Day 38 Assignment

Database design

Here zen class Database is created and one document is added to tasks collection
Values under submitted and unsubmitted are the ID's of users .

```
> use zenclass
< switched to db zenclass
> db.tasks.insertOne({
      _id: 'task101',
      taskName: 'Task 1',
      Date: ISODate("2020-09-14"),
      submitted: [1, 2, 3, 4, 5],
      unsubmitted: [6, 7, 8, 9, 10]
  })
< {
    acknowledged: true,
    insertedId: 'task101'
  }
```

Here topics collection is created and one document is added to it .

```
> db.topics.insertOne({_id:"topic101",topicName:"Topic 1",Date:ISODate("2020-09-21")})
< {
    acknowledged: true,
    insertedId: 'topic101'
  }
```

Here users collection is created and one document is added to it

```
>_MONGOSH
> db.users.insertOne({
  _id:1,
  name:"User 1",
  placement:true
  })
< {
    acknowledged: true,
    insertedId: 1
  }
```

Here company_drives collection is created and document is added to it .

```
>_MONGOSH

> db.company_drives.insertOne({
  _id:"company-101",
  name:"Company 1",
  placement_Date:ISODate("2020-09-23")
  })
< {
    acknowledged: true,
    insertedId: 'company-101'
  }
```

Here codekata collection is created and document is added to it . User ID in this document refers to the id in the users collection

```
> db.codekata.insertOne({user_id:1,problems_solved:10})
< {
    acknowledged: true,
    insertedId: ObjectId("64756221b0688c5a59676d1e")
  }
```

Here mentors collection is created and one document is added to it

```
>_MONGOSH

> use zenclass
< switched to db zenclass
> db.mentors.insertOne({name:"Mentor 1",mentee_count:17})
< {
    acknowledged: true,
    insertedId: ObjectId("6476a3fa1c8904e72f899714")
  }
```

Here attendance collection is created and one document is added to it , the values inside present and absent are the ids of the user

```
> db.attendance.insertOne({
  "class":"Class 1",
  "present":[1,2,3,4,5],
  "absent":[6,7,8,9,10]
  ,"date":ISODate("2020-10-21")})
< {
    acknowledged: true,
    insertedId: ObjectId("6476a6cd1c8904e72f899718")
  }
```

Problems

Find all the topics and tasks which are taught and given in the month of October

Solution:

```
>_MONGOSH
> db.tasks.find({
  Date:{$gte:ISODate("2020-10-01"),
  $lte:ISODate("2020-10-31")}
  }).forEach((task)=>{printjson(task.taskName)})
< Task 2
< Task 3
< Task 4
```

```
>_MONGOSH
> db.topics.find({
  Date:{$gte:ISODate("2020-10-01"),
  $lte:ISODate("2020-10-31")}
  }).forEach((topic)=>{printjson(topic.topicName)})
< Topic 2
< Topic 3
zenclass>
```

Find all the company drives which appeared between 15 oct-2020 and 31-oct-2020

```
>_MONGOSH
> db.company_drives.find({
  placement_Date:{$gte:ISODate("2020-10-15"),
  $lte:ISODate("2020-10-31")}
  }).forEach((company)=>{printjson(company.name)
  })
< Company 2
< Company 3
```

Find all the company drives and students who are appeared for the placement.

```
>_MONGOSH
> db.users.find({
  placement:true
  }).forEach((user)=>{printjson(`Student "${user.name}" attended placements`)})
< Student "User 1" attended placements
< Student "User 4" attended placements
< Student "User 9" attended placements
< Student "User 10" attended placements
> db.company_drives.find().forEach((company)=>{printjson(`${company.name} came for placements`)})
< Company 1 came for placements
< Company 2 came for placements
< Company 3 came for placements
```

Find the number of problems solved by the user in codekata

```
> db.users.aggregate([
    {
  $lookup:{
  from:"codekata",
  localField:"_id",
  foreignField:"user_id",
  as:"Problems Solved"
  }}])
< {
    _id: 1,
    name: 'User 1',
    placement: true,
    'Problems Solved': [
      {
        _id: ObjectId("64756221b0688c5a59676d1e"),
        user_id: 1,
        problems_solved: 10
      }
    ]
  }
```

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

```
> db.mentors.find({mentee_count:{$gt:15}})
< {
    _id: ObjectId("6476a3fa1c8904e72f899714"),
    name: 'Mentor 1',
    mentee_count: 17
  }
  {
    _id: ObjectId("6476a4701c8904e72f899716"),
    name: 'Mentor 3',
    mentee_count: 19
  }
```

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:{$gt:ISODate("2020-10-15"),$lt:ISODate("2020-10-31")}},{date:1,absent:1})
< {
    _id: ObjectId("6476a6cd1c8904e72f899718"),
    absent: [
      6,
      7,
      8,
      9,
      10
    ],
    date: 2020-10-21T00:00:00.000Z
  }
  {
    _id: ObjectId("6476a7531c8904e72f899719"),
    absent: [
      1,
      7,
      3,
      9,
      10
    ],
    date: 2020-10-25T00:00:00.000Z
  }
```

```
> db.tasks.find({Date:{$gt:ISODate("2020-10-15"),$lt:ISODate("2020-10-31")}},{unsubmitted:1,Date:1})
< {
    _id: 'task103',
    Date: 2020-10-20T00:00:00.000Z,
    unsubmitted: [
      4,
      5,
      6,
      7,
      8,
      9,
      10
    ]
  }
```