

GUVI DAY 36 (MONGODB DAY 2)

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MongoDB Day-2 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

SCREENSHOTS:

CREATING COLLECTIONS

```
> db.createCollection("users")
{ "ok" : 1 }
> db.createCollection("codekata")
{ "ok" : 1 }
> db.createCollection("attendance")
{ "ok" : 1 }
> db.createCollection("topics")
{ "ok" : 1 }
> db.createCollection("tasks")
{ "ok" : 1 }
> db.createCollection("company_drives")
{ "ok" : 1 }
> db.createCollection("mentors")
{ "ok" : 1 }
>
```

INSERTING ALL DATA TO COLLECTIONS

ATTENDANCE

```
> db.attendance.insertMany([
... {"topic_id":1,"date":new Date("2020-10-15"),"present": [1,2,4], "absent": [3,5]},
... {"topic_id":2,"date":new Date("2020-10-16"),"present": [2,3,4,5], "absent": [1]},
... {"topic_id":3,"date":new Date("2020-10-17"),"present": [1,3,4,5], "absent": [2]},
... {"topic_id":4,"date":new Date("2020-10-18"),"present": [1,2,3,5], "absent": [4]},
... {"topic_id":5,"date":new Date("2020-10-19"),"present": [1,2,4,5], "absent": [3]}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214d42d94ea486ee46af627"),
    ObjectId("6214d42d94ea486ee46af628"),
    ObjectId("6214d42d94ea486ee46af629"),
    ObjectId("6214d42d94ea486ee46af62a"),
    ObjectId("6214d42d94ea486ee46af62b")
  ]
}
```

CODEKATA

```
>
> db.codekata.insertMany([
... {"prob_id":1,"category_name":"Input/Output","description":"Write a code to get the input in the given format and print the output in the given format."},
... {"prob_id":2,"category_name":"absolute beginner","description":"Write a code to get an integer N and print the even values from 1 till N in a separate line."},
... {"prob_id":3,"category_name":"Array","description":"A person saves his monthly saving according to given schema. He saves same amount of money which is equal to the money saved in immediate previous two months. Assume, initially he saved 1000 rupees and in first month he saved another 1000. Your task is to tell how much he had totally saved at the end of 'n' months"},
... {"prob_id":4,"category_name":"absolute beginner","description":"Write a code get an integer number as input and print the sum of the digits."},
... {"prob_id":5,"category_name":"absolute beginner","description":"Write a code get an integer number as input and print the odd and even digits of the number separately."}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214a0b494ea486ee46af604"),
    ObjectId("6214a0b494ea486ee46af605"),
    ObjectId("6214a0b494ea486ee46af606"),
    ObjectId("6214a0b494ea486ee46af607"),
    ObjectId("6214a0b494ea486ee46af608")
  ]
}
```

COMPANY DRIVES

```
> db.company_drives.insertMany([
... {"id":1,"company_name":"company1","interview_date":new Date("2020-10-10"),"student_id_list":[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16]},
... {"id":2,"company_name":"company2","interview_date":new Date("2020-10-14"),"student_id_list":[17,18,19,20]},
... {"id":3,"company_name":"company3","interview_date":new Date("2020-10-17"),"student_id_list":[21,22,23,24]},
... {"id":4,"company_name":"company4","interview_date":new Date("2020-10-20"),"student_id_list":[25,26,27,29]},
... {"id":5,"company_name":"company5","interview_date":new Date("2020-10-29"),"student_id_list":[30,31,33,34]}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214a0e094ea486ee46af613"),
    ObjectId("6214a0e094ea486ee46af614"),
    ObjectId("6214a0e094ea486ee46af615"),
    ObjectId("6214a0e094ea486ee46af616"),
    ObjectId("6214a0e094ea486ee46af617")
  ]
}
```

MENTORS

```
> db.mentors.insertMany([
... {"id":1,"mentor_name":"mentor1","email_id":"mentor1@gmail.com","student_id_list":[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16]},
... {"id":2,"mentor_name":"mentor2","email_id":"mentor2@gmail.com","student_id_list":[17,18,19,20]},
... {"id":3,"mentor_name":"mentor3","email_id":"mentor3@gmail.com","student_id_list":[21,22,23,24]},
... {"id":4,"mentor_name":"mentor4","email_id":"mentor4@gmail.com","student_id_list":[25,26,27,29]},
... {"id":5,"mentor_name":"mentor5","email_id":"mentor5@gmail.com","student_id_list":[30,31,33,34]}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214a0cc94ea486ee46af60e"),
    ObjectId("6214a0cc94ea486ee46af60f"),
    ObjectId("6214a0cc94ea486ee46af610"),
    ObjectId("6214a0cc94ea486ee46af611"),
    ObjectId("6214a0cc94ea486ee46af612")
  ]
}
```

TASKS

```
> db.tasks.insertMany([
... {"task_id":1,"task_name":"create-react-app","description":"create-react-app","date":new Date("2020-10-17"),"submitted":[1,3,4], "not_submitted": [2,5]},
... {"task_id":2,"task_name":"MySQL tables","description":"create tables in MySQL","date":new Date("2020-10-18"),"submitted":[1,3,4], "not_submitted": [2,5]},
... {"task_id":3,"task_name":"HTML forms","description":"create a form in HTML","date":new Date("2020-10-19"),"submitted":[1,3,4], "not_submitted": [2,5]},
... {"task_id":4,"task_name":"API","description":"write code to fetch data from API","date":new Date("2020-10-20"),"submitted":[1,3,4], "not_submitted": [2,5]},
... {"task_id":5,"task_name":"CSS","description":"design a responsive page","date":new Date("2020-10-21"),"submitted":[1,3,4], "not_submitted": [2,5]}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214d44194ea486ee46af62c"),
    ObjectId("6214d44194ea486ee46af62d"),
    ObjectId("6214d44194ea486ee46af62e"),
    ObjectId("6214d44194ea486ee46af62f"),
    ObjectId("6214d44194ea486ee46af630")
  ]
}
```

TOPICS

```
> db.topics.insertMany([
... {"id":1,"name":"HTML","description":"HTML","date":new Date("2020-10-15")},
... {"id":2,"name":"Javascript","description":"Javascript","date":new Date("2020-10-16")},
... {"id":3,"name":"ReactJS","description":"ReactJS","date":new Date("2020-10-17")},
... {"id":4,"name":"MongoDB","description":"MongoDB","date":new Date("2020-10-18")},
... {"id":5,"name":"NodeJS","description":"NodeJS","date":new Date("2020-10-19")}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214a0e994ea486ee46af618"),
    ObjectId("6214a0e994ea486ee46af619"),
    ObjectId("6214a0e994ea486ee46af61a"),
    ObjectId("6214a0e994ea486ee46af61b"),
    ObjectId("6214a0e994ea486ee46af61c")
  ]
}
```

USERS

```
> db.users.insertMany([
... {"user_id":1,"user_name":"user1","email_id":"user1@gmail.com","batch_id":24,"codekata_solved":[1,2,3]},
... {"user_id":2,"user_name":"user2","email_id":"user2@gmail.com","batch_id":24,"codekata_solved":[2,3]},
... {"user_id":3,"user_name":"user3","email_id":"user3@gmail.com","batch_id":24,"codekata_solved":[3,5]},
... {"user_id":4,"user_name":"user4","email_id":"user4@gmail.com","batch_id":24,"codekata_solved":[1,2,3,4]},
... {"user_id":5,"user_name":"user5","email_id":"user5@gmail.com","batch_id":24,"codekata_solved":[4,5]}
... ]);
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("6214a0c294ea486ee46af609"),
    ObjectId("6214a0c294ea486ee46af60a"),
    ObjectId("6214a0c294ea486ee46af60b"),
    ObjectId("6214a0c294ea486ee46af60c"),
    ObjectId("6214a0c294ea486ee46af60d")
  ]
}
```

QUERY SCREENSHOTS:

1.


```

>
> db.topics.find({
... "date":{
... $gte: ISODate("2020-10-01"),
... $lt:ISODate("2020-10-31")
... }
... })
{ "_id" : ObjectId("6214a0fe94ea486ee46af618"), "id" : 1, "name" : "HTML", "description" : "HTML", "date" : ISODate("2020-10-15T00:00:00Z") }
{ "_id" : ObjectId("6214a0fe94ea486ee46af619"), "id" : 2, "name" : "Javascript", "description" : "Javascript", "date" : ISODate("2020-10-16T00:00:00Z") }
{ "_id" : ObjectId("6214a0fe94ea486ee46af61a"), "id" : 3, "name" : "ReactJS", "description" : "ReactJS", "date" : ISODate("2020-10-17T00:00:00Z") }
{ "_id" : ObjectId("6214a0fe94ea486ee46af61b"), "id" : 4, "name" : "MongoDB", "description" : "MongoDB", "date" : ISODate("2020-10-18T00:00:00Z") }
{ "_id" : ObjectId("6214a0fe94ea486ee46af61c"), "id" : 5, "name" : "NodeJS", "description" : "NodeJS", "date" : ISODate("2020-10-19T00:00:00Z") }
>
> db.tasks.find({
... "date":{
... $gte: ISODate("2020-10-01"),
... $lt: ISODate("2020-10-31")
... }
... })
{ "_id" : ObjectId("6214a0fe94ea486ee46af622"), "task_id" : 1, "task_name" : "create-react-app", "description" : "create-react-app", "date" : ISODate("2020-10-17T00:00:00Z"), "status" : { "1" : "submitted", "2" : "not submitted", "3" : "submitted", "4" : "submitted", "5" : "not submitted" } }
{ "_id" : ObjectId("6214a0fe94ea486ee46af623"), "task_id" : 2, "task_name" : "MySQL tables", "description" : "create tables in MySQL", "date" : ISODate("2020-10-18T00:00:00Z"), "status" : { "1" : "submitted", "2" : "not submitted", "3" : "submitted", "4" : "submitted", "5" : "not submitted" } }
{ "_id" : ObjectId("6214a0fe94ea486ee46af624"), "task_id" : 3, "task_name" : "HTML forms", "description" : "create a form in HTML", "date" : ISODate("2020-10-19T00:00:00Z"), "status" : { "1" : "submitted", "2" : "not submitted", "3" : "submitted", "4" : "submitted", "5" : "not submitted" } }
{ "_id" : ObjectId("6214a0fe94ea486ee46af625"), "task_id" : 4, "task_name" : "API", "description" : "write code to fetch data from API", "date" : ISODate("2020-10-20T00:00:00Z"), "status" : { "1" : "submitted", "2" : "not submitted", "3" : "submitted", "4" : "submitted", "5" : "not submitted" } }
{ "_id" : ObjectId("6214a0fe94ea486ee46af626"), "task_id" : 5, "task_name" : "CSS", "description" : "design a responsive page", "date" : ISODate("2020-10-21T00:00:00Z"), "status" : { "1" : "submitted", "2" : "not submitted", "3" : "submitted", "4" : "submitted", "5" : "not submitted" } }

```

2.

```

>
> db.company_drives.find({
... "interview_date": {
... $gte: ISODate("2020-10-15"),
... $lt: ISODate("2020-10-31")
... }
... })
{ "_id" : ObjectId("6214a0fe94ea486ee46af615"), "id" : 3, "company_name" : "company3", "interview_date" : ISODate("2020-10-17T00:00:00Z"), "student_id_list" : [ 21, 22, 23, 24 ] }
{ "_id" : ObjectId("6214a0fe94ea486ee46af616"), "id" : 4, "company_name" : "company4", "interview_date" : ISODate("2020-10-20T00:00:00Z"), "student_id_list" : [ 25, 26, 27, 29 ] }
{ "_id" : ObjectId("6214a0fe94ea486ee46af617"), "id" : 5, "company_name" : "company5", "interview_date" : ISODate("2020-10-29T00:00:00Z"), "student_id_list" : [ 30, 31, 33, 34 ] }
>

```

3.

```

>
> db.company_drives.find({}, {
... "_id":0,
... "company_name":1,
... "student_id_list":1
... })
{ "company_name" : "company1", "student_id_list" : [ 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 ] }
{ "company_name" : "company2", "student_id_list" : [ 17, 18, 19, 20 ] }
{ "company_name" : "company3", "student_id_list" : [ 21, 22, 23, 24 ] }
{ "company_name" : "company4", "student_id_list" : [ 25, 26, 27, 29 ] }
{ "company_name" : "company5", "student_id_list" : [ 30, 31, 33, 34 ] }
>

```

4.

```

>
> db.users.aggregate({
... $project: {
... _id: 0,
... user_name: 1,
... no_of_prob_solved: {
... $size: "$codekata_solved"
... }
... }
... })
{ "user_name" : "user1", "no_of_prob_solved" : 3 }
{ "user_name" : "user2", "no_of_prob_solved" : 2 }
{ "user_name" : "user3", "no_of_prob_solved" : 2 }
{ "user_name" : "user4", "no_of_prob_solved" : 4 }
{ "user_name" : "user5", "no_of_prob_solved" : 2 }
>

```

5.

```
>
> db.mentors.find({
... $where: "this.student_id_list.length > 15"
... },
... {
... _id: 0,
... mentor_name: 1
... })
{ "mentor_name" : "mentor1" }
> █
```

6.

```
>
> db.attendance.aggregate({ $match: { "date": { $gte: ISODate("2020-10-15"), $lt: ISODate("2020-10-31") } } }, { $project: { _id: 0, date: 1, no_of_absent: { $size: "$absent" } } })
{ "date" : ISODate("2020-10-15T00:00:00Z"), "no_of_absent" : 2 }
{ "date" : ISODate("2020-10-16T00:00:00Z"), "no_of_absent" : 1 }
{ "date" : ISODate("2020-10-17T00:00:00Z"), "no_of_absent" : 1 }
{ "date" : ISODate("2020-10-18T00:00:00Z"), "no_of_absent" : 1 }
{ "date" : ISODate("2020-10-19T00:00:00Z"), "no_of_absent" : 1 }
>
> db.tasks.aggregate({ $match: { "date": { $gte: ISODate("2020-10-15"), $lt: ISODate("2020-10-31") } } }, { $project: { _id: 0, task_name: 1, date: 1, no_of_not_submitted: { $size: "$not_submitted" } } })
{ "task_name" : "create-react-app", "date" : ISODate("2020-10-17T00:00:00Z"), "no_of_not_submitted" : 2 }
{ "task_name" : "MySQL tables", "date" : ISODate("2020-10-18T00:00:00Z"), "no_of_not_submitted" : 2 }
{ "task_name" : "HTML forms", "date" : ISODate("2020-10-19T00:00:00Z"), "no_of_not_submitted" : 2 }
{ "task_name" : "API", "date" : ISODate("2020-10-20T00:00:00Z"), "no_of_not_submitted" : 2 }
{ "task_name" : "CSS", "date" : ISODate("2020-10-21T00:00:00Z"), "no_of_not_submitted" : 2 }
>
```