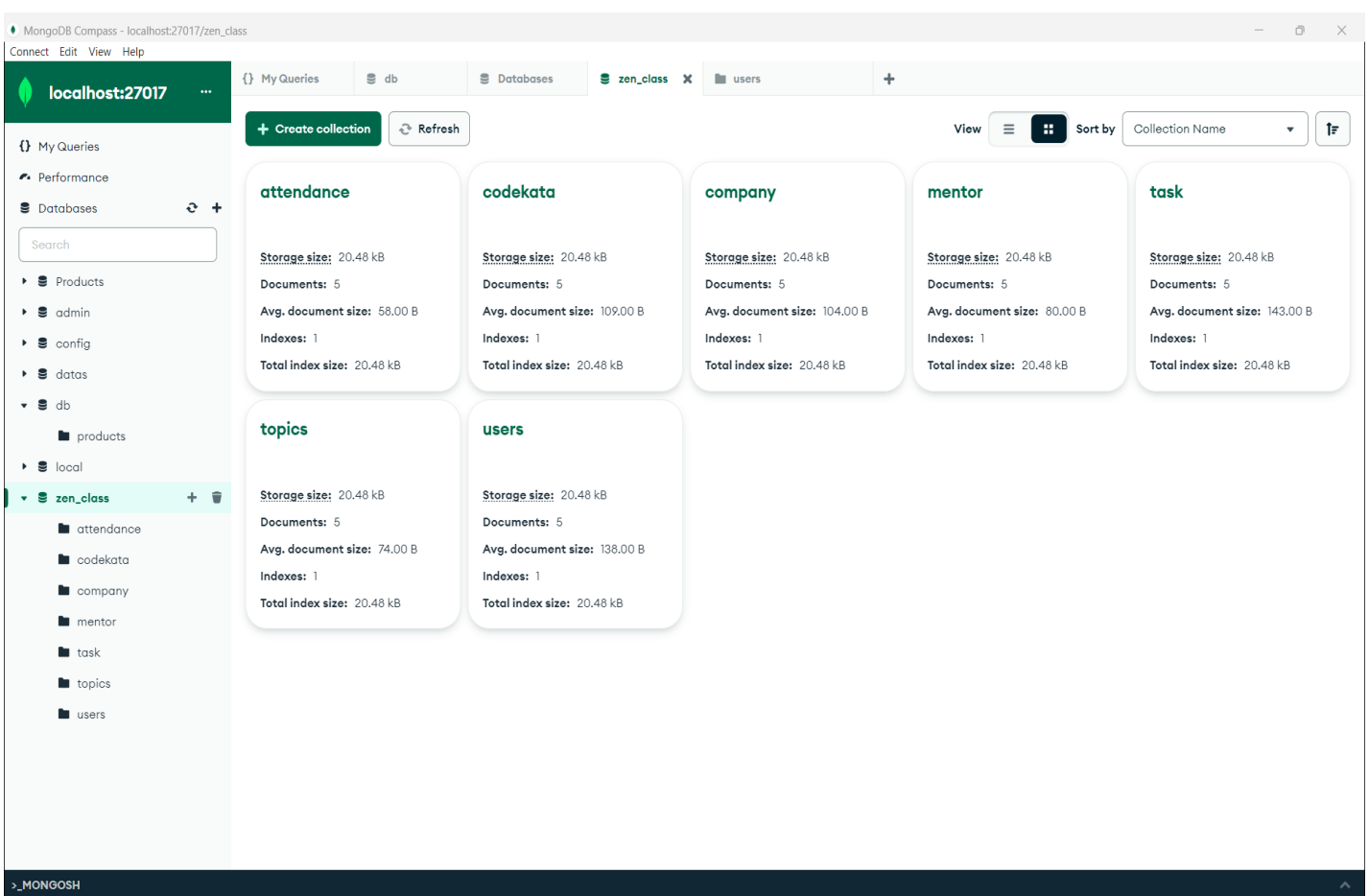


# MongoDB Task

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 :

**Solution :**

```
db.topics.aggregate([  
  {
```

```

    $lookup: {
      from: "tasks",
      localField: "topicid",
      foreignField: "topicid",
      as: "taskinfo"
    }
  },
  {
    $match: {
      $and: [
        { topic_date: { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-01") }
      },
      {
        $or: [
          { "taskinfo.due_date": { $gte: new Date("2020-10-01"), $lt: new
Date("2020-11-01") } },
          { "taskinfo.due_date": { $exists: false } }
        ]
      }
    ]
  }
},
{
  $project: {
    _id: 0,
    topicid: 1,
    topic: 1,
    topic_date: 1,
    tasks: "$taskinfo.task",
    due_dates: "$taskinfo.due_date"
  }
}

```

$$1) \quad \left. \begin{array}{l} \text{a)} \\ \text{b)} \end{array} \right\}$$

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

**Solution :**

```
db.companydrives.find({
  $or: [
    { drive_date: { $gte: new Date("15-oct-2020") } },
    { drive_date: { $lte: new Date("31-oct-2020") } }
  ]
})
```

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

**Solution :**

```
db.companydrives.aggregate([
  {
    $lookup: {
      from: "users",
      localField: "userid",
      foreignField: "userid",
      as: "userinfo"
    }
  },
  {
    $project: {
      _id: 0,
```

```
        company: 1,  
        drive_date: 1,  
        students: "$userinfo"  
    }  
} ])
```

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

**Solution :**

```
db.codekata.aggregate([  
  {  
    $lookup: {  
      from: "users",  
      localField: "userid",  
      foreignField: "userid",  
      as: "userinfo"  
    }  
  },  
  {  
    $group: {  
      _id: {  
        userid: "$userid",  
        username: "$userinfo.name"  
      },  
      total_problems_solved: { $sum: "$problems" }  
    }  
  },  
])
```

```

{
  $project: {
    _id: 0,
    userid: "$_id.userid",
    username: "$_id.username",
    total_problems_solved: 1
  }
}
])

```

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

**Solution :**

```

db.users.aggregate([
  {
    $match: { mentorid: { $exists: true } }
  },
  {
    $group: {
      _id: "$mentorid",
      mentorname: { $first: "$mentorname" },
      mentee_count: { $sum: 1 }
    }
  },
  {
    $match: { mentee_count: { $gt: 15 } }
  },
  {
    $project: {

```

```
        _id: 0,  
        mentorid: "$_id",  
        mentorname: 1,  
        mentee_count: 1  
    }  
}  
])
```

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

**Solution :**

```
db.attendance.aggregate([  
  {  
    $lookup: {  
      from: "topics",  
      localField: "topicid",  
      foreignField: "topicid",  
      as: "topics"  
    }  
  },  
  {  
    $lookup: {  
      from: "tasks",  
      localField: "topicid",  
      foreignField: "topicid",  
      as: "tasks"  
    }  
  }  
])
```

```
},  
  
{  
  $match: {  
    attended: false,  
    "tasks.submitted": false,  
    $and: [  
      { "topics.topic_date": { $gte: new Date("15-oct-2020") } },  
      { "topics.topic_date": { $lte: new Date("31-oct-2020") } },  
      { "tasks.due_date": { $gte: new Date("15-oct-2020") } },  
      { "tasks.due_date": { $lte: new Date("31-oct-2020") } }  
    ]  
  }  
},  
  
{$count: "No_of_students_absent"}})
```