Design database for Zen class programme

Users collection:

{

“_id”: ObjectId,

“name”: String,

“email”: String,

“phone”: Number,

“batch”: String,

“mentor_id”: ObjectId,

“company_drives_applied”: [ObjectId] (Id of the companies applied)

}

Code Practice collection: (For each user we will have code practice data)

{

“_id”: ObjectId,

“user_id": ObjectId, (It represents to the user collection)

“solved_problems”: Number,

“last_solved_date”: Date

}

Attendance Collection: (For each user we will have attendance data)

{

“_id”: ObjectId,

“user_id”: ObjectId (It represents to the user collection),

“date”: Date,

“status”: boolean

}

Topics Collection:

{

“_id”: ObjectId,

“topic_name”: String,

“teached_date”: Date,

“tasks”: [ObjectId] (Task Id’s go here)

}

Tasks Collection:

{

“_id”: ObjectId,

“task_name”: String,

“assigned_date”: Date,

“due_date”: Date,

“submitted_users”: [ObjectId] (User Id of submitted users)

}

Companydrive Collection:

{

“_id”: ObjectId,

“company_name”: String,

“drive_date”: Date,

“applied_users”: [ObjectId] (User ID who applied to the drive)

}

Mentors Collection:

{

“_id”: ObjectId,

“name”: String,

“mentees”: [ObjectId] (user Id of users)

}

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

```
Db.topics.find({
“teached_date”:{
$gte : ISODate(“2024-10-01”) ,
$lte: : ISODate(“2024-10-31”)
}
}).forEach( function(topic) {
Print(topic. topic_name);
Db.tasks.find({
“_id” : {$in: topic. tasks }
}).forEach(function(task){
Print(task.task_name)
})
};
```

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

```
Db. Companydrive.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. Companydrive.find({}).forEach(function(company){
Print(company.company_name)
Db.users.find({
“_id”: {$in:company.applied_users}
}).forEach(function(user){
Print(user.name)
})
}
```

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

```
Db.codepractice.aggregate([
{
$group:{
_id:”$user_id”,
Total_solved_problems:{$sum:”$solved_problems”}
}
}
])
```

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

```
db.mentors.find({
   “mentees”: { $size: { $gt: 15 } }
});
```

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

```
Db.attendance.aggregate([
{
$match:{
“status”:”false”,
“date”:{
$gte: ISODate(“2020-10-15”),
 $lte: ISODate(“2020-10-31”)
}
}
},
{
$lookup:{
From:”tasks”,
localField: “user_id”,
 foreignField: “submitted_users”,
as: “task_submissions”
}
},
{ $match: { “task_submissions”: { $size: 0 } } },
{ $group: { _id: "$user_id", count: { $sum: 1 } } }
])
```