MongoDB Task

Design database for Zen class programme
users
codekata
attendance
topics
tasks
company_drives
Mentors

```
mentors> db.createCollection("ZenclassProgramme")
{ ok: 1 }
mentors> use ZenclassProgramme
switched to db ZenclassProgramme
ZenclassProgramme> db.createCollection("users")
{ ok: 1 }
ZenclassProgramme> db.createCollection("codekata")
{ ok: 1 }
ZenclassProgramme> db.createCollection("attendance")
{ ok: 1 }
ZenclassProgramme> db.createCollection("topics")
{ ok: 1 }
ZenclassProgramme> db.createCollection("tasks")
{ ok: 1 }
ZenclassProgramme> db.createCollection("company_drives")
{ ok: 1 }
ZenclassProgramme> db.createCollection("mentors")
{ ok: 1 }
ZenclassProgramme> show dbs
ZenclassProgramme   56.00 KiB
admin              40.00 KiB
config            108.00 KiB
ecommerce          72.00 KiB
local              72.00 KiB
student            80.00 KiB

db.users.insertMany([{user_id:1,user_name:"Chand"},{user_id:2,user_name:"ram"},{user_id:3,user_name:"john"},{user_id:4,
user_name:"joe"}]);
{
 acknowledged: true,
 insertedIds: {
  '0': ObjectId('675e6b8056c9999db9a1924a'),
  '1': ObjectId('675e6b8056c9999db9a1924b'),
  '2': ObjectId('675e6b8056c9999db9a1924c'),
  '3': ObjectId('675e6b8056c9999db9a1924d')
 }
}
```

```
ZenclassProgramme>
db.codekata.insertMany([{user_id:1,problem_solvede:50},{user_id:2,problem_solved:60},{user_id:3,problem_solved:65},{user_id:4,problem_solved:40}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675e6ceddd07382498b8afa1'),
    '1': ObjectId('675e6ceddd07382498b8afa2'),
    '2': ObjectId('675e6ceddd07382498b8afa3'),
    '3': ObjectId('675e6ceddd07382498b8afa4')
  }
}

ZenclassProgramme>
db.attendance.insertMany([{user_id:1,attendance_count:55,attended:true},{user_id:2,attendance_count:25,attended:false},{user_id:3,attendance_count:40,attended:false},{user_id:4,attendance_count:30,attended:true}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675e6e5ddd07382498b8afa5'),
    '1': ObjectId('675e6e5ddd07382498b8afa6'),
    '2': ObjectId('675e6e5ddd07382498b8afa7'),
    '3': ObjectId('675e6e5ddd07382498b8afa8')
  }
}

ZenclassProgramme>
db.topics.insertMany([{user_id:1,topic:"mongodb",topic_date:"2024-12-12"},{user_id:2,topic:"sql",topic_date:"2024-11-24"},{user_id:3,topic:"HTML",topic_date:"2024-10-23"},{user_id:4,topic:"react",topic_date:"2024-10-12"}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675e6f50dd07382498b8afa9'),
    '1': ObjectId('675e6f50dd07382498b8afaa'),
    '2': ObjectId('675e6f50dd07382498b8afab'),
    '3': ObjectId('675e6f50dd07382498b8afac')
  }
}

ZenclassProgramme>
db.tasks.insertMany([{user_id:1,task:"mongodb",task_date:"2024-12-12"},{user_id:2,task:"sql",task_date:"2024-11-24"},{user_id:3,task:"HTML",task_date:"2024-10-23"},{user_id:4,task:"react",task_date:"2024-10-12"}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675e6fc7dd07382498b8afad'),
    '1': ObjectId('675e6fc7dd07382498b8afae'),
    '2': ObjectId('675e6fc7dd07382498b8afaf'),
    '3': ObjectId('675e6fc7dd07382498b8afb0')
  }
}

ZenclassProgramme>
db.company_drives.insertMany([{user_id:1,drive_date:"2024-12-12"},{user_id:2,drive_date:"2024-11-24"},{user_id:3,drive_date:"2024-10-23"},{user_id:4,drive_date:"2024-10-12"}])
{
  acknowledged: true,
```

```
  insertedIds: {
    '0': ObjectId('675e7036dd07382498b8afb1'),
    '1': ObjectId('675e7036dd07382498b8afb2'),
    '2': ObjectId('675e7036dd07382498b8afb3'),
    '3': ObjectId('675e7036dd07382498b8afb4')
  }
}

ZenclassProgramme>
db.mentors.insertMany([{mentor_id:1,user_id:1,mentor_name:"joee"},{mentor_id:2,user_id:2,mentor_name:"ram"},{mentor_id:3,user_id:3,mentor_name:"joee"},{mentor_id:1,user_id:4,mentor_name:"ram"}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('675e70d8dd07382498b8afb5'),
    '1': ObjectId('675e70d8dd07382498b8afb6'),
    '2': ObjectId('675e70d8dd07382498b8afb7'),
    '3': ObjectId('675e70d8dd07382498b8afb8')
  }
}

  ZenclassProgramme> db.attendance.find()
[
  {
    _id: ObjectId('675e6e5ddd07382498b8afa5'),
    user_id: 1,
    attendance_count: 55,
    attended: true
  },
  {
    _id: ObjectId('675e6e5ddd07382498b8afa6'),
    user_id: 2,
    attendance_count: 25,
    attended: false
  },
  {
    _id: ObjectId('675e6e5ddd07382498b8afa7'),
    user_id: 3,
    attendance_count: 40,
    attended: false
  },
  {
    _id: ObjectId('675e6e5ddd07382498b8afa8'),
    user_id: 4,
    attendance_count: 30,
    attended: true
  }
]
ZenclassProgramme> db.users.find()
[
  {
    _id: ObjectId('675e6b8056c9999db9a1924a'),
    user_id: 1,
    user_name: 'Chand'
  },
  {
    _id: ObjectId('675e6b8056c9999db9a1924b'),
```

```
    user_id: 2,
    user_name: 'ram'
  },
  {
    _id: ObjectId('675e6b8056c9999db9a1924c'),
    user_id: 3,
    user_name: 'john'
  },
  {
    _id: ObjectId('675e6b8056c9999db9a1924d'),
    user_id: 4,
    user_name: 'joe'
  }
]
ZenclassProgramme> db.topics.find()
[
  {
    _id: ObjectId('675e72b2dd07382498b8afc1'),
    user_id: 1,
    topic: 'mongodb',
    topic_date: '2024-12-12'
  },
  {
    _id: ObjectId('675e72b2dd07382498b8afc2'),
    user_id: 2,
    topic: 'sql',
    topic_date: '2024-11-24'
  },
  {
    _id: ObjectId('675e72b2dd07382498b8afc3'),
    user_id: 3,
    topic: 'HTML',
    topic_date: '2024-10-23'
  },
  {
    _id: ObjectId('675e72b2dd07382498b8afc4'),
    user_id: 4,
    topic: 'react',
    topic_date: '2024-10-12'
  }
]
ZenclassProgramme> db.tasks.find()
[
  {
    _id: ObjectId('675e72dddd07382498b8afc5'),
    user_id: 1,
    task: 'mongodb',
    task_date: '2024-12-12'
  },
  {
    _id: ObjectId('675e72dddd07382498b8afc6'),
    user_id: 2,
    task: 'sql',
    task_date: '2024-11-24'
  },
  {
    _id: ObjectId('675e72dddd07382498b8afc7'),
```

```
      user_id: 3,
      task: 'HTML',
      task_date: '2024-10-23'
    },
    {
      _id: ObjectId('675e72dddd07382498b8afc8'),
      user_id: 4,
      task: 'react',
      task_date: '2024-10-12'
    }
]
ZenclassProgramme> db.mentors.find()
[
    {
      _id: ObjectId('675e72f2dd07382498b8afc9'),
      mentor_id: 1,
      user_id: 1,
      mentor_name: 'joee'
    },
    {
      _id: ObjectId('675e72f2dd07382498b8afca'),
      mentor_id: 2,
      user_id: 2,
      mentor_name: 'ram'
    },
    {
      _id: ObjectId('675e72f2dd07382498b8afcb'),
      mentor_id: 3,
      user_id: 3,
      mentor_name: 'joee'
    },
    {
      _id: ObjectId('675e72f2dd07382498b8afcc'),
      mentor_id: 1,
      user_id: 4,
      mentor_name: 'ram'
    }
]
ZenclassProgramme> db.codekata.find()
[
    {
      _id: ObjectId('675e6ceddd07382498b8afa1'),
      user_id: 1,
      problem_solved: 50
    },
    {
      _id: ObjectId('675e6ceddd07382498b8afa2'),
      user_id: 2,
      problem_solved: 60
    },
    {
      _id: ObjectId('675e6ceddd07382498b8afa3'),
      user_id: 3,
      problem_solved: 65
    },
    {
      _id: ObjectId('675e6ceddd07382498b8afa4'),
```

```
    user_id: 4,
    problem_solved: 40
  }
]
ZenclassProgramme> db.company_drives.find()
[
  {
    _id: ObjectId('675e7036dd07382498b8afb1'),
    user_id: 1,
    drive_date: '2024-12-12'
  },
  {
    _id: ObjectId('675e7036dd07382498b8afb2'),
    user_id: 2,
    drive_date: '2024-11-24'
  },
  {
    _id: ObjectId('675e7036dd07382498b8afb3'),
    user_id: 3,
    drive_date: '2024-10-23'
  },
  {
    _id: ObjectId('675e7036dd07382498b8afb4'),
    user_id: 4,
    drive_date: '2024-10-12'
  }
]
ZenclassProgramme>

    topic_date: '2024-10-12'
  },
  {
    _id: ObjectId('675e6fc7dd07382498b8afad'),
    user_id: 1,
    task: 'mongodb',
    task_date: '2024-12-12'
  },
  {
    _id: ObjectId('675e6fc7dd07382498b8afae'),
    user_id: 2,
    task: 'sql',
    task_date: '2024-11-24'
  },
  {
    _id: ObjectId('675e6fc7dd07382498b8afaf'),
    user_id: 3,
    task: 'HTML',
    task_date: '2024-10-23'
  },
  {
    _id: ObjectId('675e6fc7dd07382498b8afb0'),
    user_id: 4,
    task: 'react',
    task_date: '2024-10-12'
  }
]
ZenclassProgramme>
```

1. <u>Find all the topics and tasks which are thought in the month of October</u>

```
ZenclassProgramme> db.topics.find({topic_date:{$gte:"2024-10-01",$lte:"2024-10-31"}});
[
  {
    _id: ObjectId('675e72b2dd07382498b8afc3'),
    user_id: 3,
    topic: 'HTML',
    topic_date: '2024-10-23'
  },
  {
    _id: ObjectId('675e72b2dd07382498b8afc4'),
    user_id: 4,
    topic: 'react',
    topic_date: '2024-10-12'
  }
]
ZenclassProgramme> db.tasks.find({task_date:{$gte:"2024-10-01",$lte:"2024-10-31"}});
[
  {
    _id: ObjectId('675e72dddd07382498b8afc7'),
    user_id: 3,
    task: 'HTML',
    task_date: '2024-10-23'
  },
  {
    _id: ObjectId('675e72dddd07382498b8afc8'),
    user_id: 4,
    task: 'react',
    task_date: '2024-10-12'
  }
]
```

2. <u>Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020</u>

```
ZenclassProgramme> db.company_drives.find({drive_date:{$gte:"2024-10-15",$lte:"2024-10-31"}});
[
  {
    _id: ObjectId('675e7036dd07382498b8afb3'),
    user_id: 3,
    drive_date: '2024-10-23'
  }
]
```

3. <u>Find all the company drives and students who are appeared for the placement.</u>

```
db.company_drives.aggregate([
{ $project: { user_id:1,drive_date:1 } },
{ $unionWith: { coll: "users", pipeline: [ { $project: { _id:0 ,user_name:1} } ]} },
```

```
  { $group: { _id: "$user_id" } }
  ])
  [ { _id: 3 }, { _id: 1 }, { _id: 4 }, { _id: 2 }, { _id: null } ]
```

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

ZenclassProgramme> db.codekata.aggregate([{$group:{_id:"$user_id",count:{$sum:"$problem_solved"}}}])
[
 { _id: 2, count: 60 },
 { _id: 1, count: 50 },
 { _id: 4, count: 50 },
 { _id: 3, count: 65 }

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

ZenclassProgramme> db.mentors.find({mentee_count:{$gt:15}})
[
 {
  _id: ObjectId('675e72f2dd07382498b8afc9'),
  mentor_id: 1,
  user_id: 1,
  mentor_name: 'joee',
  mentee_count: 20
 },
 {
  _id: ObjectId('675e72f2dd07382498b8afca'),
  mentor_id: 2,
  user_id: 2,
  mentor_name: 'ram',
  mentee_count: 20
 },
 {
  _id: ObjectId('675e72f2dd07382498b8afcc'),
  mentor_id: 1,
  user_id: 4,
  mentor_name: 'ram',
  mentee_count: 20
 }
]

6. Find the number of users who are absent

ZenclassProgramme> db.attendance.find({attended:false});
[
 {
  _id: ObjectId('675e6e5ddd07382498b8afa6'),
  user_id: 2,
  attendance_count: 25,
  attended: false
 },
 {
```

```
  _id: ObjectId('675e6e5ddd07382498b8afa7'),
  user_id: 3,
  attendance_count: 40,
  attended: false
 }
]
```

7. task is not submitted between 15 oct-2020 and 31-oct-2020

```
ZenclassProgramme> db.tasks.find({task_date:{$ne:"2024-10-15",$ne:"2024-10-31"}});
[
 {
  _id: ObjectId('675e72dddd07382498b8afc5'),
  user_id: 1,
  task: 'mongodb',
  task_date: '2024-12-12'
 },
 {
  _id: ObjectId('675e72dddd07382498b8afc6'),
  user_id: 2,
  task: 'sql',
  task_date: '2024-11-24'
 },
 {
  _id: ObjectId('675e72dddd07382498b8afc7'),
  user_id: 3,
  task: 'HTML',
  task_date: '2024-10-23'
 },
 {
  _id: ObjectId('675e72dddd07382498b8afc8'),
  user_id: 4,
  task: 'react',
  task_date: '2024-10-12'
 }
]
```