📘 MongoDB Zen Class Program Task

📝 *Database Collections*

1. **users**
2. **codekata**
3. **attendance**
4. **topics**
5. **tasks**
6. **company_drives**
7. **mentors**

1. Users

```
db.users.insertMany([
  { user_id: 1, name: "Sevanthi", email: "sev@gmail.com" },
  { user_id: 2, name: "Kumar", email: "kum@gmail.com" },
  { user_id: 3, name: "Priya", email: "priya@gmail.com" }
])
```

2. Codekata

```
db.codekata.insertMany([
  { user_id: 1, problems_solved: 120 },
  { user_id: 2, problems_solved: 85 },
  { user_id: 3, problems_solved: 50 }
])
```

3. Attendance

```
db.attendance.insertMany([
```

```
  { user_id: 1, date: ISODate("2020-10-18"), present: true },
  { user_id: 2, date: ISODate("2020-10-20"), present: false },
  { user_id: 3, date: ISODate("2020-10-21"), present: false }
])
```

4. Topics

```
db.topics.insertMany([
  { topic: "HTML", date: ISODate("2020-10-05") },
  { topic: "CSS", date: ISODate("2020-10-10") },
  { topic: "JS", date: ISODate("2020-11-01") }
])
```

5. Tasks

```
db.tasks.insertMany([
  { task: "HTML Task", user_id: 1, submitted: true, date: ISODate("2020-10-06") },
  { task: "CSS Task", user_id: 2, submitted: false, date: ISODate("2020-10-11") },
  { task: "JS Task", user_id: 3, submitted: false, date: ISODate("2020-10-21") }
])
```

6. company_drives

```
db.company_drives.insertMany([
  { company: "Google", date: ISODate("2020-10-16"), students_attended: [1, 2] },
  { company: "Amazon", date: ISODate("2020-10-30"), students_attended: [3] },
  { company: "Infosys", date: ISODate("2020-11-05"), students_attended: [] }
])
```

7. Mentors

```
db.mentors.insertMany([
  { mentor_name: "Raj", mentee_count: 20 },
  { mentor_name: "Anu", mentee_count: 10 }
])
```

❓ Task Queries and Results

1. **📌 Find all the topics and tasks which are thought in the month of October:**

```
db.topics.find({
  date: { $gte: ISODate("2020-10-01"), $lte: ISODate("2020-10-31") }
})

db.tasks.find({
  date: { $gte: ISODate("2020-10-01"), $lte: ISODate("2020-10-31") }
})
```

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.tasks.find({
...   date: { $gte: ISODate("2020-10-01"), $lte: ISODate("2020-10-31") }
... })
[
  {
    _id: ObjectId('680af7f4d8966c72a9b5f89b'),
    task_name: 'HTML Task',
    user_id: 1,
    submitted: true,
    date: ISODate('2020-10-06T00:00:00.000Z')
  },
  {
    _id: ObjectId('680b00fd936c81acdcb5f8a5'),
    task: 'HTML Task',
    user_id: 1,
    submitted: true,
    date: ISODate('2020-10-06T00:00:00.000Z')
  },
  {
    _id: ObjectId('680b00fd936c81acdcb5f8a6'),
    task: 'CSS Task',
    user_id: 2,
    submitted: false,
    date: ISODate('2020-10-11T00:00:00.000Z')
  },
  {
    _id: ObjectId('680b00fd936c81acdcb5f8a7'),
    task: 'JS Task',
    user_id: 3,
    submitted: false,
    date: ISODate('2020-10-21T00:00:00.000Z')
  }
]
```

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

```
db.company_drives.find({
  date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") }
})
```

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.company_drives.find({
...   date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") }
... })
[
  {
    _id: ObjectId('680b01ad936c81acdcb5f8a8'),
    company: 'Google',
    date: ISODate('2020-10-16T00:00:00.000Z'),
    students_attended: [ 1, 2 ]
  },
  {
    _id: ObjectId('680b01ad936c81acdcb5f8a9'),
    company: 'Amazon',
    date: ISODate('2020-10-30T00:00:00.000Z'),
    students_attended: [ 3 ]
  }
]
```

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

db.company_drives.find({

students_attended: { $ne: [] }

})

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.company_drives.find({
...   students_attended: { $ne: [] }
... })
[
  {
    _id: ObjectId('680b01ad936c81acdcb5f8a8'),
    company: 'Google',
    date: ISODate('2020-10-16T00:00:00.000Z'),
    students_attended: [ 1, 2 ]
  },
  {
    _id: ObjectId('680b01ad936c81acdcb5f8a9'),
    company: 'Amazon',
    date: ISODate('2020-10-30T00:00:00.000Z'),
    students_attended: [ 3 ]
  }
]
```

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

db.codekata.aggregate([

{

```
  $lookup: {
    from: "users",
    localField: "user_id",
    foreignField: "user_id",
    as: "user_info"
  }
 },
 {
  $project: {
    _id: 0,
    name: { $arrayElemAt: ["$user_info.name", 0] },
    problems_solved: 1
  }
 }
])
```

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.codekata.aggregate([
...   {
...     $lookup: {
...       from: "users",
...       localField: "user_id",
...       foreignField: "user_id",
...       as: "user_info"
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       name: { $arrayElemAt: ["$user_info.name", 0] },
...       problems_solved: 1
...     }
...   }
... ])
[
  { problems_solved: 120, name: 'Sevanthi' },
  { problems_solved: 85, name: 'Kumar' },
  { problems_solved: 50, name: 'Priya' }
]
```

5. 👨‍🏫 **Find all the mentors who have the mentee's count more than 15:**

```
db.mentors.find({
  mentee_count: { $gt: 15 }
})
```

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.mentors.find({
...   mentee_count: { $gt: 15 }
... })
[
  {
    _id: ObjectId('680b01ec936c81acdcb5f8ab'),
    mentor_name: 'Raj',
    mentee_count: 20
  }
]
```

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

db.attendance.find({

date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") },

present: false

})

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.attendance.find({
...   date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") },
...   present: false
... })
[
  {
    _id: ObjectId('680afece936c81acdcb5f8a0'),
    user_id: 2,
    date: ISODate('2020-10-20T00:00:00.000Z'),
    present: false
  },
  {
    _id: ObjectId('680afece936c81acdcb5f8a1'),
    user_id: 3,
    date: ISODate('2020-10-21T00:00:00.000Z'),
    present: false
  }
]
```

db.tasks.find({

date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") },

submitted: false

})

```
Atlas atlas-uzuql4-shard-0 [primary] zenclass> db.tasks.find({
...   date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") },
...   submitted: false
... })
[
  {
    _id: ObjectId('680b00fd936c81acdcb5f8a7'),
    task: 'JS Task',
    user_id: 3,
    submitted: false,
    date: ISODate('2020-10-21T00:00:00.000Z')
  }
]
```