**MongoDB Task**

**Design database for Zen class programme**

users

codekata

attendance

topics

tasks

company\_drives

mentors

1. Find all the topics and tasks which are thought in the month of October
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.
4. Find the number of problems solved by the user in codekata
5. Find all the mentors with who has the mentee's count more than 15
6. Find the number of users who are absent and task is not submitted  between 15 oct-2020 and 31-oct-2020

Creation:

use Zen\_Class

switched to db Zen\_Class

db.users.insertMany([

{

"name": "Gayathri",

"email": "gayathri@example.com",

"role": "student",

"mentor\_id": null,

"attendance": [

{ "date": ISODate("2020-10-16"), "status": "present" },

{ "date": ISODate("2020-10-20"), "status": "present" }

],

"tasks": [

{ "task\_id": null, "status": "submitted" },

{ "task\_id": null, "status": "submitted" }

],

"codekata": { "problems\_solved": 45 }

},

{

"name": "sanju",

"email": "sanju@example.com",

"role": "student",

"mentor\_id": null,

"attendance": [

{ "date": ISODate("2020-10-18"), "status": "present" },

{ "date": ISODate("2020-10-22"), "status": "present" }

],

"tasks": [

{ "task\_id": null, "status": "submitted" },

{ "task\_id": null, "status": "not submitted" }

],

"codekata": { "problems\_solved": 30 }

},

{

"name": "Jan",

"email": "jan@example.com",

"role": "student",

"mentor\_id": null,

"attendance": [

{ "date": ISODate("2020-10-18"), "status": "absent" },

{ "date": ISODate("2020-10-22"), "status": "absent" }

],

"tasks": [

{ "task\_id": null, "status": "submitted" },

{ "task\_id": null, "status": "not submitted" }

],

"codekata": { "problems\_solved": 20 }

}

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c644c0d6d0ac49e9f5c8a'**),

**'1'**: ObjectId(**'674c644c0d6d0ac49e9f5c8b'**),

**'2'**: ObjectId(**'674c644c0d6d0ac49e9f5c8c'**)

}

}

db.mentors.insertMany([

{ "name": "Vishnu", "mentees": [null] },

{ "name": "varadhan", "mentees": [null] }

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c64a20d6d0ac49e9f5c8d'**),

**'1'**: ObjectId(**'674c64a20d6d0ac49e9f5c8e'**)

}

}

db.attendance.insertMany([

{ "user\_id": null, "date": ISODate("2020-10-20"), "status": "absent" },

{ "user\_id": null, "date": ISODate("2020-10-22"), "status": "absent" },

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c64cc0d6d0ac49e9f5c8f'**),

**'1'**: ObjectId(**'674c64cc0d6d0ac49e9f5c90'**)

}

}

db.codekata.insertMany([

{ "user\_id": null, "problems\_solved": 45 },

{ "user\_id": null, "problems\_solved": 30 },

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c64f00d6d0ac49e9f5c91'**),

**'1'**: ObjectId(**'674c64f00d6d0ac49e9f5c92'**)

}

}

db.topics.insertMany([

{ "topic\_name": "JavaScript Basics", "date\_taught": ISODate("2020-10-10") },

{ "topic\_name": "React Components", "date\_taught": ISODate("2020-10-20") }

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c65080d6d0ac49e9f5c93'**),

**'1'**: ObjectId(**'674c65080d6d0ac49e9f5c94'**)

}

}

db.tasks.insertMany([

{ "task\_name": "DOM Manipulation", "date\_assigned": ISODate("2020-10-10"), "submitted\_by": [null] },

{ "task\_name": "API Integration", "date\_assigned": ISODate("2020-10-15"), "submitted\_by": [] }

]);

{

acknowledged: true,

insertedIds: {

**'0'**: ObjectId(**'674c65150d6d0ac49e9f5c95'**),

**'1'**: ObjectId(**'674c65150d6d0ac49e9f5c96'**)

}

}

db.company\_drives.insertMany([

{ "company\_name": "Google", "drive\_date": ISODate("2020-10-20"), "students\_appeared": [null] },

{ "company\_name": "Microsoft", "drive\_date": ISODate("2020-10-25"), "students\_appeared": [null] }

]);

{

acknowledged: true,

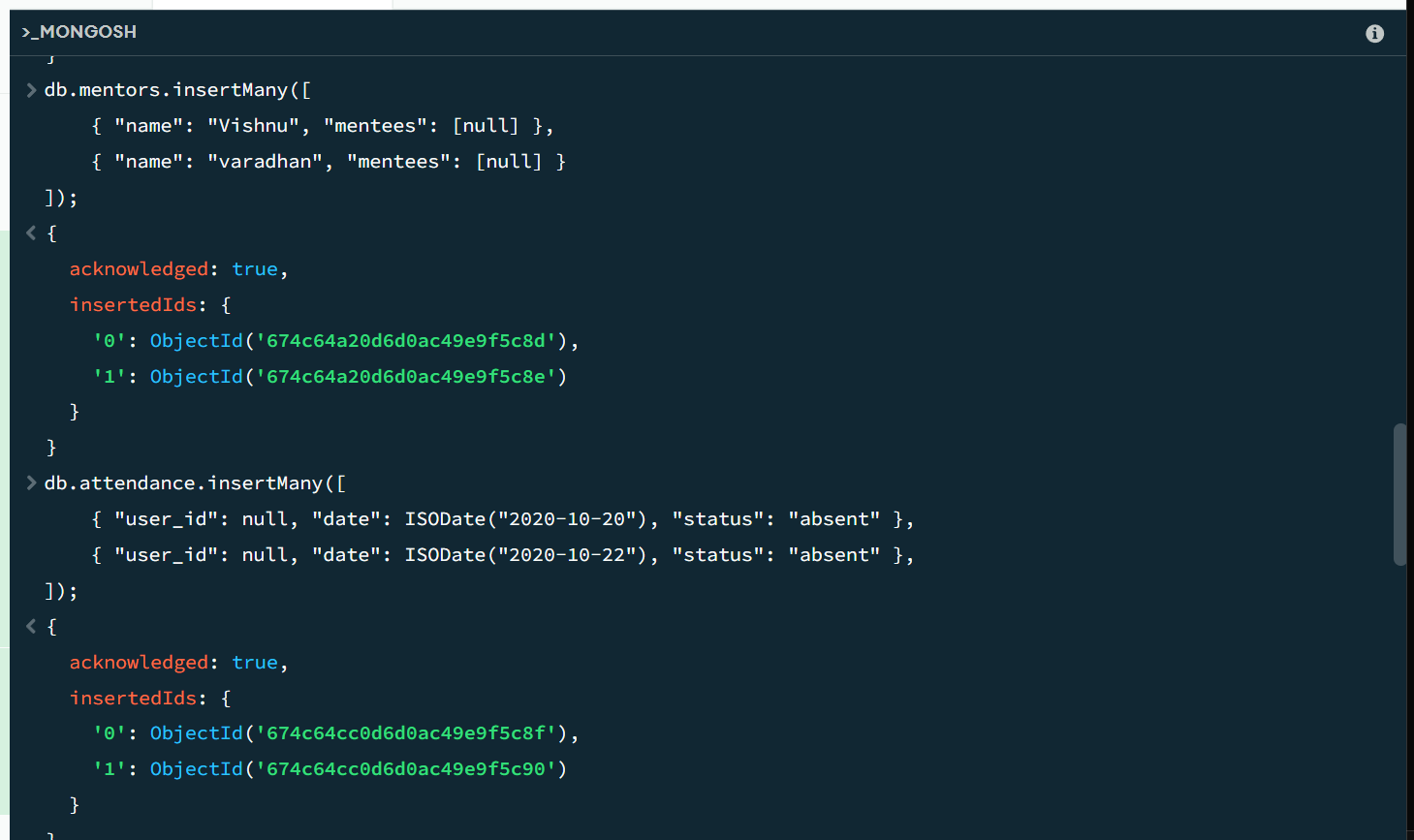
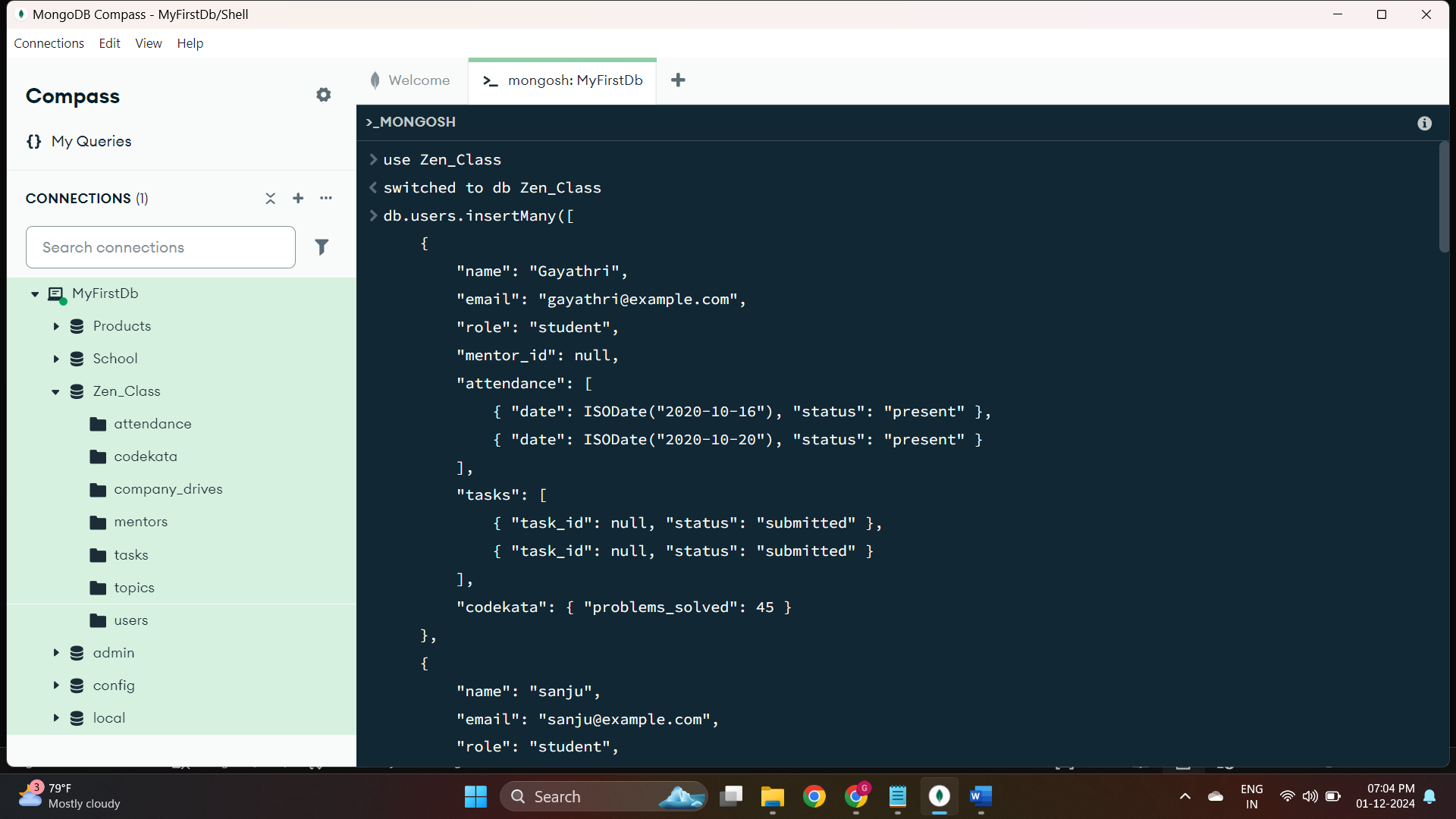
insertedIds: {

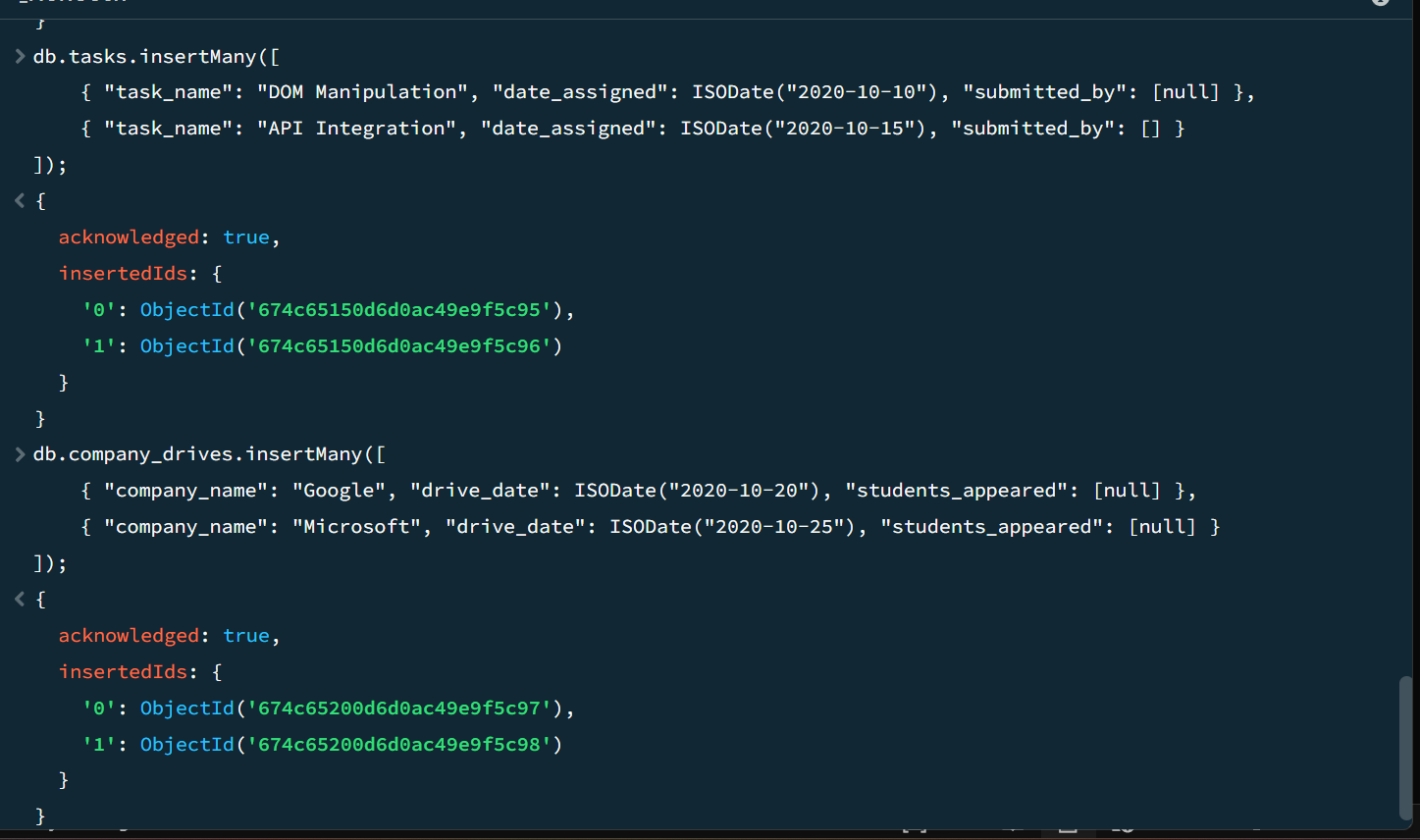
**'0'**: ObjectId(**'674c65200d6d0ac49e9f5c97'**),

**'1'**: ObjectId(**'674c65200d6d0ac49e9f5c98'**)

}

}





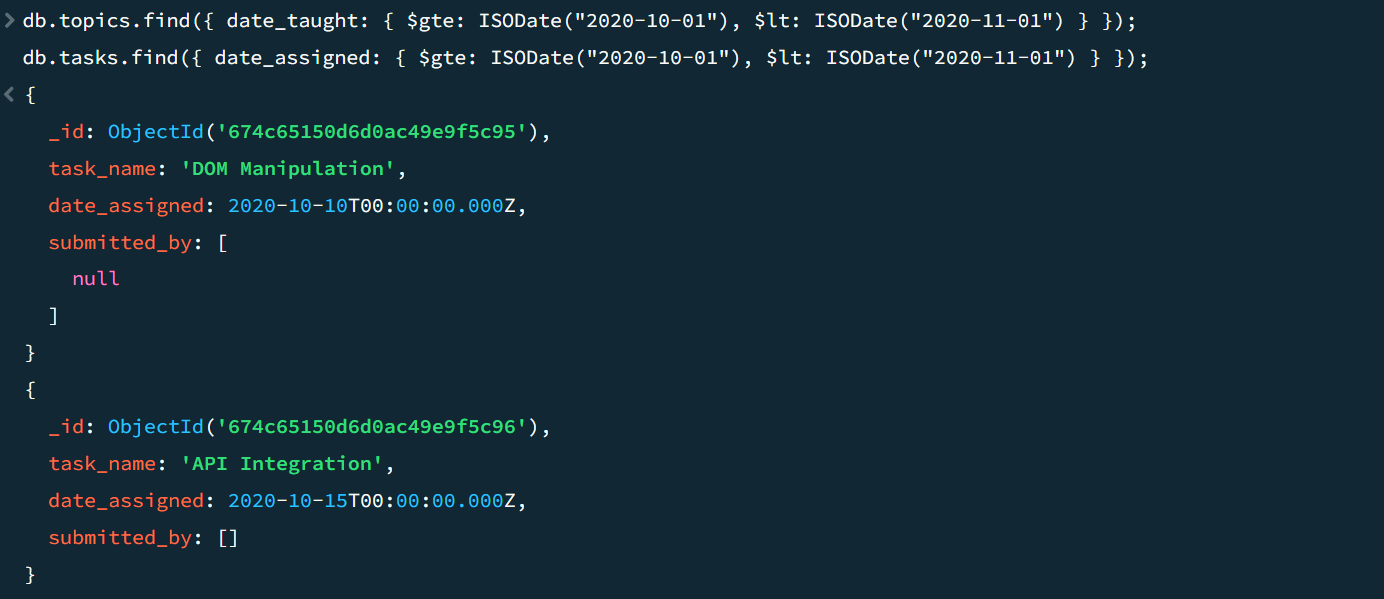


Queries

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

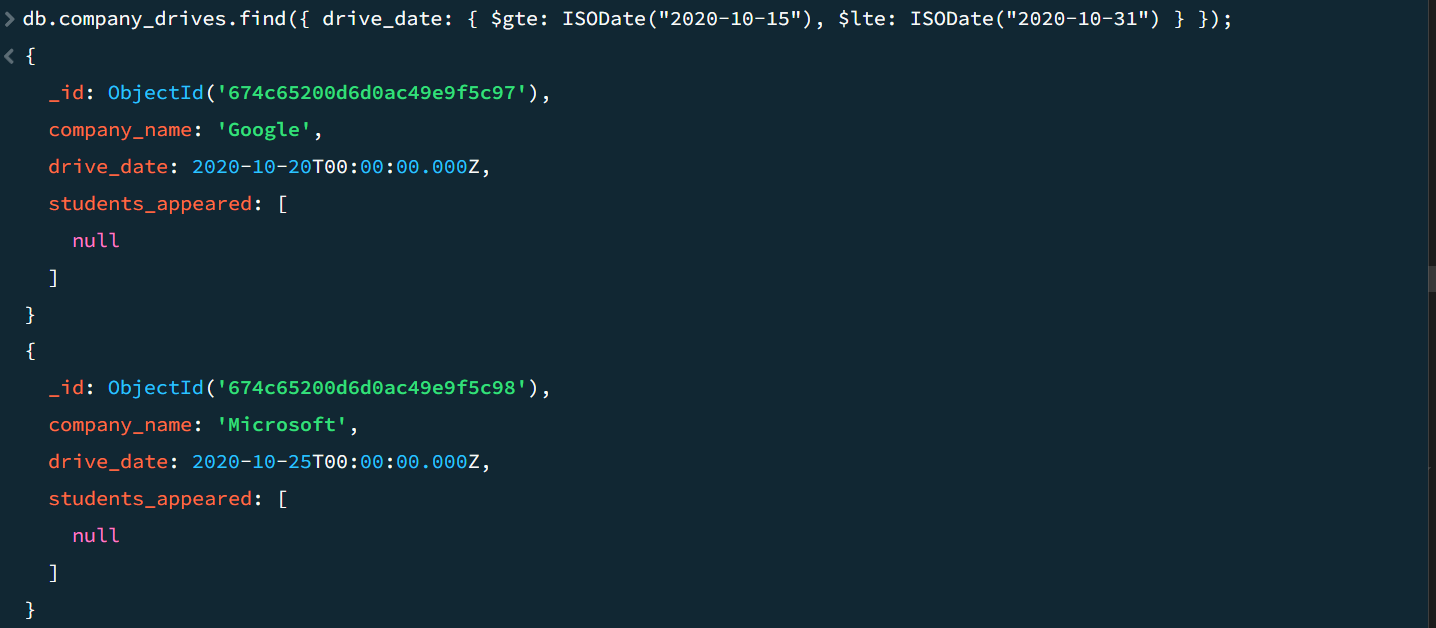
db.topics.find({ date\_taught: { $gte: ISODate("2020-10-01"), $lt: ISODate("2020-11-01") } });

db.tasks.find({ date\_assigned: { $gte: ISODate("2020-10-01"), $lt: ISODate("2020-11-01") } });



2) Find all the company drives which appeared between 15th October 2020 and 31st October 2020.

db.company\_drives.find({ drive\_date: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") } });



3) Find all the company drives and students who are appeared for the placement:

db.company\_drives.aggregate([

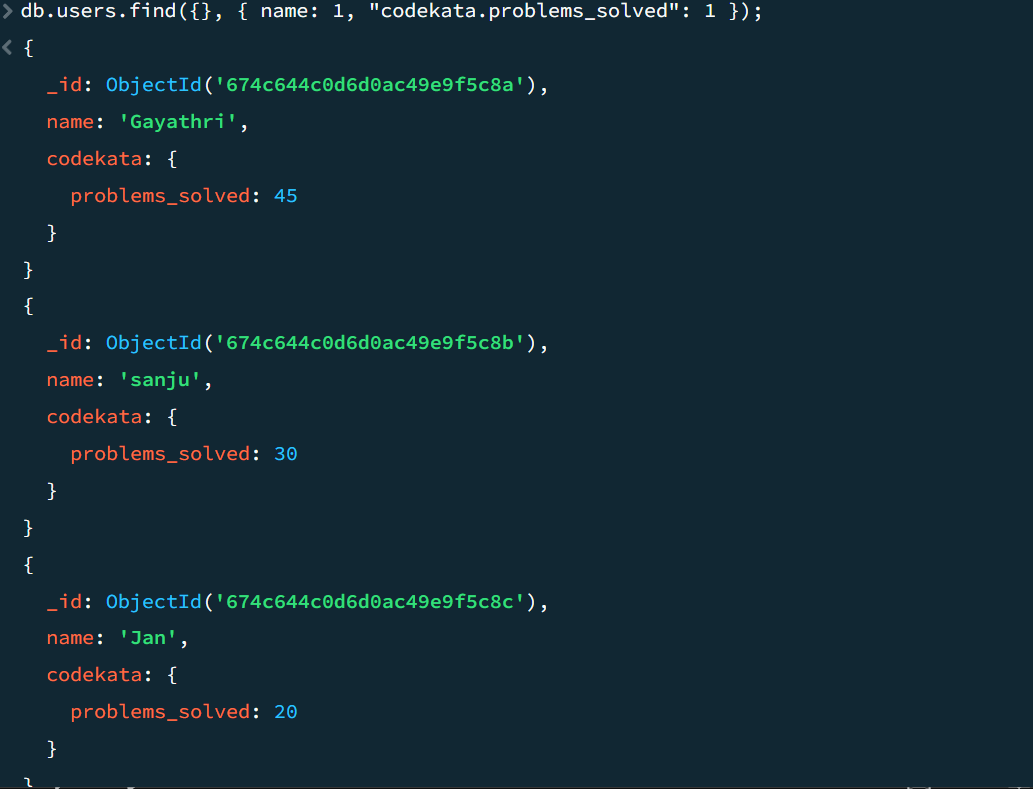
{ $lookup: { from: "users", localField: "students\_appeared", foreignField: "\_id", as: "students" } }

]);



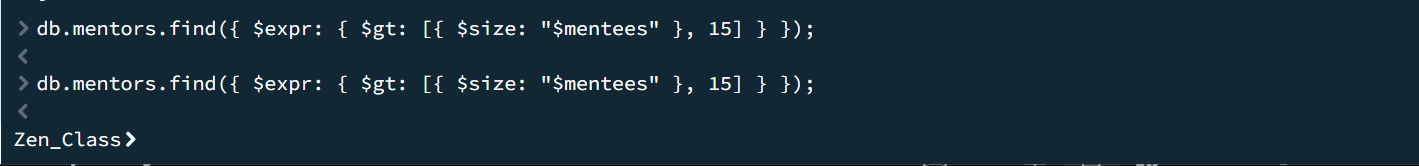
4) Find the number of problems solved by the user in codekata:

db.users.find({}, { name: 1, "codekata.problems\_solved": 1 });



5) Find all the mentors with mentee's count more than 15:

db.mentors.find({ mentees\_count: { $gt: 15 } });



6) Find the number of users who are absent and task is not submitted between 15th October 2020 and 31st October 2020.

db.users.aggregate([

{

$match: {

attendance: {

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

},

tasks: {

$elemMatch: { status: "not submitted", date\_assigned: { $gte: ISODate("2020-10-15"), $lte: ISODate("2020-10-31") } }

}

}

},

{ $count: "absent\_and\_not\_submitted" }

]);

