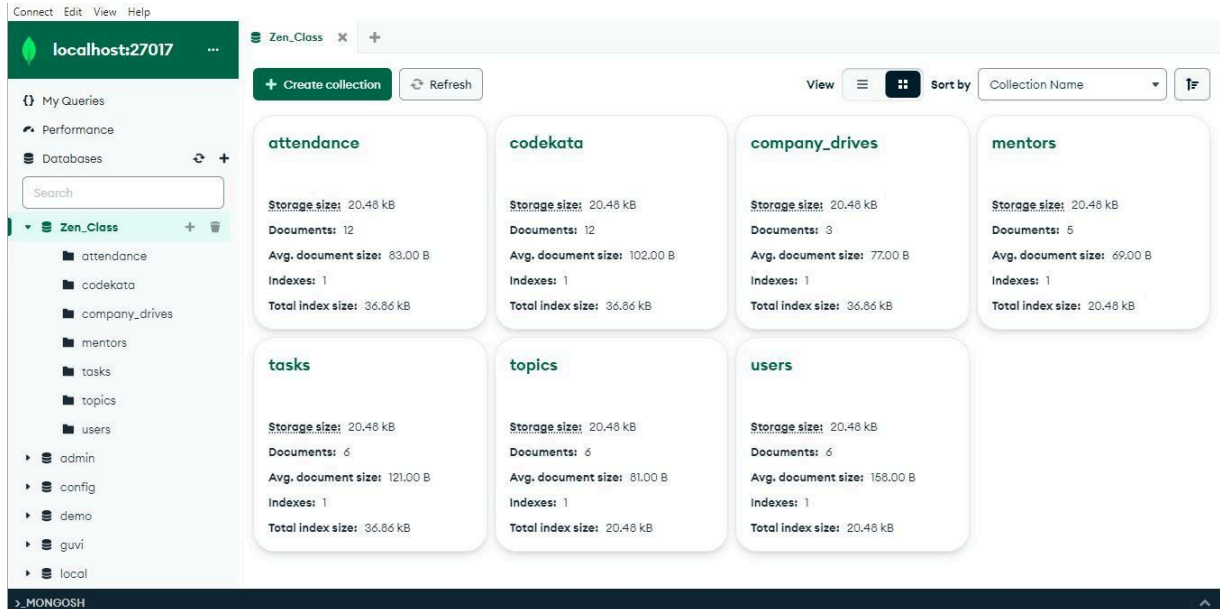


MongoDB Task

Zen Class Database Collections :

Screenshot :



Question & Answers :

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

Output :

```
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?

Output :

```

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?

Output :

```
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 sundaran',
  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?

Output :

```

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 a MongoDB aggregation pipeline in a terminal window. The pipeline consists of several stages: a \$lookup stage to join 'users' with 'studentInfo', a \$unwind stage to expand the 'studentInfo' array, a \$group stage to calculate the total problems solved per user, a \$project stage to format the output, and a \$sort stage to sort by total problems solved in descending order. The final output is shown on the right, listing users and their total problems solved.

```

> 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 } }
]);

```

```

< {
  total_problems_solved: 3,
  User_Name: 'vijay sundaran'
}
{
  total_problems_solved: 2,
  User_Name: 'karthik sundaran'
}
{
  total_problems_solved: 2,
  User_Name: 'manj 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?

Output :

```
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 ?

Output :

```
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("2028-10-15"), $lte: new Date("2028-10-31") } },
      { '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
  }
}
]);
< {
  _id: null,
  user_count: 3,
  task_status: 'Not Submitted',
  attendance_status: 'Absent'
}
Zen_Class>

```