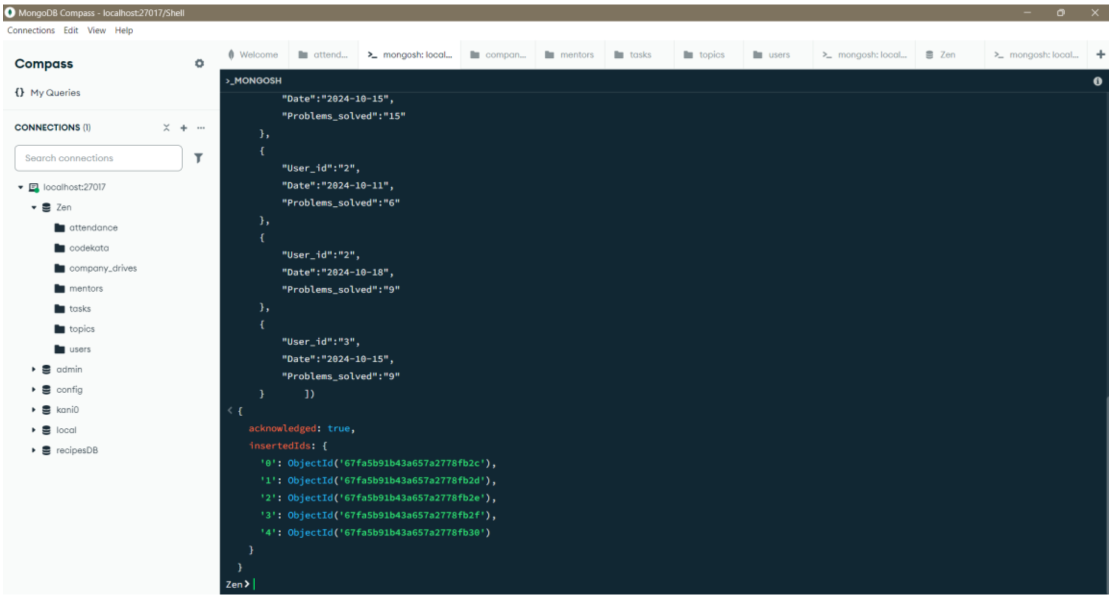
**users**
Storage size: 4.10 kB
Documents: 0
Avg. document size: 0 B
Indexes: 1
Total index size: 4.10 kB

Insert Data in “users” Collection<br>
db.user.insertMany([])



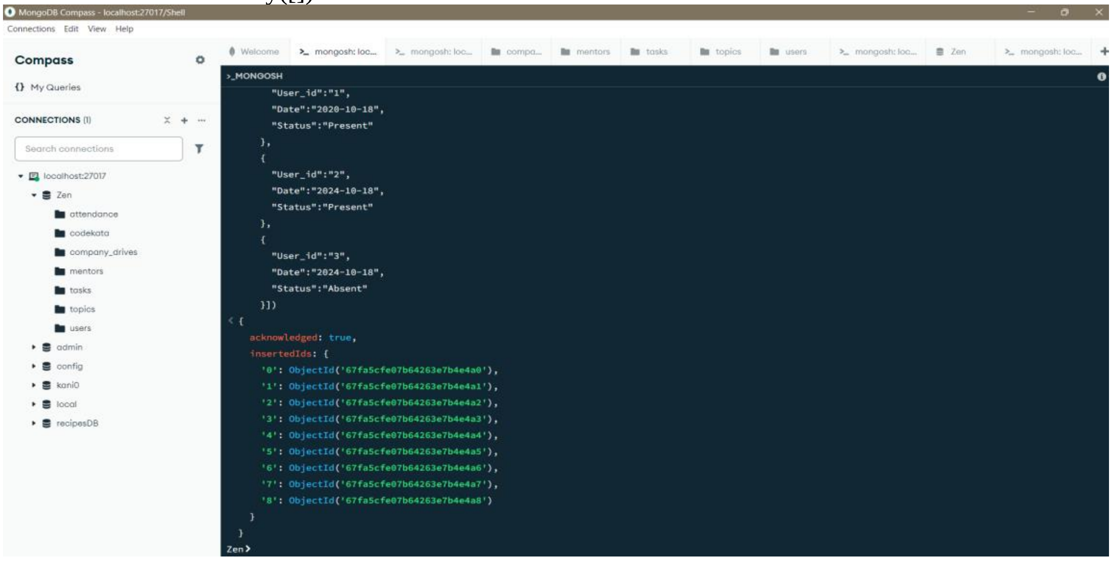
```
> db.users.insertMany([  {
      "User_id": "1",
      "Name": "Kanimozhi",
      "Email": "kani@gmail.com",
      "Phone": "7492732121",
      "role": "Student"
    },
    {
      "User_id": "2",
      "Name": "Khatija",
      "Email": "katija@gmail.com",
      "Phone": "8792732121022",
      "role": "Student"
    },
    {
      "User_id": "3",
      "Name": "Srikanth",
      "Email": "srikanth@gmail.com",
      "Phone": "987632121",
      "role": "Student"
    }  ])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa577c4b25df140e1ae869'),
      '1': ObjectId('67fa577c4b25df140e1ae86a'),
      '2': ObjectId('67fa577c4b25df140e1ae86b')
    }
  }
```

Insert Data in “codekata” Collection
db.codekata.insertMany([])



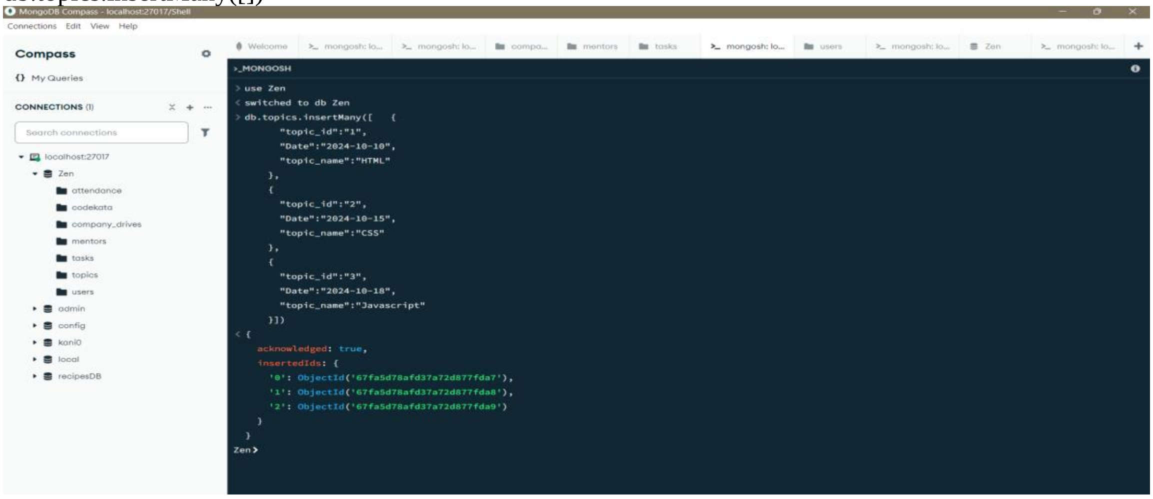
```
        "Date":"2024-10-15",
        "Problems_solved":"15"
    },
    {
        "User_id":"2",
        "Date":"2024-10-11",
        "Problems_solved":"6"
    },
    {
        "User_id":"2",
        "Date":"2024-10-18",
        "Problems_solved":"9"
    },
    {
        "User_id":"3",
        "Date":"2024-10-15",
        "Problems_solved":"9"
    }      ])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5b91b43a657a2778fb2c'),
      '1': ObjectId('67fa5b91b43a657a2778fb2d'),
      '2': ObjectId('67fa5b91b43a657a2778fb2e'),
      '3': ObjectId('67fa5b91b43a657a2778fb2f'),
      '4': ObjectId('67fa5b91b43a657a2778fb30')
    }
  }
Zen >
```

Insert Data in “attendance” Collection
db.attendance.insertMany([])



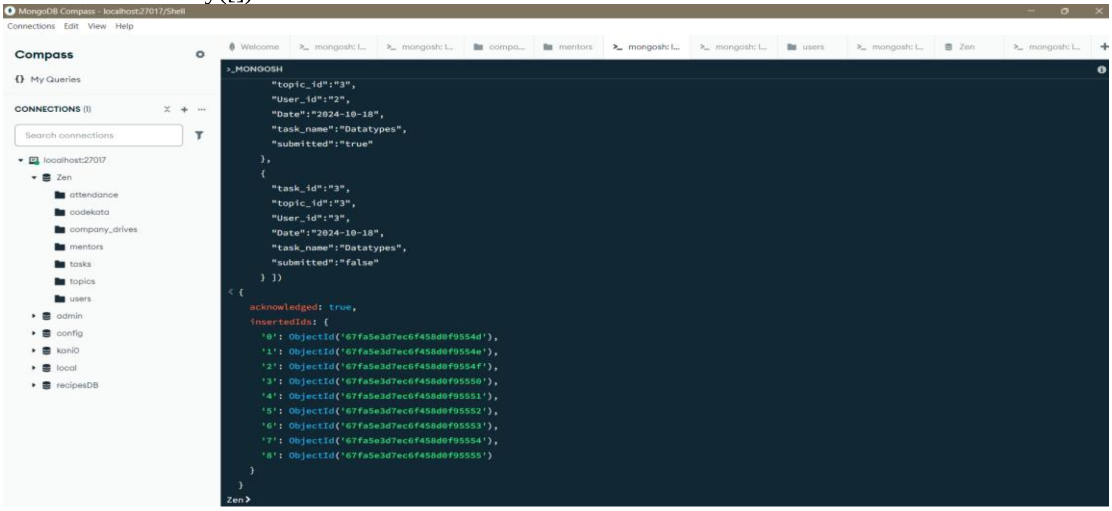
```
      "User_id":"1",
      "Date":"2020-10-18",
      "Status":"Present"
    },
    {
      "User_id":"2",
      "Date":"2024-10-18",
      "Status":"Present"
    },
    {
      "User_id":"3",
      "Date":"2024-10-18",
      "Status":"Absent"
    }])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5cfe07b64263e7b4e4a0'),
      '1': ObjectId('67fa5cfe07b64263e7b4e4a1'),
      '2': ObjectId('67fa5cfe07b64263e7b4e4a2'),
      '3': ObjectId('67fa5cfe07b64263e7b4e4a3'),
      '4': ObjectId('67fa5cfe07b64263e7b4e4a4'),
      '5': ObjectId('67fa5cfe07b64263e7b4e4a5'),
      '6': ObjectId('67fa5cfe07b64263e7b4e4a6'),
      '7': ObjectId('67fa5cfe07b64263e7b4e4a7'),
      '8': ObjectId('67fa5cfe07b64263e7b4e4a8')
    }
  }
Zen >
```

Insert Data in “topics” Collection
db.topics.insertMany([])



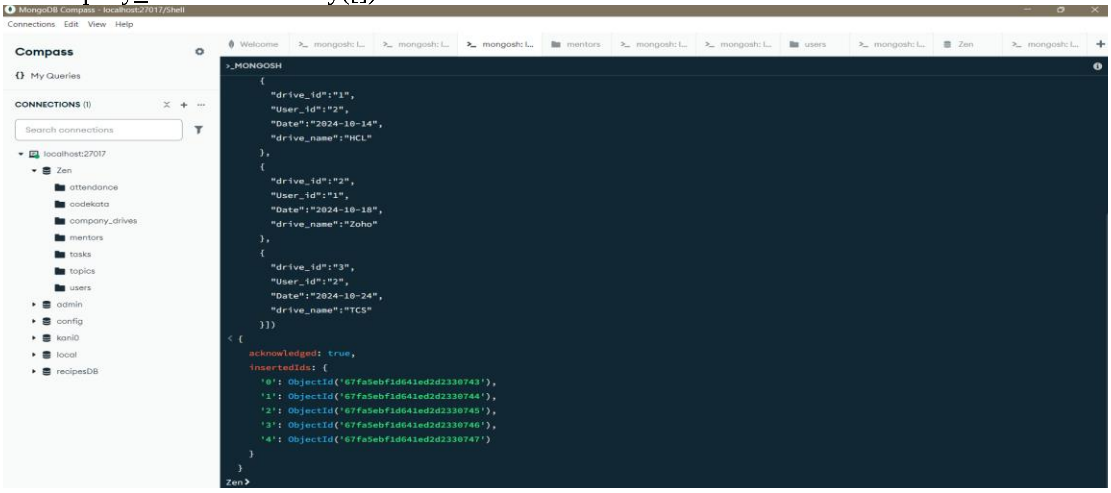
```
> use Zen
< switched to db Zen
> db.topics.insertMany([   {
        "topic_id":"1",
        "Date":"2024-10-10",
        "topic_name":"HTML"
      },
      {
        "topic_id":"2",
        "Date":"2024-10-15",
        "topic_name":"CSS"
      },
      {
        "topic_id":"3",
        "Date":"2024-10-18",
        "topic_name":"Javascript"
      }])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5d78afd37a72d877fda7'),
      '1': ObjectId('67fa5d78afd37a72d877fda8'),
      '2': ObjectId('67fa5d78afd37a72d877fda9')
    }
  }
Zen >
```

Insert Data in “tasks” Collection
db.tasks.insertMany([])



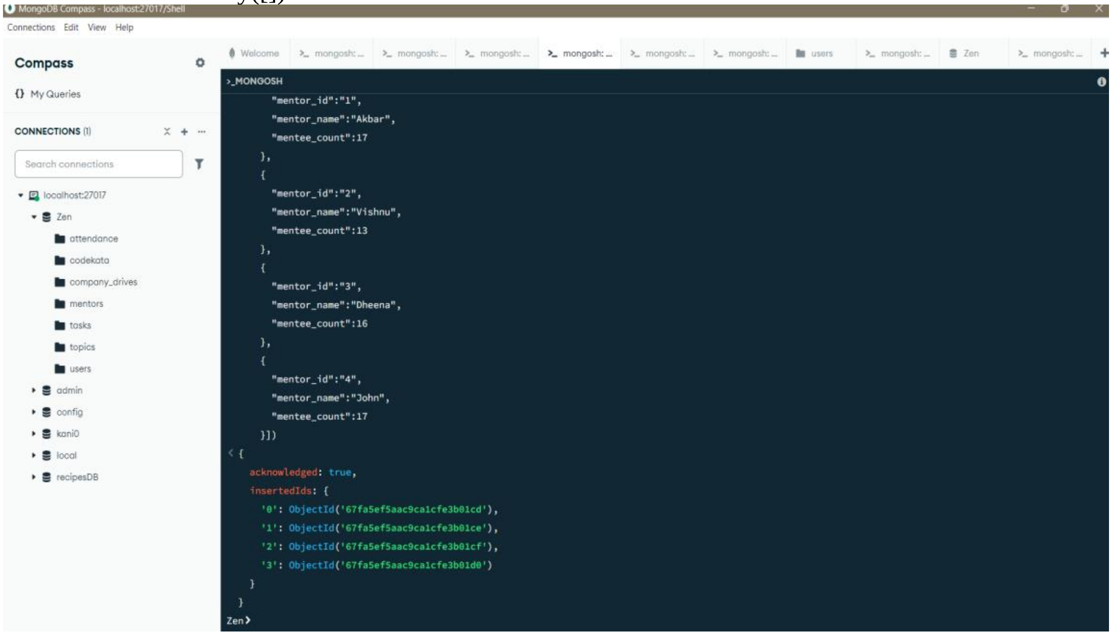
```
        "topic_id":"3",
        "User_id":"2",
        "Date":"2024-10-18",
        "task_name":"Datatypes",
        "submitted":"true"
      },
      {
        "task_id":"3",
        "topic_id":"3",
        "User_id":"3",
        "Date":"2024-10-18",
        "task_name":"Datatypes",
        "submitted":"false"
      } ])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5e3d7ec6f458d0f9554d'),
      '1': ObjectId('67fa5e3d7ec6f458d0f9554e'),
      '2': ObjectId('67fa5e3d7ec6f458d0f9554f'),
      '3': ObjectId('67fa5e3d7ec6f458d0f95550'),
      '4': ObjectId('67fa5e3d7ec6f458d0f95551'),
      '5': ObjectId('67fa5e3d7ec6f458d0f95552'),
      '6': ObjectId('67fa5e3d7ec6f458d0f95553'),
      '7': ObjectId('67fa5e3d7ec6f458d0f95554'),
      '8': ObjectId('67fa5e3d7ec6f458d0f95555')
    }
  }
Zen>
```

Insert Data in “company_drives” Collection
db.company_drives.insertMany([])



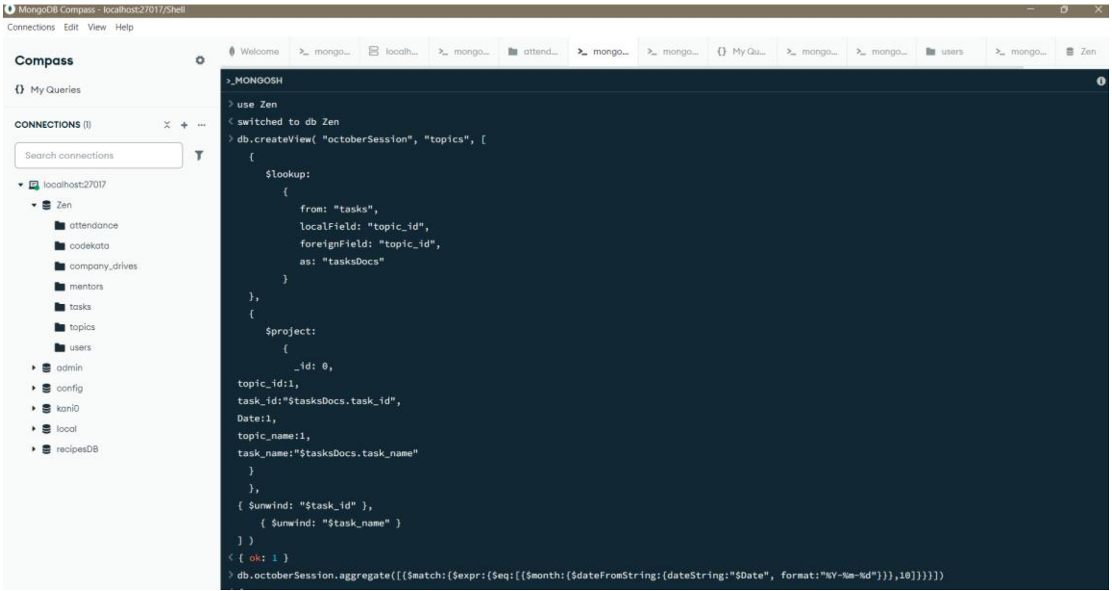
```
      {
        "drive_id":"1",
        "User_id":"2",
        "Date":"2024-10-14",
        "drive_name":"HCL"
      },
      {
        "drive_id":"2",
        "User_id":"1",
        "Date":"2024-10-18",
        "drive_name":"Zoho"
      },
      {
        "drive_id":"3",
        "User_id":"2",
        "Date":"2024-10-24",
        "drive_name":"TCS"
      }])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5ebf1d641ed2d2330743'),
      '1': ObjectId('67fa5ebf1d641ed2d2330744'),
      '2': ObjectId('67fa5ebf1d641ed2d2330745'),
      '3': ObjectId('67fa5ebf1d641ed2d2330746'),
      '4': ObjectId('67fa5ebf1d641ed2d2330747')
    }
  }
Zen>
```

Insert Data in “mentors” Collection
db.mentors.insertMany([])

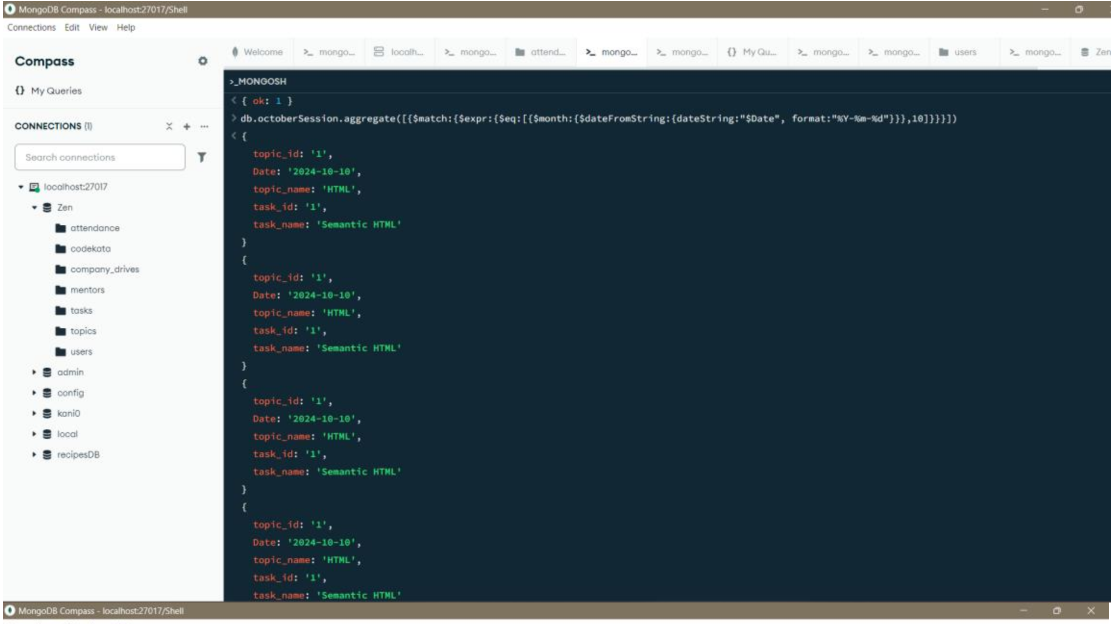


```
        "mentor_id":"1",
        "mentor_name":"Akbar",
        "mentee_count":17
      },
      {
        "mentor_id":"2",
        "mentor_name":"Vishnu",
        "mentee_count":13
      },
      {
        "mentor_id":"3",
        "mentor_name":"Dheena",
        "mentee_count":16
      },
      {
        "mentor_id":"4",
        "mentor_name":"John",
        "mentee_count":17
      }])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5ef5aac9ca1cfe3b01cd'),
      '1': ObjectId('67fa5ef5aac9ca1cfe3b01ce'),
      '2': ObjectId('67fa5ef5aac9ca1cfe3b01cf'),
      '3': ObjectId('67fa5ef5aac9ca1cfe3b01d0')
    }
  }
Zen>
```

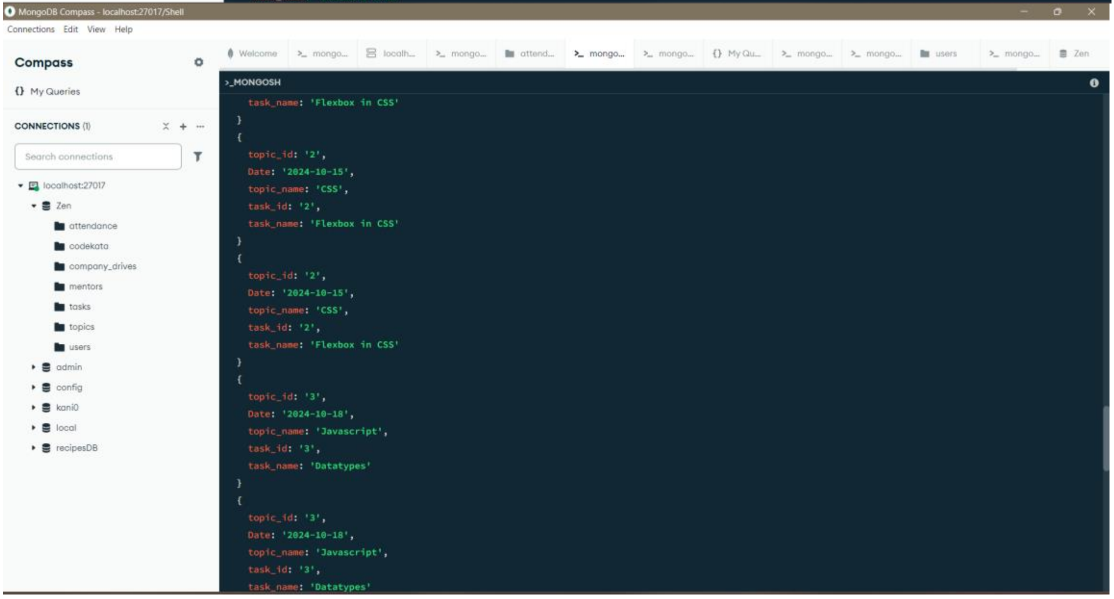
1. Find all the topics and tasks which are thought in the month of October



```
> use Zen
< switched to db Zen
> db.createView( "octoberSession", "topics", [
    {
       $lookup:
          {
             from: "tasks",
             localField: "topic_id",
             foreignField: "topic_id",
             as: "tasksDocs"
          }
    },
    {
       $project:
          {
            _id: 0,
  topic_id:1,
  task_id:"$tasksDocs.task_id",
  Date:1,
  topic_name:1,
  task_name:"$tasksDocs.task_name"
    }
    },
  { $unwind: "$task_id" },
     { $unwind: "$task_name" }
  ] )
< { ok: 1 }
> db.octoberSession.aggregate([{$match:{$expr:{$eq:[{$month:{$dateFromString:{dateString:"$Date", format:"%Y-%m-%d"}}},10]}}}])
```

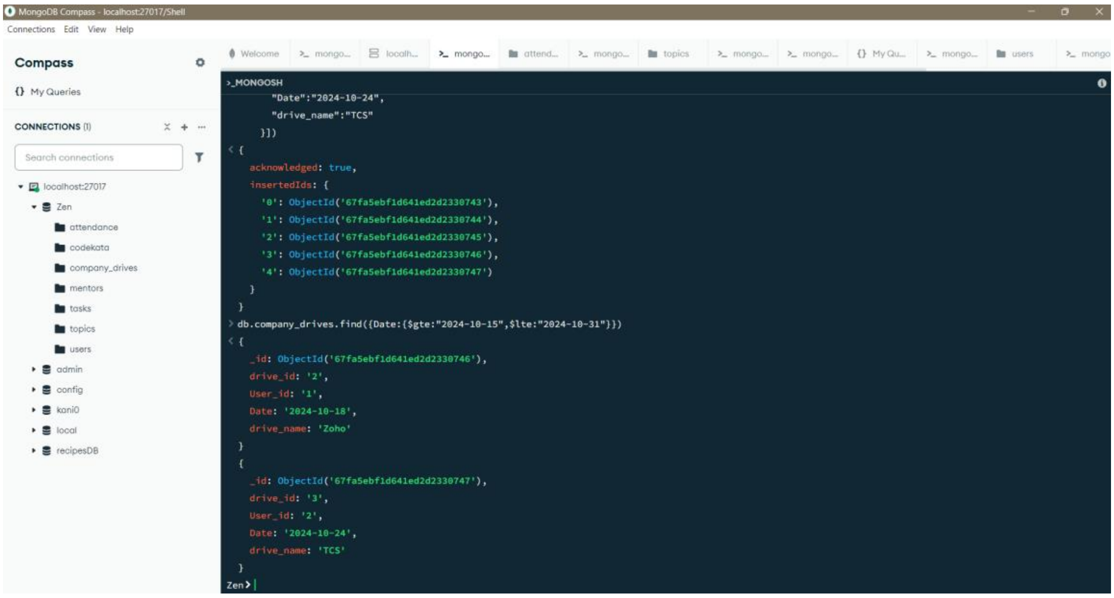


```
< { ok: 1 }
> db.octoberSession.aggregate([{$match:{$expr:{$eq:[{$month:{$dateFromString:{dateString:"$Date", format:"%Y-%m-%d"}}},10]}}}])
< {
    topic_id: '1',
    Date: '2024-10-10',
    topic_name: 'HTML',
    task_id: '1',
    task_name: 'Semantic HTML'
  }
  {
    topic_id: '1',
    Date: '2024-10-10',
    topic_name: 'HTML',
    task_id: '1',
    task_name: 'Semantic HTML'
  }
  {
    topic_id: '1',
    Date: '2024-10-10',
    topic_name: 'HTML',
    task_id: '1',
    task_name: 'Semantic HTML'
  }
  {
    topic_id: '1',
    Date: '2024-10-10',
    topic_name: 'HTML',
    task_id: '1',
    task_name: 'Semantic HTML'
```



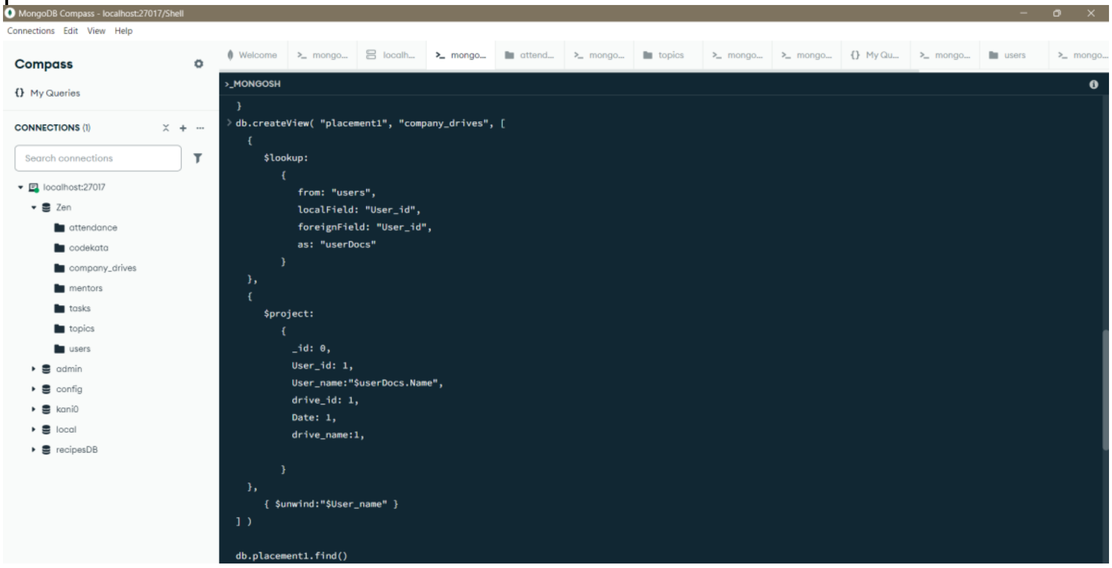
```
    task_name: 'Flexbox in CSS'
  }
  {
    topic_id: '2',
    Date: '2024-10-15',
    topic_name: 'CSS',
    task_id: '2',
    task_name: 'Flexbox in CSS'
  }
  {
    topic_id: '2',
    Date: '2024-10-15',
    topic_name: 'CSS',
    task_id: '2',
    task_name: 'Flexbox in CSS'
  }
  {
    topic_id: '3',
    Date: '2024-10-18',
    topic_name: 'Javascript',
    task_id: '3',
    task_name: 'Datatypes'
  }
  {
    topic_id: '3',
    Date: '2024-10-18',
    topic_name: 'Javascript',
    task_id: '3',
    task_name: 'Datatypes'
```

2. Find all the company drives which appeared between 15 oct-2024 and 31-oct-2024

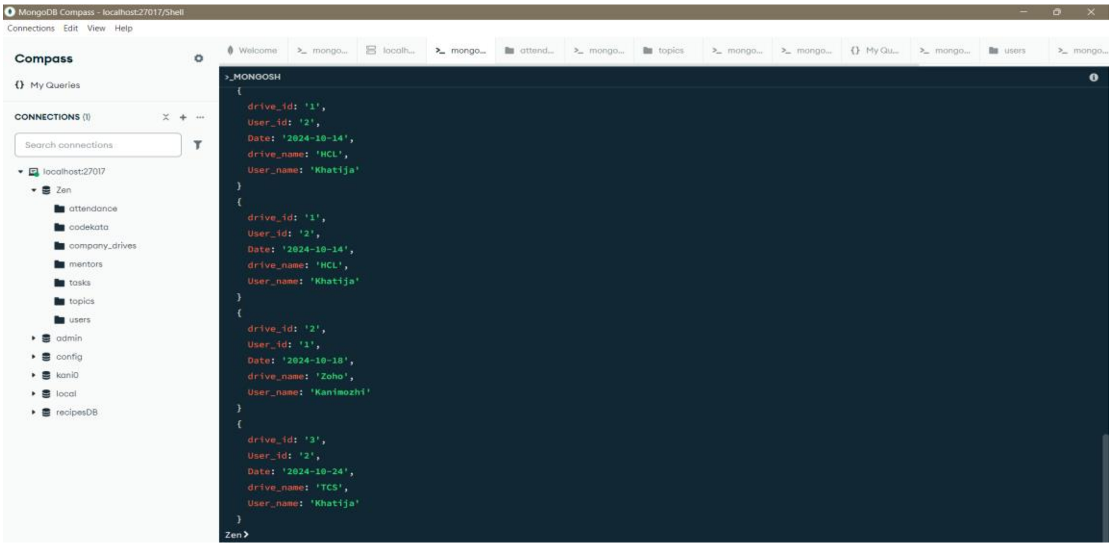


```
        "Date":"2024-10-24",
        "drive_name":"TCS"
      }])
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5ebf1d641ed2d2330743'),
      '1': ObjectId('67fa5ebf1d641ed2d2330744'),
      '2': ObjectId('67fa5ebf1d641ed2d2330745'),
      '3': ObjectId('67fa5ebf1d641ed2d2330746'),
      '4': ObjectId('67fa5ebf1d641ed2d2330747')
    }
  }
> db.company_drives.find({Date:{$gte:"2024-10-15",$lte:"2024-10-31"}})
< {
    _id: ObjectId('67fa5ebf1d641ed2d2330746'),
    drive_id: '2',
    User_id: '1',
    Date: '2024-10-18',
    drive_name: 'Zoho'
  }
  {
    _id: ObjectId('67fa5ebf1d641ed2d2330747'),
    drive_id: '3',
    User_id: '2',
    Date: '2024-10-24',
    drive_name: 'TCS'
  }
Zen>
```

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

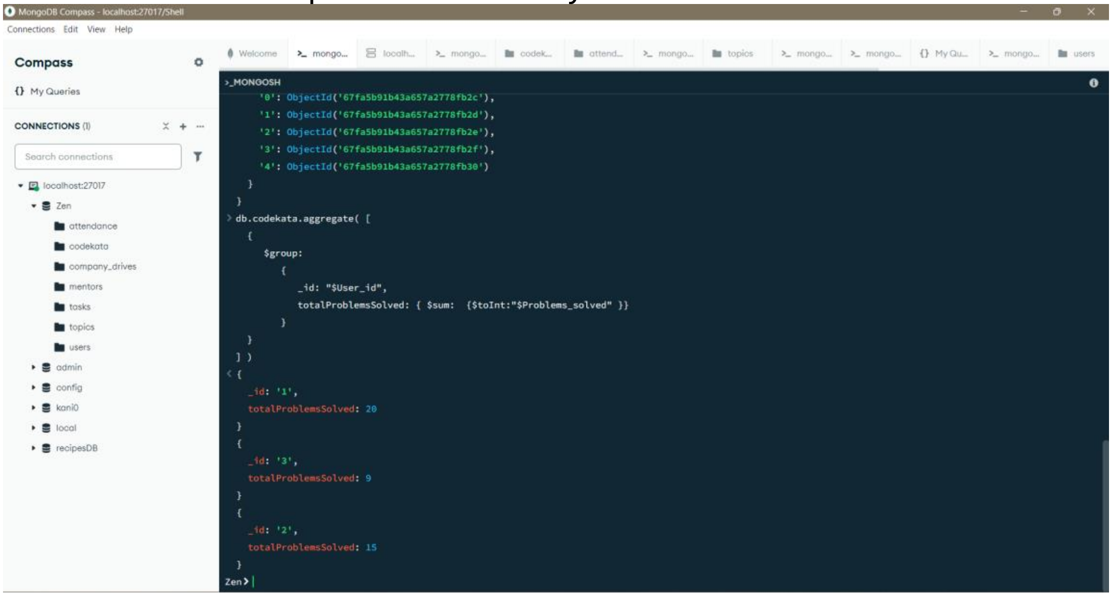


```
  }
> db.createView( "placement1", "company_drives", [
    {
      $lookup:
        {
          from: "users",
          localField: "User_id",
          foreignField: "User_id",
          as: "userDocs"
        }
    },
    {
      $project:
        {
         _id: 0,
         User_id: 1,
         User_name:"$userDocs.Name",
         drive_id: 1,
         Date: 1,
         drive_name:1,

        }
    },
      { $unwind:"$User_name" }
  ] )

  db.placement1.find()
```



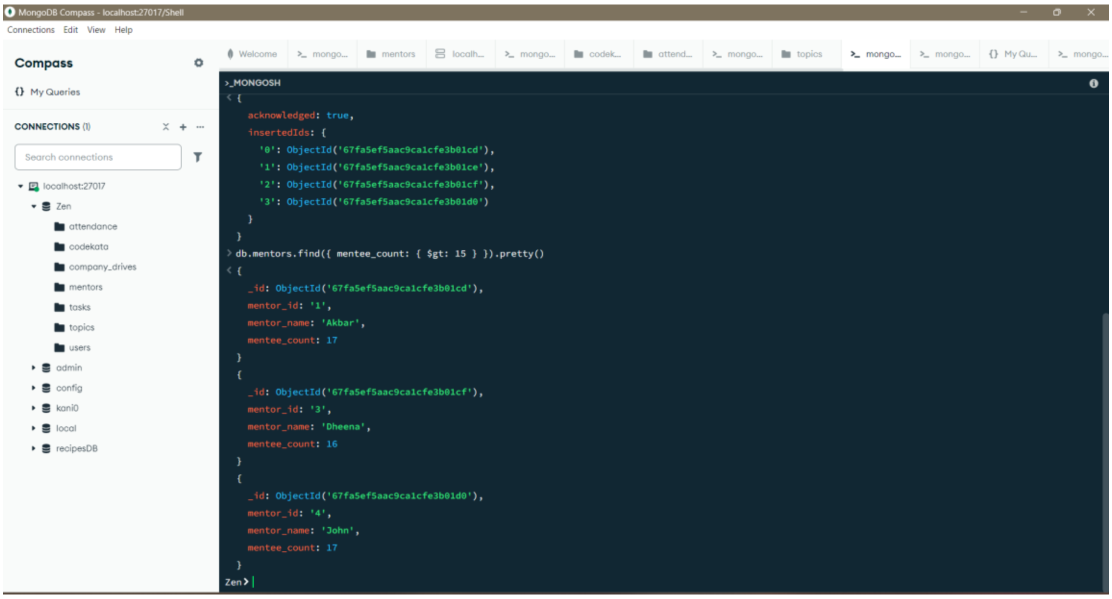
```
  {
    drive_id: '1',
    User_id: '2',
    Date: '2024-10-14',
    drive_name: 'HCL',
    User_name: 'Khatija'
  }
  {
    drive_id: '1',
    User_id: '2',
    Date: '2024-10-14',
    drive_name: 'HCL',
    User_name: 'Khatija'
  }
  {
    drive_id: '2',
    User_id: '1',
    Date: '2024-10-18',
    drive_name: 'Zoho',
    User_name: 'Kanimozhi'
  }
  {
    drive_id: '3',
    User_id: '2',
    Date: '2024-10-24',
    drive_name: 'TCS',
    User_name: 'Khatija'
  }
Zen>
```

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



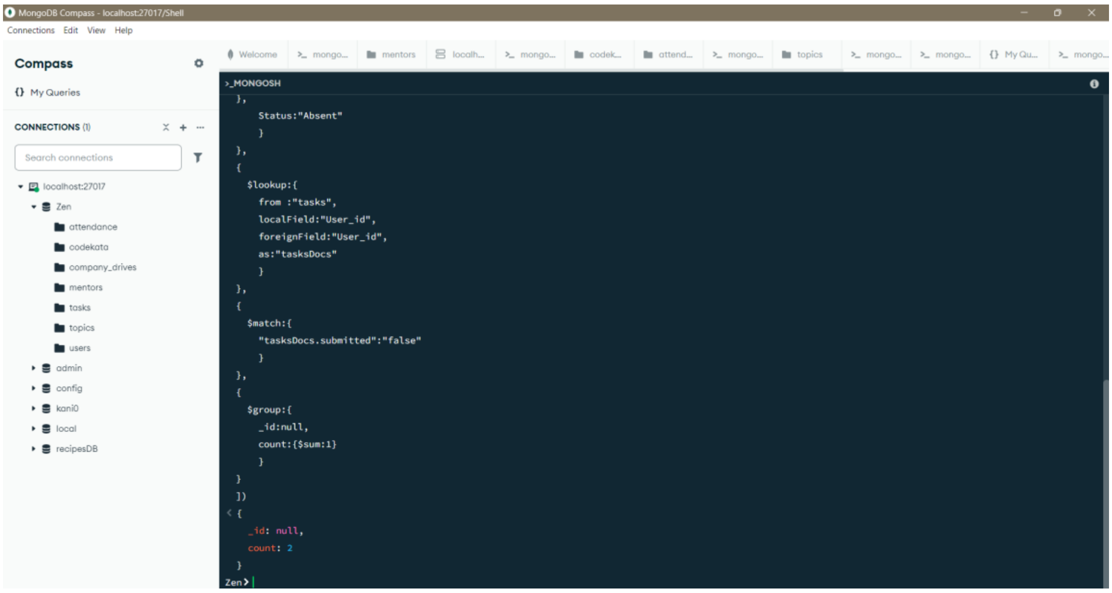
```
      '0': ObjectId('67fa5b91b43a657a2778fb2c'),
      '1': ObjectId('67fa5b91b43a657a2778fb2d'),
      '2': ObjectId('67fa5b91b43a657a2778fb2e'),
      '3': ObjectId('67fa5b91b43a657a2778fb2f'),
      '4': ObjectId('67fa5b91b43a657a2778fb30')
    }
  }
> db.codekata.aggregate( [
    {
       $group:
          {
             _id: "$User_id",
             totalProblemsSolved: { $sum:  {$toInt:"$Problems_solved" }}
          }
    }
  ] )
< {
    _id: '1',
    totalProblemsSolved: 20
  }
  {
    _id: '3',
    totalProblemsSolved: 9
  }
  {
    _id: '2',
    totalProblemsSolved: 15
  }
Zen>
```

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



```
< {
    acknowledged: true,
    insertedIds: {
      '0': ObjectId('67fa5ef5aac9ca1cfe3b01cd'),
      '1': ObjectId('67fa5ef5aac9ca1cfe3b01ce'),
      '2': ObjectId('67fa5ef5aac9ca1cfe3b01cf'),
      '3': ObjectId('67fa5ef5aac9ca1cfe3b01d0')
    }
  }
> db.mentors.find({ mentee_count: { $gt: 15 } }).pretty()
< {
    _id: ObjectId('67fa5ef5aac9ca1cfe3b01cd'),
    mentor_id: '1',
    mentor_name: 'Akbar',
    mentee_count: 17
  }
  {
    _id: ObjectId('67fa5ef5aac9ca1cfe3b01cf'),
    mentor_id: '3',
    mentor_name: 'Dheena',
    mentee_count: 16
  }
  {
    _id: ObjectId('67fa5ef5aac9ca1cfe3b01d0'),
    mentor_id: '4',
    mentor_name: 'John',
    mentee_count: 17
  }
Zen>
```

6. Find the number of users who are absent and task is not submitted  between 15 oct-2024 and 31-oct-2024



```
  },
      Status:"Absent"
      }
  },
  {
    $lookup:{
      from :"tasks",
      localField:"User_id",
      foreignField:"User_id",
      as:"tasksDocs"
      }
  },
  {
    $match:{
      "tasksDocs.submitted":"false"
      }
  },
  {
    $group:{
      _id:null,
      count:{$sum:1}
      }
  }
  ])
< {
    _id: null,
    count: 2
  }
Zen >
```