Design database for Zen class program

MongoDB Compass - localhost:27017/Zen_Class

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| {} My Queries | Zen_Class ✕ | codekata | + |

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
4.10 kB	5	48.00 B	1	4.10 kB

companydrives

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:

mentors

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:

tasks

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:

topics

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:

users

Storage size:	Documents:	Avg. document size:	Indexes:	Total index size:
20.48 kB	5	90.00 B	1	20.48 kB

MONGOSH
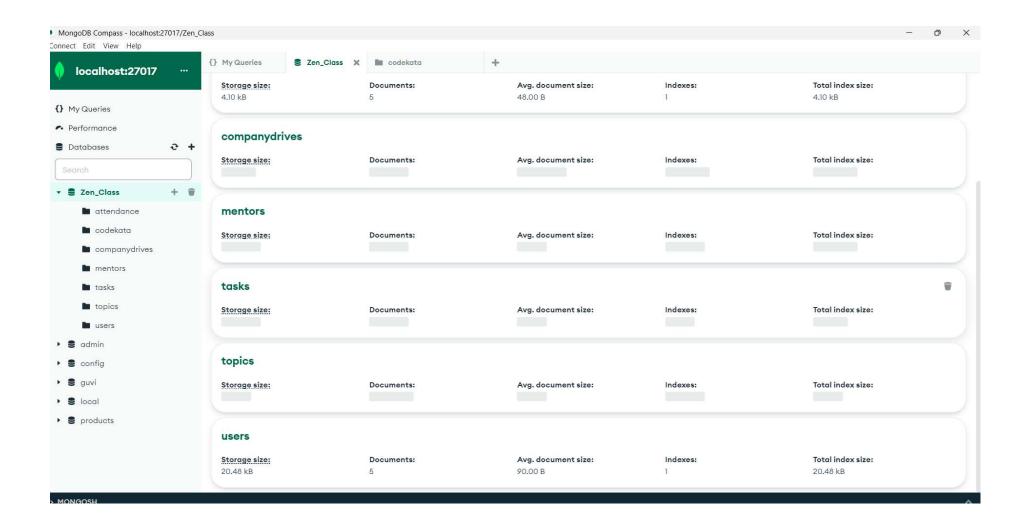
Questions and Answers

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

```
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"
    }
  }
])
```

2) Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020?	3) Find all the company drives and students who are appeared for the placement?

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

```
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?

```
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?

```
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"}])
```