

## 1. Find all the topics and tasks which are taught in the month of October:

```
25DEC2024> show collections
attendance
codekata
company_drives
mentors
tasks
topics
users
25DEC2024> db.topics.find({ date: { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-01") } });
[
  {
    _id: ObjectId('676be990c76427ccf7893c00'),
    topic: 'Topic1',
    date: ISODate('2020-10-01T00:00:00.000Z')
  },
  {
    _id: ObjectId('676be990c76427ccf7893c01'),
    topic: 'Topic2',
    date: ISODate('2020-10-15T00:00:00.000Z')
  }
]
```

```
25DEC2024> db.tasks.find({ date: { $gte: new Date("2020-10-01"), $lt: new Date("2020-11-01") } });
[
  {
    _id: ObjectId('676be998c76427ccf7893c02'),
    task: 'Task1',
    date: ISODate('2020-10-05T00:00:00.000Z')
  },
  {
    _id: ObjectId('676be998c76427ccf7893c03'),
    task: 'Task2',
    date: ISODate('2020-10-20T00:00:00.000Z')
  }
]
```

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

```
25DEC2024> db.company_drives.find({ date: { $gte: new Date("2020-10-15"), $lte: new Date("2020-10-31") } });
[
  {
    _id: ObjectId('676be9a0c76427ccf7893c04'),
    company: 'Company1',
    date: ISODate('2020-10-16T00:00:00.000Z')
  },
  {
    _id: ObjectId('676be9a0c76427ccf7893c05'),
    company: 'Company2',
    date: ISODate('2020-10-25T00:00:00.000Z')
  }
]
```

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

```
25DEC2024> db.company_drives.find({ students: { $exists: true, $ne: [] } });
```

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

```
25DEC2024> db.codekata.aggregate([
  { $group: { _id: "$user", totalProblems: { $sum: "$problemsSolved" } } },
  { $sort: { totalProblems: -1 } }
]);
[
  { _id: 'User1', totalProblems: 50 },
  { _id: 'User2', totalProblems: 30 }
]
```

5. Find all the mentors with mentees count more than 15:

```
25DEC2024> db.mentors.find({ menteeCount: { $gt: 15 } });
[
  {
    _id: ObjectId('676be9a7c76427ccf7893c06'),
    mentor: 'Mentor1',
    menteeCount: 20
  }
]
```

6. Find the number of users who are absent and tasks not submitted between 15-Oct-2020 and 31-Oct-2020:

```
25DEC2024> db.attendance.aggregate([
...   {
...     $lookup: {
...       from: "users",
...       localField: "user",
...       foreignField: "name",
...       as: "userDetails"
...     }
...   },
...   { $unwind: "$userDetails" },
...   { $match: { "userDetails.tasksSubmitted": false } }
... ]).pretty();
[
  {
    _id: ObjectId('676be984c76427ccf7893bff'),
    user: 'User2',
    date: ISODate('2020-10-20T00:00:00.000Z'),
    status: 'Present',
    userDetails: {
      _id: ObjectId('676be972c76427ccf7893bfb'),
      name: 'User2',
      tasksSubmitted: false
    }
  }
]
```