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

Ans: db.topics.find({
  date: {
    $gte: Date("2024-10-01"),
    $lt: Date("2024-11-01")
  }
});

db.tasks.find({
  date: {
    $gte: Date("2020-10-01"),
    $lte: Date("2020-11-01")
  }
});

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

Ans: db.company_drives.find({
  date: {
    $gte: Date("2024-10-15"),
    $lt: Date("2024-11-01")
  }
});

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

Ans: db.company_drives.find({}, { company_name: 1, date: 1, students_appeared: 1 });

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

Ans: db.codekata.find({}, { user_id: 1, problems_solved: 1 });

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

Ans: db.mentors.find({

$expr: { $gt: [{ $size: "$mentees" }, 15] }

});

6) Find the number of users who are absent and task is not submitted between 15-Oct-2020 and 31-Oct-2020

Ans:

let absentUsers = db.attendance.find({

date: {

$gte: ISODate("2020-10-15"),

$lt: ISODate("2020-11-01")

},

status: "absent"

}).map(attendance => attendance.user_id);

let usersWithUnsubmittedTasks = db.tasks.find({

date: {

$gte: ISODate("2020-10-15T00:00:00Z"),

$lt: ISODate("2020-11-01T00:00:00Z")

},

status: "not submitted"

}).map(task => task.user_id);

// Find users who are in both arrays

let usersAbsentAndNotSubmitted = absentUsers.filter(user_id => usersWithUnsubmittedTasks.includes(user_id));

print(usersAbsentAndNotSubmitted.length);