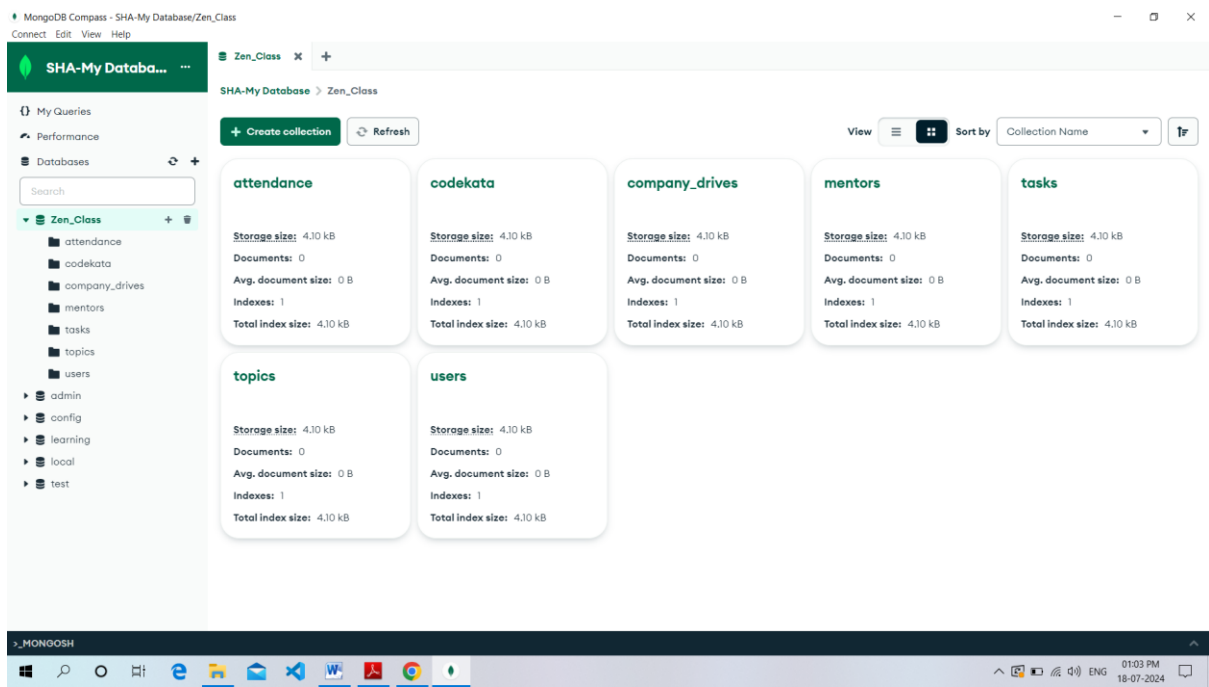


# MongoDB Task – 2

## *Zen Class Database Collections :*

users  
codekata  
attendance  
topics  
tasks  
company\_drives  
mentors

### Screenshot:-



*\*then added the documents as required*

## Question & Answers :

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

### Answer :

```
db.topics.aggregate([ { $lookup: {
  from: "tasks",
  localField: "_id",
  foreignField: "topic_id",
  as: "taskInfo" } }, { $unwind: "$taskInfo" }, { $match: {
  "topic_taught_date": { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-01") },
  "taskInfo.task_taught_date": {
    $gte: new Date("2020-10-01"),
    $lt: new Date("2020-11-01") } } },
{ $project: {
  _id: 0,
  topic_name: 1,
  topic_taught_date: {
    $dateToString: { format: "%Y-%m-%d", date: "$topic_taught_date" } },
  task_name: "$taskInfo.task_name",
  task_taught_date: {
    $dateToString: { format: "%Y-%m-%d", date: "$taskInfo.task_taught_date" } } } } ] );
```

### Screenshot:-

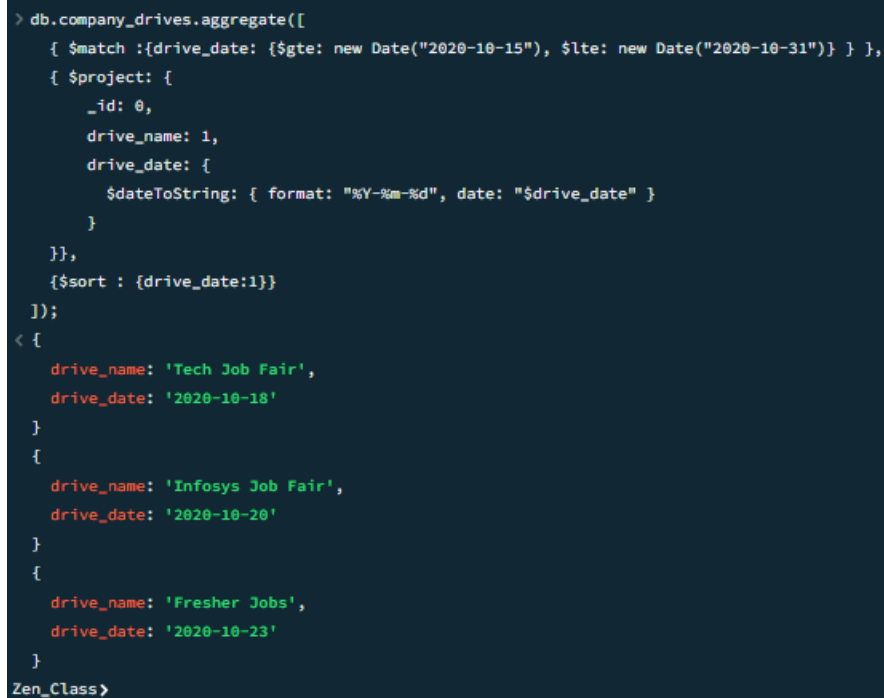
```
> db.topics.aggregate([
  {
    $lookup: {
      from: "tasks",
      localField: "_id",
      foreignField: "topic_id",
      as: "taskInfo"
    }
  },
  {
    $unwind: "$taskInfo"
  },
  {
    $match: {
      "topic_taught_date": {
        $gte: new Date("2020-10-01"),
        $lt: new Date("2020-11-01")
      },
      "taskInfo.task_taught_date": {
        $gte: new Date("2020-10-01"),
        $lt: new Date("2020-11-01")
      }
    }
  },
  {
    $project: {
      _id: 0,
      topic_name: 1,
      topic_taught_date: {
        $dateToString: { format: "%Y-%m-%d", date: "$topic_taught_date" }
      },
      task_name: "$taskInfo.task_name",
      task_taught_date: {
        $dateToString: { format: "%Y-%m-%d", date: "$taskInfo.task_taught_date" }
      }
    }
  }
]);
< {
  topic_name: 'Intro to Html',
  topic_taught_date: '2020-10-02',
  task_name: 'assignment 1',
  task_taught_date: '2020-10-02'
}
{
  topic_name: 'Intro to Css',
  topic_taught_date: '2020-10-09',
  task_name: 'assignment 1',
  task_taught_date: '2020-10-04'
}
{
  topic_name: 'Js Map Method',
  topic_taught_date: '2020-10-24',
  task_name: 'assignment 1',
  task_taught_date: '2020-10-23'
}
Zen_Class>
```

**2. Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020?**

**Answer :**

```
db.company_drives.aggregate([
  { $match : {
    drive_date: { $gte: new Date("2020-10-15"),
    $lte: new Date("2020-10-31")} } },
  { $project: {
    _id: 0,
    drive_name: 1,
    drive_date: { $dateToString: { format: "%Y-%m-%d", date: "$drive_date" } } },
  { $sort : {drive_date:1} } ]]);
```

**Screenshot:-**



```
> db.company_drives.aggregate([
  { $match : {drive_date: { $gte: new Date("2020-10-15"), $lte: new Date("2020-10-31")} } },
  { $project: {
    _id: 0,
    drive_name: 1,
    drive_date: {
      $dateToString: { format: "%Y-%m-%d", date: "$drive_date" }
    }
  } },
  { $sort : {drive_date:1} }
]);
< {
  drive_name: 'Tech Job Fair',
  drive_date: '2020-10-18'
}
{
  drive_name: 'Infosys Job Fair',
  drive_date: '2020-10-20'
}
{
  drive_name: 'Fresher Jobs',
  drive_date: '2020-10-23'
}
Zen_Class>
```

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

#### **Answer :**

```
db.company_drives.aggregate([
  { $lookup: {
    from: 'users',
    localField: '_id',
    foreignField: 'company_drive_id',
    as: 'studentInfo' } },
  { $unwind: '$studentInfo' },
  { $match: {'studentInfo.company_drive_status': 'attended' } },
  { $project: {
    _id: 0,
    drive_name: 1,
    drive_date: { $dateToString: { format: "%Y-%m-%d", date: "$drive_date" } },
    student_name: '$studentInfo.name',
    student_email: '$studentInfo.email',
    drive_status: '$studentInfo.company_drive_status', } },
  { $sort: { drive_date: 1 } } ]]);
```

#### **Screenshot:-**

```
> db.company_drives.aggregate([
  { $lookup: {
    from: 'users',
    localField: '_id',
    foreignField: 'company_drive_id',
    as: 'studentInfo'
  }
},
{ $unwind: '$studentInfo' },
{ $match: {'studentInfo.company_drive_status': 'attended' } },
{ $project: {
  _id: 0,
  drive_name: 1,
  drive_date: { $dateToString: { format: "%Y-%m-%d", date: "$drive_date" } },
  student_name: '$studentInfo.name',
  student_email: '$studentInfo.email',
  drive_status: '$studentInfo.company_drive_status',
}
},
{ $sort: { drive_date: 1 } }
]);
< {
```

```
});
< {
  drive_name: 'IBM Job Fair',
  drive_date: '2020-10-02',
  student_name: 'magesh babu',
  student_email: 'magesh@gmail.com',
  drive_status: 'attended'
}
{
  drive_name: 'Tata Jobs Event',
  drive_date: '2020-10-12',
  student_name: 'surender vasu',
  student_email: 'surender@gmail.com',
  drive_status: 'attended'
}
{
  drive_name: 'Tech Job Fair',
  drive_date: '2020-10-18',
  student_name: 'vijay sundaram',
  student_email: 'vijay@example.com',
  drive_status: 'attended'
}
{
  drive_name: 'Infosys Job Fair',
  drive_date: '2020-10-20',
  student_name: 'senthil raja',
  student_email: 'thiru@gmail.com',
  drive_status: 'attended'
}
Zen_Class>
```

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

##### Answer :

```
db.codekata.aggregate([
  { $lookup: {
    from: 'users',
    localField: 'user_id',
    foreignField: '_id',
    as: 'studentInfo' } },
  { $unwind: '$studentInfo' },
  { $group: {
    _id: { user_id: '$studentInfo._id',
    User_Name: '$studentInfo.name' },
    total_problems_solved: { $sum: 1 } } },
  { $project: {
    _id: 0,
    User_Name: '$_id.User_Name',
    total_problems_solved: 1 } },
  { $sort: { total_problems_solved: -1 } } ]]);
```

##### Screenshot:-



The screenshot displays the MongoDB aggregation pipeline on the left and its resulting output on the right. The pipeline is as follows:

```
> db.codekata.aggregate([
  { $lookup: {
    from: 'users',
    localField: 'user_id',
    foreignField: '_id',
    as: 'studentInfo'
  } },
  { $unwind: '$studentInfo' },
  { $group: {
    _id: {
      user_id: '$studentInfo._id',
      User_Name: '$studentInfo.name'
    },
    total_problems_solved: { $sum: 1 }
  } },
  { $project: {
    _id: 0,
    User_Name: '$_id.User_Name',
    total_problems_solved: 1
  } },
  { $sort: { total_problems_solved: -1 } }
]);
```

The output shows a list of users sorted by the number of problems solved in descending order:

```
< {
  total_problems_solved: 3,
  User_Name: 'vijay sundaram'
}
{
  total_problems_solved: 2,
  User_Name: 'karthik sundaram'
}
{
  total_problems_solved: 2,
  User_Name: 'mani vel'
}
{
  total_problems_solved: 2,
  User_Name: 'magesh babu'
}
{
  total_problems_solved: 2,
  User_Name: 'surender vasu'
}
{
  total_problems_solved: 1,
  User_Name: 'senthil raja'
}
Zen_Class>
```

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

**Answer :**

```
db.mentors.aggregate([
  { $match : { mentees_count : { $gt : 15 } } },
  { $project : {
    _id : 0,
    mentor_name : 1,
    mentees_count : 1
  } },
  { $sort : { mentees_count : -1 } }
]);
```

**Screenshot:-**



```
> db.mentors.aggregate([
  { $match : { mentees_count : { $gt : 15 } } },
  { $project : {
    _id : 0,
    mentor_name : 1,
    mentees_count : 1
  } },
  { $sort : { mentees_count : -1 } }
]);
< {
  mentor_name: 'suresh babu',
  mentees_count: 50
}
{
  mentor_name: 'thiru selvam',
  mentees_count: 20
}
Zen_Class>
```

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

### Answer :

```
db.users.aggregate([
  { $lookup: { from: 'attendance', localField: '_id', foreignField: 'user_id', as: 'attendanceInfo' } },
  { $lookup: { from: 'tasks', localField: '_id', foreignField: 'user_id', as: 'taskInfo' } },
  { $unwind: '$attendanceInfo' }, { $unwind: '$taskInfo' }, { $match: { $and: [
    { 'attendanceInfo.date': { $gte: new Date("2020-10-15"), $lte: new Date("2020-10-31") } },
    { 'attendanceInfo.status': 'absent' }, { 'taskInfo.task_status': 'not submitted' } ] } },
  { $group: { _id: null, user_count: { $sum: 1 } } }, { $project: { _id: 0, task_status: "Not Submitted", attendance_status: "Absent", user_count: 1 } } ] );
```

### Screenshot:-

```
> db.users.aggregate([
  { $lookup: {
    from: 'attendance',
    localField: '_id',
    foreignField: 'user_id',
    as: 'attendanceInfo'
  }
},
  { $lookup: {
    from: 'tasks',
    localField: '_id',
    foreignField: 'user_id',
    as: 'taskInfo'
  }
},
  { $unwind: '$attendanceInfo' },
  { $unwind: '$taskInfo' },
  { $match: {
    $and: [
      { 'attendanceInfo.date': { $gte: new Date("2020-10-15"), $lte: new Date("2020-10-31") } },
      { 'attendanceInfo.status': 'absent' },
      { 'taskInfo.task_status': 'not submitted' }
    ]
  }
},
  { $group: {
    _id: null,
    user_count: { $sum: 1 }
  }
},
  { $project: {
    _id: 0,
    task_status: "Not Submitted",
    attendance_status: "Absent",
    user_count: 1
  }
}
]);
< {
  }
];
< {
  user_count: 3,
  task_status: 'Not Submitted',
  attendance_status: 'Absent'
}
Zen_Class>
```