

MongoDB Task 02

Collections:

1. Creating a collection of students,

```
db.createCollection ( 'students' )
```

```
[
  {
    "_id": "6679a032d506c1c5fbd43e4d",
    "student_id": 1,
    "drive_id": 1,
    "course_name": "Full Stack Web Development",
    "provider": "Guvi",
    "duration": "6 months",
    "description": "Learn full stack web development from basics to advanced topics.",
    "url": "https://guvi.in/full-stack-web-development",
    "name": "John Doe",
    "email": "johndoe@example.com",
    "phone": "9876543210"
  },
  {
    "_id": "6679a032d506c1c5fbd43e4e",
    "student_id": 2,
    "drive_id": 1,
    "course_name": "Data Science Fundamentals",
    "provider": "Guvi",
    "duration": "3 months",
    "description": "Introduction to data science concepts, tools, and techniques.",
    "url": "https://guvi.in/data-science-fundamentals",
    "name": "Jane Smith",
    "email": "janesmith@example.com",
    "phone": "9876543211"
  }
]
```

```
},
{
  "_id": "6679a032d506c1c5fbd43e4f",
  "student_id": 3,
  "drive_id": 2,
  "course_name": "Machine Learning Masterclass",
  "provider": "Guvi",
  "duration": "4 months",
  "description": "Comprehensive course on machine learning algorithms and applications.",
  "url": "https://guvi.in/machine-learning-masterclass",
  "name": "Michael Johnson",
  "email": "michaeljohnson@example.com",
  "phone": "9876543212"
},
{
  "_id": "6679a032d506c1c5fbd43e50",
  "student_id": 4,
  "drive_id": 2,
  "course_name": "Cloud Computing Essentials",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Introduction to cloud computing principles and platforms.",
  "url": "https://guvi.in/cloud-computing-essentials",
  "name": "Emily Brown",
  "email": "emilybrown@example.com",
  "phone": "9876543213"
},
{
  "_id": "6679a032d506c1c5fbd43e51",
  "student_id": 5,
  "drive_id": 3,
  "course_name": "Blockchain Basics",
```

```
"provider": "Guvi",
"duration": "1 month",
"description": "Basic concepts and applications of blockchain technology.",
"url": "https://guvi.in/blockchain-basics",
"name": "David Wilson",
"email": "davidwilson@example.com",
"phone": "9876543214"
},
{
  "_id": "6679a032d506c1c5fbd43e52",
  "student_id": 6,
  "drive_id": 3,
  "course_name": "Artificial Intelligence Foundations",
  "provider": "Guvi",
  "duration": "3 months",
  "description": "Introduction to AI principles, algorithms, and applications.",
  "url": "https://guvi.in/artificial-intelligence-foundations",
  "name": "Sarah Lee",
  "email": "sarahlee@example.com",
  "phone": "9876543215"
},
{
  "_id": "6679a032d506c1c5fbd43e53",
  "student_id": 7,
  "drive_id": 4,
  "course_name": "Cybersecurity Essentials",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Fundamental concepts and practices in cybersecurity.",
  "url": "https://guvi.in/cybersecurity-essentials",
  "name": "James Anderson",
  "email": "jamesanderson@example.com",
```

```
"phone": "9876543216"
},
{
  "_id": "6679a032d506c1c5fbd43e54",
  "student_id": 8,
  "drive_id": 4,
  "course_name": "Digital Marketing Strategies",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Learn digital marketing strategies and techniques for business growth.",
  "url": "https://guvi.in/digital-marketing-strategies",
  "name": "Emma Garcia",
  "email": "emmagarcia@example.com",
  "phone": "9876543217"
},
{
  "_id": "6679a032d506c1c5fbd43e55",
  "student_id": 9,
  "drive_id": 5,
  "course_name": "Mobile App Development",
  "provider": "Guvi",
  "duration": "4 months",
  "description": "Build mobile applications for iOS and Android platforms.",
  "url": "https://guvi.in/mobile-app-development",
  "name": "Daniel Martinez",
  "email": "danielmartinez@example.com",
  "phone": "9876543218"
},
{
  "_id": "6679a032d506c1c5fbd43e56",
  "student_id": 10,
  "drive_id": 6,
```

```
"course_name": "Python Programming Basics",
"provider": "Guvi",
"duration": "1 month",
"description": "Introduction to Python programming language and basics.",
"url": "https://guvi.in/python-programming-basics",
"name": "Olivia Lopez",
"email": "olivialopez@example.com",
"phone": "9876543219"
},
{
  "_id": "6679a032d506c1c5fbd43e57",
  "student_id": 11,
  "drive_id": 7,
  "course_name": "Web Design Fundamentals",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Learn basic and advanced principles of web design.",
  "url": "https://guvi.in/web-design-fundamentals",
  "name": "Matthew Clark",
  "email": "matthewclark@example.com",
  "phone": "9876543220"
},
{
  "_id": "6679a032d506c1c5fbd43e58",
  "student_id": 12,
  "drive_id": 8,
  "course_name": "IoT Applications",
  "provider": "Guvi",
  "duration": "3 months",
  "description": "Explore applications of Internet of Things (IoT) in various industries...",
  "url": "https://guvi.in/iot-applications",
  "name": "Ava Adams",
```

```
"email": "avaadams@example.com",
"phone": "9876543221"
},
{
  "_id": "6679a032d506c1c5fbd43e59",
  "student_id": 13,
  "drive_id": 9,
  "course_name": "Big Data Analytics",
  "provider": "Guvi",
  "duration": "4 months",
  "description": "Introduction to big data analytics and tools.",
  "url": "https://guvi.in/big-data-analytics",
  "name": "William Baker",
  "email": "williambaker@example.com",
  "phone": "9876543222"
},
{
  "_id": "6679a032d506c1c5fbd43e5a",
  "student_id": 14,
  "drive_id": 10,
  "course_name": "Software Testing Techniques",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Learn software testing methodologies and techniques.",
  "url": "https://guvi.in/software-testing-techniques",
  "name": "Sophia Allen",
  "email": "sophiaallen@example.com",
  "phone": "9876543223"
},
{
  "_id": "6679a032d506c1c5fbd43e5b",
  "student_id": 15,
```

```
"drive_id": 11,
"course_name": "Game Development Basics",
"provider": "Guvi",
"duration": "3 months",
"description": "Introduction to game development principles and practices.",
"url": "https://guvi.in/game-development-basics",
"name": "Lucas Hall",
"email": "lucashall@example.com",
"phone": "9876543224"
},
{
  "_id": "6679a032d506c1c5fbd43e5c",
  "student_id": 16,
  "drive_id": 12,
  "course_name": "UI/UX Design Fundamentals",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Basic principles and practices of user interface (UI) and user experie...",
  "url": "https://guvi.in/ui-ux-design-fundamentals",
  "name": "Isabella Scott",
  "email": "isabellascott@example.com",
  "phone": "9876543225"
},
{
  "_id": "6679a032d506c1c5fbd43e5d",
  "student_id": 17,
  "drive_id": 13,
  "course_name": "DevOps Essentials",
  "provider": "Guvi",
  "duration": "3 months",
  "description": "Fundamental concepts and tools in DevOps.",
  "url": "https://guvi.in/devops-essentials",
```

```
"name": "Alexander Green",
"email": "alexandergreen@example.com",
"phone": "9876543226"
},
{
  "_id": "6679a032d506c1c5fbd43e5e",
  "student_id": 18,
  "drive_id": 14,
  "course_name": "React Native App Development",
  "provider": "Guvi",
  "duration": "2 months",
  "description": "Build cross-platform mobile apps using React Native framework.",
  "url": "https://guvi.in/react-native-app-development",
  "name": "Mia Martinez",
  "email": "miamartinez@example.com",
  "phone": "9876543227"
},
{
  "_id": "6679a032d506c1c5fbd43e5f",
  "student_id": 19,
  "drive_id": 15,
  "course_name": "E-commerce Solutions",
  "provider": "Guvi",
  "duration": "3 months",
  "description": "Learn to build and manage e-commerce platforms.",
  "url": "https://guvi.in/e-commerce-solutions",
  "name": "Logan Rodriguez",
  "email": "loganrodriguez@example.com",
  "phone": "9876543228"
},
{
  "_id": "6679a032d506c1c5fbd43e60",
```



```
"student_id": 20,  
"drive_id": 16,  
"course_name": "Artificial Intelligence Ethics",  
"provider": "Guvi",  
"duration": "1 month",  
"description": "Explore ethical considerations in artificial intelligence.",  
"url": "https://guvi.in/artificial-intelligence-ethics",  
"name": "Evelyn Hall",  
"email": "evelynhall@example.com",  
"phone": "9876543229"  
}  
]
```

2. Creating a collection of codekata,

```
db.createCollection ( 'codekata' )  
  
[  
  {  
    "_id": "66790c5cd506c1c5fbd43d41",  
    "user_id": 1,  
    "problems_solved": 10,  
    "date_completed": "2020-10-20T00:00:00Z"  
  },  
  {  
    "_id": "66790c5cd506c1c5fbd43d42",  
    "user_id": 2,  
    "problems_solved": 8,  
    "date_completed": "2020-10-21T00:00:00Z"  
  },  
  {  
    "_id": "66790c5cd506c1c5fbd43d43",  
    "user_id": 3,
```

```
"problems_solved": 12,  
"date_completed": "2020-10-22T00:00:00Z"  
},  
{  
  "_id": "66790c5cd506c1c5fbd43d44",  
  "user_id": 4,  
  "problems_solved": 15,  
  "date_completed": "2020-10-23T00:00:00Z"  
},  
{  
  "_id": "66790c5cd506c1c5fbd43d45",  
  "user_id": 5,  
  "problems_solved": 9,  
  "date_completed": "2020-10-24T00:00:00Z"  
},  
{  
  "_id": "66790c5cd506c1c5fbd43d46",  
  "user_id": 6,  
  "problems_solved": 11,  
  "date_completed": "2020-10-25T00:00:00Z"  
},  
{  
  "_id": "66790c5cd506c1c5fbd43d47",  
  "user_id": 7,  
  "problems_solved": 14,  
  "date_completed": "2020-10-26T00:00:00Z"  
},  
{  
  "_id": "66790c5cd506c1c5fbd43d48",  
  "user_id": 8,  
  "problems_solved": 7,  
  "date_completed": "2020-10-27T00:00:00Z"
```

```
},
{
  "_id": "66790c5cd506c1c5fbd43d49",
  "user_id": 9,
  "problems_solved": 10,
  "date_completed": "2020-10-28T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d4a",
  "user_id": 10,
  "problems_solved": 13,
  "date_completed": "2020-10-29T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d4b",
  "user_id": 11,
  "problems_solved": 16,
  "date_completed": "2020-10-30T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d4c",
  "user_id": 12,
  "problems_solved": 18,
  "date_completed": "2020-10-31T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d4d",
  "user_id": 13,
  "problems_solved": 20,
  "date_completed": "2020-11-01T00:00:00Z"
},
{
```

```
"_id": "66790c5cd506c1c5fbd43d4e",
"user_id": 14,
"problems_solved": 22,
"date_completed": "2020-11-02T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d4f",
  "user_id": 15,
  "problems_solved": 25,
  "date_completed": "2020-11-03T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d50",
  "user_id": 16,
  "problems_solved": 27,
  "date_completed": "2020-11-04T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d51",
  "user_id": 17,
  "problems_solved": 30,
  "date_completed": "2020-11-05T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d52",
  "user_id": 18,
  "problems_solved": 32,
  "date_completed": "2020-11-06T00:00:00Z"
},
{
  "_id": "66790c5cd506c1c5fbd43d53",
  "user_id": 19,
```

```

    "problems_solved": 35,
    "date_completed": "2020-11-07T00:00:00Z"
  },
  {
    "_id": "66790c5cd506c1c5fbd43d54",
    "user_id": 20,
    "problems_solved": 38,
    "date_completed": "2020-11-08T00:00:00Z"
  }
]

```

3. Creating a collection of attendance,

```

db.createCollection ( 'attendance' )

[
  {
    "_id": "667a5fcf7b4ffdc03ea2e357",
    "student_id": 1,
    "date_attended": "2020-10-15T00:00:00Z",
    "status": "absent"
  },
  {
    "_id": "667a5fcf7b4ffdc03ea2e358",
    "student_id": 2,
    "date_attended": "2020-10-16T00:00:00Z",
    "status": "present"
  },
  {
    "_id": "667a5fcf7b4ffdc03ea2e359",
    "student_id": 3,
    "date_attended": "2020-10-17T00:00:00Z",
    "status": "present"
  },
]

```

```
{
  "_id": "667a5fcf7b4ffdc03ea2e35a",
  "student_id": 4,
  "date_attended": "2020-10-18T00:00:00Z",
  "status": "absent"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e35b",
  "student_id": 5,
  "date_attended": "2020-10-19T00:00:00Z",
  "status": "absent"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e35c",
  "student_id": 6,
  "date_attended": "2020-10-20T00:00:00Z",
  "status": "present"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e35d",
  "student_id": 7,
  "date_attended": "2020-10-21T00:00:00Z",
  "status": "present"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e35e",
  "student_id": 8,
  "date_attended": "2020-10-22T00:00:00Z",
  "status": "absent"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e35f",
```

```
"student_id": 9,  
"date_attended": "2020-10-23T00:00:00Z",  
"status": "absent"  
},  
{  
  "_id": "667a5fcf7b4ffdc03ea2e360",  
  "student_id": 10,  
  "date_attended": "2020-10-24T00:00:00Z",  
  "status": "present"  
},  
{  
  "_id": "667a5fcf7b4ffdc03ea2e361",  
  "student_id": 11,  
  "date_attended": "2020-10-25T00:00:00Z",  
  "status": "absent"  
},  
{  
  "_id": "667a5fcf7b4ffdc03ea2e362",  
  "student_id": 12,  
  "date_attended": "2020-10-26T00:00:00Z",  
  "status": "present"  
},  
{  
  "_id": "667a5fcf7b4ffdc03ea2e363",  
  "student_id": 13,  
  "date_attended": "2020-10-27T00:00:00Z",  
  "status": "present"  
},  
{  
  "_id": "667a5fcf7b4ffdc03ea2e364",  
  "student_id": 14,  
  "date_attended": "2020-10-28T00:00:00Z",
```

```
"status": "absent"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e365",
  "student_id": 15,
  "date_attended": "2020-10-29T00:00:00Z",
  "status": "present"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e366",
  "student_id": 16,
  "date_attended": "2020-10-30T00:00:00Z",
  "status": "absent"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e367",
  "student_id": 17,
  "date_attended": "2020-10-31T00:00:00Z",
  "status": "present"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e368",
  "student_id": 18,
  "date_attended": "2020-11-01T00:00:00Z",
  "status": "present"
},
{
  "_id": "667a5fcf7b4ffdc03ea2e369",
  "student_id": 19,
  "date_attended": "2020-11-02T00:00:00Z",
  "status": "absent"
},
```



```
{
  "_id": "667a5fcf7b4ffdc03ea2e36a",
  "student_id": 20,
  "date_attended": "2020-11-03T00:00:00Z",
  "status": "present"
}
]
```

4. Creating a collection of topics,

```
db.createCollection ( 'topics' )
```

```
[
  {
    "_id": "60d59f0a3f4b0a744829d9f1",
    "user_id": 1,
    "topic_name": "MongoDB",
    "date": "2024-10-25T00:00:00Z"
  },
  {
    "_id": "60d59f0a3f4b0a744829d9f2",
    "user_id": 2,
    "topic_name": "Indexes in MongoDB",
    "date": "2023-10-26T00:00:00Z"
  },
  {
    "_id": "60d59f0a3f4b0a744829d9f3",
    "user_id": 3,
    "topic_name": "Aggregation Framework",
    "date": "2023-10-27T00:00:00Z"
  },
  {
```

```
"_id": "60d59f0a3f4b0a744829d9f4",
"user_id": 4,
"topic_name": "Schema Design",
"date": "2023-10-28T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f5",
  "user_id": 5,
  "topic_name": "Replication in MongoDB",
  "date": "2023-10-29T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f6",
  "user_id": 6,
  "topic_name": "Sharding in MongoDB",
  "date": "2023-10-30T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f7",
  "user_id": 7,
  "topic_name": "Transactions",
  "date": "2023-10-31T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f8",
  "user_id": 8,
  "topic_name": "Change Streams",
  "date": "2023-11-01T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f9",
  "user_id": 9,
```

```
    "topic_name": "Geospatial Queries",
    "date": "2023-11-02T00:00:00Z"
  },
  {
    "_id": "60d59f0a3f4b0a744829d9fa",
    "user_id": 10,
    "topic_name": "GridFS",
    "date": "2023-11-03T00:00:00Z"
  } [
{
  "_id": "60d59f0a3f4b0a744829d9f1",
  "user_id": 1,
  "topic_name": "MongoDB",
  "date": "2024-10-25T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f2",
  "user_id": 2,
  "topic_name": "Indexes in MongoDB",
  "date": "2023-10-26T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f3",
  "user_id": 3,
  "topic_name": "Aggregation Framework",
  "date": "2023-10-27T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f4",
  "user_id": 4,
  "topic_name": "Schema Design",
  "date": "2023-10-28T00:00:00Z"
```

```
},
{
  "_id": "60d59f0a3f4b0a744829d9f5",
  "user_id": 5,
  "topic_name": "Replication in MongoDB",
  "date": "2023-10-29T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f6",
  "user_id": 6,
  "topic_name": "Sharding in MongoDB",
  "date": "2023-10-30T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f7",
  "user_id": 7,
  "topic_name": "Transactions",
  "date": "2023-10-31T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f8",
  "user_id": 8,
  "topic_name": "Change Streams",
  "date": "2023-11-01T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9f9",
  "user_id": 9,
  "topic_name": "Geospatial Queries",
  "date": "2023-11-02T00:00:00Z"
},
{
```

```
"_id": "60d59f0a3f4b0a744829d9fa",
"user_id": 10,
"topic_name": "GridFS",
"date": "2023-11-03T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9fb",
  "user_id": 11,
  "topic_name": "MongoDB Atlas",
  "date": "2023-11-04T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9fc",
  "user_id": 12,
  "topic_name": "Document Validation",
  "date": "2023-11-05T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9fd",
  "user_id": 13,
  "topic_name": "Capped Collections",
  "date": "2023-11-06T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9fe",
  "user_id": 14,
  "topic_name": "MongoDB Security",
  "date": "2023-11-07T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d9ff",
  "user_id": 15,
```

```
"topic_name": "Backup and Restore",
"date": "2023-11-08T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d900",
  "user_id": 16,
  "topic_name": "MongoDB Performance Tuning",
  "date": "2023-11-09T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d901",
  "user_id": 17,
  "topic_name": "MongoDB Data Modeling",
  "date": "2023-11-10T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d902",
  "user_id": 18,
  "topic_name": "MongoDB Backup Strategies",
  "date": "2023-11-11T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d903",
  "user_id": 19,
  "topic_name": "MongoDB Cloud",
  "date": "2023-11-12T00:00:00Z"
},
{
  "_id": "60d59f0a3f4b0a744829d904",
  "user_id": 20,
  "topic_name": "MongoDB Transactions",
  "date": "2023-11-13T00:00:00Z"
```

```
}  
]
```

5. Creating a collection of tasks,

```
db.createCollection ( 'tasks' )
```

```
[  
  {  
    "_id": "667a881d7b4ffdc03ea2e38e",  
    "student_id": 1,  
    "topic_id": 1,  
    "task_name": "Introduction to MongoDB",  
    "task_description": "Learn basics of MongoDB",  
    "task_status": "Not_Completed",  
    "date": "2020-10-15T00:00:00Z"  
  },  
  {  
    "_id": "667a881d7b4ffdc03ea2e38f",  
    "student_id": 2,  
    "topic_id": 2,  
    "task_name": "Indexing Strategies",  
    "task_description": "Understand different indexing strategies in MongoDB",  
    "task_status": "Completed",  
    "date": "2020-10-16T00:00:00Z"  
  },  
  {  
    "_id": "667a881d7b4ffdc03ea2e390",  
    "student_id": 3,  
    "topic_id": 3,  
    "task_name": "Aggregation Pipeline",  
    "task_description": "Explore the aggregation framework in MongoDB",  
  }  
]
```

```
"task_status": "Completed",
"date": "2020-10-17T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e391",
  "student_id": 4,
  "topic_id": 4,
  "task_name": "Schema Design Best Practices",
  "task_description": "Learn best practices for schema design in MongoDB",
  "task_status": "Not_Completed",
  "date": "2020-10-18T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e392",
  "student_id": 5,
  "topic_id": 5,
  "task_name": "Replication Setup",
  "task_description": "Setup and configure replication in MongoDB",
  "task_status": "Not_Completed",
  "date": "2020-10-19T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e393",
  "student_id": 6,
  "topic_id": 6,
  "task_name": "Sharding Concepts",
  "task_description": "Understand sharding concepts and implementation in MongoDB",
  "task_status": "Not_Completed",
  "date": "2020-10-20T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e394",
```



```
"student_id": 7,
"topic_id": 7,
"task_name": "Transactional Operations",
"task_description": "Implement transactional operations in MongoDB",
"task_status": "Completed",
"date": "2023-10-21T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e395",
  "student_id": 8,
  "topic_id": 8,
  "task_name": "Change Streams Implementation",
  "task_description": "Implement change streams for real-time data updates in MongoDB",
  "task_status": "Completed",
  "date": "2020-10-22T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e396",
  "student_id": 9,
  "topic_id": 9,
  "task_name": "Geospatial Queries",
  "task_description": "Explore geospatial queries in MongoDB for location-based data",
  "task_status": "Not_Completed",
  "date": "2020-10-23T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e397",
  "student_id": 10,
  "topic_id": 10,
  "task_name": "Using GridFS",
  "task_description": "Learn how to use GridFS for storing and retrieving large files in MongoDB",
  "task_status": "Completed",
```

```
"date": "2020-10-24T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e398",
  "student_id": 11,
  "topic_id": 11,
  "task_name": "MongoDB Performance Tuning",
  "task_description": "Optimize MongoDB performance for large datasets",
  "task_status": "Completed",
  "date": "2020-10-25T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e399",
  "student_id": 12,
  "topic_id": 12,
  "task_name": "MongoDB Backup Strategies",
  "task_description": "Implement effective backup strategies for MongoDB",
  "task_status": "Completed",
  "date": "2020-10-26T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e39a",
  "student_id": 13,
  "topic_id": 13,
  "task_name": "MongoDB Data Encryption",
  "task_description": "Secure MongoDB data with encryption mechanisms",
  "task_status": "Not_Completed",
  "date": "2020-10-27T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e39b",
  "student_id": 14,
```

```
"topic_id": 14,
"task_name": "MongoDB Data Aggregation",
"task_description": "Perform complex data aggregations in MongoDB",
"task_status": "Completed",
"date": "2020-10-28T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e39c",
  "student_id": 15,
  "topic_id": 15,
  "task_name": "MongoDB Atlas Deployment",
  "task_description": "Deploy MongoDB using MongoDB Atlas cloud service",
  "task_status": "Not_Completed",
  "date": "2020-10-29T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e39d",
  "student_id": 16,
  "topic_id": 16,
  "task_name": "MongoDB Query Optimization",
  "task_description": "Optimize MongoDB queries for improved performance",
  "task_status": "Completed",
  "date": "2020-10-30T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e39e",
  "student_id": 17,
  "topic_id": 17,
  "task_name": "MongoDB Full-Text Search",
  "task_description": "Implement full-text search capabilities in MongoDB",
  "task_status": "Not_Completed",
  "date": "2020-10-31T00:00:00Z"
```

```

},
{
  "_id": "667a881d7b4ffdc03ea2e39f",
  "student_id": 18,
  "topic_id": 18,
  "task_name": "MongoDB Performance Monitoring",
  "task_description": "Monitor MongoDB performance metrics and statistics",
  "task_status": "Completed",
  "date": "2020-11-01T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e3a0",
  "student_id": 19,
  "topic_id": 19,
  "task_name": "MongoDB Transactions",
  "task_description": "Implement multi-document transactions in MongoDB",
  "task_status": "Not_Completed",
  "date": "2020-11-02T00:00:00Z"
},
{
  "_id": "667a881d7b4ffdc03ea2e3a1",
  "student_id": 20,
  "topic_id": 20,
  "task_name": "MongoDB Time-Series Data",
  "task_description": "Utilize MongoDB for managing time-series data",
  "task_status": "Completed",
  "date": "2020-11-03T00:00:00Z"
}
]

```

6. Creating a collection of company_drives,

```
db.createCollection ( 'company_drives' )
```

```
[
  {
    "_id": "6679611fd506c1c5fbd43dce",
    "drive_id": 1,
    "drive_name": "Healthcare IT Summit",
    "drive_date": "2020-10-15T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43dcf",
    "drive_id": 2,
    "drive_name": "FinTech Expo",
    "drive_date": "2020-10-16T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43dd0",
    "drive_id": 3,
    "drive_name": "E-commerce Forum",
    "drive_date": "2020-10-17T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43dd1",
    "drive_id": 4,
    "drive_name": "Artificial Intelligence Conference",
    "drive_date": "2020-10-18T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43dd2",
    "drive_id": 5,
    "drive_name": "Cybersecurity Summit",
    "drive_date": "2020-10-19T00:00:00Z"
  },
]
```

```
{
  "_id": "6679611fd506c1c5fbd43dd3",
  "drive_id": 6,
  "drive_name": "XYZ Company Drive",
  "drive_date": "2020-10-20T00:00:00Z"
},
{
  "_id": "6679611fd506c1c5fbd43dd4",
  "drive_id": 7,
  "drive_name": "ABC Tech Hiring Event",
  "drive_date": "2020-10-21T00:00:00Z"
},
{
  "_id": "6679611fd506c1c5fbd43dd5",
  "drive_id": 8,
  "drive_name": "Tech Innovators Recruitment",
  "drive_date": "2020-10-22T00:00:00Z"
},
{
  "_id": "6679611fd506c1c5fbd43dd6",
  "drive_id": 9,
  "drive_name": "Global IT Solutions Career Fair",
  "drive_date": "2020-10-23T00:00:00Z"
},
{
  "_id": "6679611fd506c1c5fbd43dd7",
  "drive_id": 10,
  "drive_name": "Software Development Expo",
  "drive_date": "2020-10-24T00:00:00Z"
},
{
  "_id": "6679611fd506c1c5fbd43dd8",
```

```
"drive_id": 11,  
"drive_name": "Data Science Summit",  
"drive_date": "2020-10-25T00:00:00Z"  
},  
{  
  "_id": "6679611fd506c1c5fbd43dd9",  
  "drive_id": 12,  
  "drive_name": "Cloud Computing Forum",  
  "drive_date": "2020-10-26T00:00:00Z"  
},  
{  
  "_id": "6679611fd506c1c5fbd43dda",  
  "drive_id": 13,  
  "drive_name": "Cybersecurity Career Expo",  
  "drive_date": "2020-10-27T00:00:00Z"  
},  
{  
  "_id": "6679611fd506c1c5fbd43ddb",  
  "drive_id": 14,  
  "drive_name": "AI and Machine Learning Showcase",  
  "drive_date": "2020-10-28T00:00:00Z"  
},  
{  
  "_id": "6679611fd506c1c5fbd43ddc",  
  "drive_id": 15,  
  "drive_name": "Startup Career Fair",  
  "drive_date": "2020-10-29T00:00:00Z"  
},  
{  
  "_id": "6679611fd506c1c5fbd43ddd",  
  "drive_id": 16,  
  "drive_name": "Digital Transformation Conference",
```

```

    "drive_date": "2020-10-30T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43dde",
    "drive_id": 17,
    "drive_name": "Blockchain Summit",
    "drive_date": "2020-10-31T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43ddf",
    "drive_id": 18,
    "drive_name": "Big Data Expo",
    "drive_date": "2020-11-01T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43de0",
    "drive_id": 19,
    "drive_name": "Internet of Things Symposium",
    "drive_date": "2020-11-02T00:00:00Z"
  },
  {
    "_id": "6679611fd506c1c5fbd43de1",
    "drive_id": 20,
    "drive_name": "AI Ethics Forum",
    "drive_date": "2020-11-03T00:00:00Z"
  }
]

```

7. Creating a collection of mentors,

```
db.createCollection ( 'mentors' )
```

```
[
```



```
{
  "_id": "667a57117b4ffdc03ea2e337",
  "mentor_id": 1,
  "mentor_name": "Jane Smith",
  "mentees_count": 9
},
{
  "_id": "667a57117b4ffdc03ea2e338",
  "mentor_id": 2,
  "mentor_name": "John Gabriel",
  "mentees_count": 12
},
{
  "_id": "667a57117b4ffdc03ea2e339",
  "mentor_id": 3,
  "mentor_name": "Emily Brown",
  "mentees_count": 10
},
{
  "_id": "667a57117b4ffdc03ea2e33a",
  "mentor_id": 4,
  "mentor_name": "Michael Johnson",
  "mentees_count": 9
},
{
  "_id": "667a57117b4ffdc03ea2e33b",
  "mentor_id": 5,
  "mentor_name": "Jessica Lee",
  "mentees_count": 23
},
{
  "_id": "667a57117b4ffdc03ea2e33c",
```

```
"mentor_id": 6,
"mentor_name": "David Wilson",
"mentees_count": 8
},
{
  "_id": "667a57117b4ffdc03ea2e33d",
  "mentor_id": 7,
  "mentor_name": "Sophia Martinez",
  "mentees_count": 25
},
{
  "_id": "667a57117b4ffdc03ea2e33e",
  "mentor_id": 8,
  "mentor_name": "Daniel Thompson",
  "mentees_count": 20
},
{
  "_id": "667a57117b4ffdc03ea2e33f",
  "mentor_id": 9,
  "mentor_name": "Olivia Garcia",
  "mentees_count": 10
},
{
  "_id": "667a57117b4ffdc03ea2e340",
  "mentor_id": 10,
  "mentor_name": "William Davis",
  "mentees_count": 19
},
{
  "_id": "667a57117b4ffdc03ea2e341",
  "mentor_id": 11,
  "mentor_name": "Sophia Martinez",
```

```
"mentees_count": 13
},
{
  "_id": "667a57117b4ffdc03ea2e342",
  "mentor_id": 12,
  "mentor_name": "Daniel Thompson",
  "mentees_count": 7
},
{
  "_id": "667a57117b4ffdc03ea2e343",
  "mentor_id": 13,
  "mentor_name": "Olivia Garcia",
  "mentees_count": 19
},
{
  "_id": "667a57117b4ffdc03ea2e344",
  "mentor_id": 14,
  "mentor_name": "William Davis",
  "mentees_count": 9
},
{
  "_id": "667a57117b4ffdc03ea2e345",
  "mentor_id": 15,
  "mentor_name": "Jane Smith",
  "mentees_count": 6
},
{
  "_id": "667a57117b4ffdc03ea2e346",
  "mentor_id": 16,
  "mentor_name": "John Gabriel",
  "mentees_count": 6
},
}
```

```

{
  "_id": "667a57117b4ffdc03ea2e347",
  "mentor_id": 17,
  "mentor_name": "Emily Brown",
  "mentees_count": 10
},
{
  "_id": "667a57117b4ffdc03ea2e348",
  "mentor_id": 18,
  "mentor_name": "Michael Johnson",
  "mentees_count": 9
},
{
  "_id": "667a57117b4ffdc03ea2e349",
  "mentor_id": 19,
  "mentor_name": "Jessica Lee",
  "mentees_count": 20
},
{
  "_id": "667a57117b4ffdc03ea2e34a",
  "mentor_id": 20,
  "mentor_name": "David Wilson",
  "mentees_count": 16
}
]

```

8. Creating a collection of participation,

```

db.createCollection ( 'participation' )

[
  {
    "_id": "667995f4d506c1c5fbd43e33",

```

```
"part_id": 1,
"student_id": 1,
"drive_id": 1,
"registration_date": "2023-05-20T00:00:00Z",
"status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e34",
  "part_id": 2,
  "student_id": 2,
  "drive_id": 2,
  "registration_date": "2023-05-21T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e35",
  "part_id": 3,
  "student_id": 3,
  "drive_id": 3,
  "registration_date": "2023-06-02T00:00:00Z",
  "status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e36",
  "part_id": 4,
  "student_id": 4,
  "drive_id": 4,
  "registration_date": "2023-06-05T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e37",
```

```
"part_id": 5,
"student_id": 5,
"drive_id": 5,
"registration_date": "2023-06-12T00:00:00Z",
"status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e38",
  "part_id": 6,
  "student_id": 6,
  "drive_id": 6,
  "registration_date": "2023-06-15T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e39",
  "part_id": 7,
  "student_id": 7,
  "drive_id": 7,
  "registration_date": "2023-06-20T00:00:00Z",
  "status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e3a",
  "part_id": 8,
  "student_id": 8,
  "drive_id": 8,
  "registration_date": "2023-06-22T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e3b",
```

```
"part_id": 9,
"student_id": 9,
"drive_id": 9,
"registration_date": "2023-06-25T00:00:00Z",
"status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e3c",
  "part_id": 10,
  "student_id": 10,
  "drive_id": 10,
  "registration_date": "2023-06-28T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e3d",
  "part_id": 11,
  "student_id": 11,
  "drive_id": 11,
  "registration_date": "2023-07-02T00:00:00Z",
  "status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e3e",
  "part_id": 12,
  "student_id": 12,
  "drive_id": 12,
  "registration_date": "2023-07-05T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e3f",
```

```
"part_id": 13,
"student_id": 13,
"drive_id": 13,
"registration_date": "2023-07-10T00:00:00Z",
"status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e40",
  "part_id": 14,
  "student_id": 14,
  "drive_id": "drive_id_7",
  "registration_date": "2023-07-12T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e41",
  "part_id": 15,
  "student_id": 15,
  "drive_id": 15,
  "registration_date": "2023-07-15T00:00:00Z",
  "status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e42",
  "part_id": 16,
  "student_id": 16,
  "drive_id": 16,
  "registration_date": "2023-07-18T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e43",
```



```
"part_id": 17,
"student_id": 17,
"drive_id": 17,
"registration_date": "2023-07-22T00:00:00Z",
"status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e44",
  "part_id": 18,
  "student_id": 18,
  "drive_id": 18,
  "registration_date": "2023-07-25T00:00:00Z",
  "status": "attended"
},
{
  "_id": "667995f4d506c1c5fbd43e45",
  "part_id": 19,
  "student_id": 19,
  "drive_id": 19,
  "registration_date": "2023-07-30T00:00:00Z",
  "status": "registered"
},
{
  "_id": "667995f4d506c1c5fbd43e46",
  "part_id": 20,
  "student_id": 20,
  "drive_id": 20,
  "registration_date": "2023-08-02T00:00:00Z",
  "status": "attended"
}
]
```

Queries:

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

```
db.tasks.aggregate (  
  
  [  
    {  
      $match: {  
        date: {  
          $gte:'2020-10-01T00:00:00Z',  
          $lte: '2020-10-31T23:59:59Z'  
        }  
      }  
    },  
    {  
      $lookup: {  
        from: "topics",  
        localField: "topic_id",  
        foreignField: "user_id",  
        as: "topics"  
      }  
    },  
    {  
      $unwind: "$topics"  
    },  
    {  
      $project: {  
        date: 1,  
        task_name: 1,  
        topic_name: "$topics.topic_name",  
      }  
    }  
  ]  
)
```

```
>_MONGOSH
> db.tasks.aggregate([
  {
    $match: {
      date: {
        $gte: '2020-10-01T00:00:00Z',
        $lte: '2020-10-31T23:59:59Z'
      }
    }
  },
  {
    $lookup: {
      from: "topics",
      localField: "topic_id",
      foreignField: "user_id",
      as: "topics"
    }
  },
],
```

```
{
  $unwind: "$topics"
},
{
  $project: {
    date: 1,
    task_name: 1,
    topic_name: "$topics.topic_name",
  }
}
})
```

```
>_MONGOSH
< {
  _id: '667a881d7b4ffdc03ea2e38e',
  task_name: 'Introduction to MongoDB',
  date: '2020-10-15T00:00:00Z',
  topic_name: 'MongoDB'
}
{
  _id: '667a881d7b4ffdc03ea2e38f',
  task_name: 'Indexing Strategies',
  date: '2020-10-16T00:00:00Z',
  topic_name: 'Indexes in MongoDB'
}
{
  _id: '667a881d7b4ffdc03ea2e390',
  task_name: 'Aggregation Pipeline',
  date: '2020-10-17T00:00:00Z',
  topic_name: 'Aggregation Framework'
}
```

```
>_MONGOSH
{
  _id: '667a881d7b4ffdc03ea2e391',
  task_name: 'Schema Design Best Practices',
  date: '2020-10-18T00:00:00Z',
  topic_name: 'Schema Design'
}
{
  _id: '667a881d7b4ffdc03ea2e392',
  task_name: 'Replication Setup',
  date: '2020-10-19T00:00:00Z',
  topic_name: 'Replication in MongoDB'
}
{
  _id: '667a881d7b4ffdc03ea2e393',
  task_name: 'Sharding Concepts',
  date: '2020-10-20T00:00:00Z',
  topic_name: 'Sharding in MongoDB'
}
```

>_MONGOSH

```
{
  _id: '667a881d7b4ffdc03ea2e395',
  task_name: 'Change Streams Implementation',
  date: '2020-10-22T00:00:00Z',
  topic_name: 'Change Streams'
}
{
  _id: '667a881d7b4ffdc03ea2e396',
  task_name: 'Geospatial Queries',
  date: '2020-10-23T00:00:00Z',
  topic_name: 'Geospatial Queries'
}
{
  _id: '667a881d7b4ffdc03ea2e397',
  task_name: 'Using GridFS',
  date: '2020-10-24T00:00:00Z',
  topic_name: 'GridFS'
}
}
```

>_MONGOSH

```
{
  _id: '667a881d7b4ffdc03ea2e398',
  task_name: 'MongoDB Performance Tuning',
  date: '2020-10-25T00:00:00Z',
  topic_name: 'MongoDB Atlas'
}
{
  _id: '667a881d7b4ffdc03ea2e399',
  task_name: 'MongoDB Backup Strategies',
  date: '2020-10-26T00:00:00Z',
  topic_name: 'Document Validation'
}
{
  _id: '667a881d7b4ffdc03ea2e39a',
  task_name: 'MongoDB Data Encryption',
  date: '2020-10-27T00:00:00Z',
  topic_name: 'Capped Collections'
}
}
```

>_MONGOSH

```
{
  _id: '667a881d7b4ffdc03ea2e39b',
  task_name: 'MongoDB Data Aggregation',
  date: '2020-10-28T00:00:00Z',
  topic_name: 'MongoDB Security'
}
{
  _id: '667a881d7b4ffdc03ea2e39c',
  task_name: 'MongoDB Atlas Deployment',
  date: '2020-10-29T00:00:00Z',
  topic_name: 'Backup and Restore'
}
{
  _id: '667a881d7b4ffdc03ea2e39d',
  task_name: 'MongoDB Query Optimization',
  date: '2020-10-30T00:00:00Z',
  topic_name: 'MongoDB Performance Tuning'
}
}
```

```
{
  _id: '667a881d7b4ffdc03ea2e39e',
  task_name: 'MongoDB Full-Text Search',
  date: '2020-10-31T00:00:00Z',
  topic_name: 'MongoDB Data Modeling'
}
}
```

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

```
db.company_drives.find({
  drive_date: {
    $gte: "2020-10-15T00:00:00Z",
    $lte: "2020-10-31T23:59:59Z"
  }
})
```

```
>_MONGOSH
> db.company_drives.find({
  drive_date: {
    $gte: "2020-10-15T00:00:00Z",
    $lte: "2020-10-31T23:59:59Z"
  }
})
< {
  _id: ObjectId('6679611fd506c1c5fbd43dce'),
  drive_id: 1,
  drive_name: 'Healthcare IT Summit',
  drive_date: '2020-10-15T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dcf'),
  drive_id: 2,
  drive_name: 'FinTech Expo',
  drive_date: '2020-10-16T00:00:00Z'
}
```

```
>_MONGOSH
{
  _id: ObjectId('6679611fd506c1c5fbd43dd0'),
  drive_id: 3,
  drive_name: 'E-commerce Forum',
  drive_date: '2020-10-17T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd1'),
  drive_id: 4,
  drive_name: 'Artificial Intelligence Conference',
  drive_date: '2020-10-18T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd2'),
  drive_id: 5,
  drive_name: 'Cybersecurity Summit',
  drive_date: '2020-10-19T00:00:00Z'
}
```

>_MONGOSH

```
{
  _id: ObjectId('6679611fd506c1c5fbd43dd3'),
  drive_id: 6,
  drive_name: 'XYZ Company Drive',
  drive_date: '2020-10-20T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd4'),
  drive_id: 7,
  drive_name: 'ABC Tech Hiring Event',
  drive_date: '2020-10-21T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd5'),
  drive_id: 8,
  drive_name: 'Tech Innovators Recruitment',
  drive_date: '2020-10-22T00:00:00Z'
}
```

>_MONGOSH

```
{
  _id: ObjectId('6679611fd506c1c5fbd43dd6'),
  drive_id: 9,
  drive_name: 'Global IT Solutions Career Fair',
  drive_date: '2020-10-23T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd7'),
  drive_id: 10,
  drive_name: 'Software Development Expo',
  drive_date: '2020-10-24T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd8'),
  drive_id: 11,
  drive_name: 'Data Science Summit',
  drive_date: '2020-10-25T00:00:00Z'
}
```

>_MONGOSH

```
{
  _id: ObjectId('6679611fd506c1c5fbd43dd9'),
  drive_id: 12,
  drive_name: 'Cloud Computing Forum',
  drive_date: '2020-10-26T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dda'),
  drive_id: 13,
  drive_name: 'Cybersecurity Career Expo',
  drive_date: '2020-10-27T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43ddb'),
  drive_id: 14,
  drive_name: 'AI and Machine Learning Showcase',
  drive_date: '2020-10-28T00:00:00Z'
}
```

```

>_MONGOSH
}
{
  _id: ObjectId('6679611fd506c1c5fbd43ddc'),
  drive_id: 15,
  drive_name: 'Startup Career Fair',
  drive_date: '2020-10-29T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43ddd'),
  drive_id: 16,
  drive_name: 'Digital Transformation Conference',
  drive_date: '2020-10-30T00:00:00Z'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dde'),
  drive_id: 17,
  drive_name: 'Blockchain Summit',
  drive_date: '2020-10-31T00:00:00Z'
}

```

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

```

db.company_drives.aggregate([
  {
    $lookup: {
      from: "participation",
      localField: "drive_id",
      foreignField: "part_id",
      as: "placements"
    }
  },
  {
    $unwind: "$placements"
  },
  {
    $lookup: {
      from: "students",
      localField: "placements.student_id",
      foreignField: "drive_id",
      as: "student_info"
    }
  },
  {
    $unwind: "$student_info"
  }
])

```

```

},
{
  $match: {
    "placements.status": "attended"
  }
},
{
  $project: {

    drive_name: "$drive_name",
    drive_date: "$drive_date",
    student_name: "$student_info.name",
    status: "$placements.status"
  }
}
])

```

```

>_MONGOSH
> db.company_drives.aggregate([
  {
    $lookup: {
      from: "participation",
      localField: "drive_id",
      foreignField: "part_id",
      as: "placements"
    }
  },
  {
    $unwind: "$placements"
  },
  {
    $lookup: {
      from: "students",
      localField: "placements.student_id",
      foreignField: "drive_id",
      as: "student_info"
    }
  }
])

```



```
>_MONGOSH
}
},
{
  $unwind: "$student_info"
},
{
  $match: {
    "placements.status": "attended"
  }
},
{
  $project: {
    drive_name: "$drive_name",
    drive_date: "$drive_date",
    student_name: "$student_info.name",
    status: "$placements.status"
  }
}
})
```

```
< {
  _id: ObjectId('6679611fd506c1c5fbd43dcf'),
  drive_name: 'FinTech Expo',
  drive_date: '2020-10-16T00:00:00Z',
  student_name: 'Michael Johnson',
  status: 'attended'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dcf'),
  drive_name: 'FinTech Expo',
  drive_date: '2020-10-16T00:00:00Z',
  student_name: 'Emily Brown',
  status: 'attended'
}
```

```
>_MONGOSH
{
  _id: ObjectId('6679611fd506c1c5fbd43dd1'),
  drive_name: 'Artificial Intelligence Conference',
  drive_date: '2020-10-18T00:00:00Z',
  student_name: 'James Anderson',
  status: 'attended'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd1'),
  drive_name: 'Artificial Intelligence Conference',
  drive_date: '2020-10-18T00:00:00Z',
  student_name: 'Emma Garcia',
  status: 'attended'
}
```

```
>_MONGOSH
{
  _id: ObjectId('6679611fd506c1c5fbd43dd3'),
  drive_name: 'XYZ Company Drive',
  drive_date: '2020-10-20T00:00:00Z',
  student_name: 'Olivia Lopez',
  status: 'attended'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd5'),
  drive_name: 'Tech Innovators Recruitment',
  drive_date: '2020-10-22T00:00:00Z',
  student_name: 'Ava Adams',
  status: 'attended'
}
```

```
>_MONGOSH
{
  _id: ObjectId('6679611fd506c1c5fbd43dd7'),
  drive_name: 'Software Development Expo',
  drive_date: '2020-10-24T00:00:00Z',
  student_name: 'Sophia Allen',
  status: 'attended'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43dd9'),
  drive_name: 'Cloud Computing Forum',
  drive_date: '2020-10-26T00:00:00Z',
  student_name: 'Isabella Scott',
  status: 'attended'
}
```

```
{
  _id: ObjectId('6679611fd506c1c5fbd43ddb'),
  drive_name: 'AI and Machine Learning Showcase',
  drive_date: '2020-10-28T00:00:00Z',
  student_name: 'Mia Martinez',
  status: 'attended'
}
{
  _id: ObjectId('6679611fd506c1c5fbd43ddd'),
  drive_name: 'Digital Transformation Conference',
  drive_date: '2020-10-30T00:00:00Z',
  student_name: 'Evelyn Hall',
  status: 'attended'
}
```

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

```
db.students.aggregate([
  {
    $lookup: {
      from: "codekata",
      localField: "user_id",
      foreignField: "student_id",
      as: "codekata_info"
    }
  },
  {
    $unwind: "$codekata_info"
  },
  {
    $project: {
      _id: 0,
      name: 1,

```

```
        problems_solved: "$codekata_info.problems_solved",
        student_id: "$codekata_info.user_id",
    }
}
])
```

```
>_MONGOSH
> db.students.aggregate([
  {
    $lookup: {
      from: "codekata",
      localField: "user_id",
      foreignField: "student_id",
      as: "codekata_info"
    }
  },
  {
    $unwind: "$codekata_info"
  },
])
```

```
>_MONGOSH
{
  $project: {
    _id: 0,
    name: 1,
    problems_solved: "$codekata_info.problems_solved",
    student_id: "$codekata_info.user_id",
  }
}
])
```

```
>_MONGOSH
< {
  name: 'John Doe',
  problems_solved: 10,
  student_id: 1
}
{
  name: 'John Doe',
  problems_solved: 8,
  student_id: 2
}
{
  name: 'John Doe',
  problems_solved: 12,
  student_id: 3
}
{
  name: 'John Doe',
  problems_solved: 15,
  student_id: 4
}
}
```

>_MONGOSH

```
{
  name: 'John Doe',
  problems_solved: 9,
  student_id: 5
}
{
  name: 'John Doe',
  problems_solved: 11,
  student_id: 6
}
{
  name: 'John Doe',
  problems_solved: 14,
  student_id: 7
}
{
  name: 'John Doe',
  problems_solved: 7,
  student_id: 8
}
```

>_MONGOSH

```
{
  name: 'John Doe',
  problems_solved: 10,
  student_id: 9
}
{
  name: 'John Doe',
  problems_solved: 13,
  student_id: 10
}
{
  name: 'John Doe',
  problems_solved: 16,
  student_id: 11
}
{
  name: 'John Doe',
  problems_solved: 18,
  student_id: 12
}
```

>_MONGOSH

```
{
  name: 'John Doe',
  problems_solved: 20,
  student_id: 13
}
{
  name: 'John Doe',
  problems_solved: 22,
  student_id: 14
}
{
  name: 'John Doe',
  problems_solved: 25,
  student_id: 15
}
{
  name: 'John Doe',
  problems_solved: 27,
  student_id: 16
}
```

```

>_MONGOSH
{
  name: 'John Doe',
  problems_solved: 30,
  student_id: 17
}
{
  name: 'John Doe',
  problems_solved: 32,
  student_id: 18
}
{
  name: 'John Doe',
  problems_solved: 35,
  student_id: 19
}
{
  name: 'John Doe',
  problems_solved: 38,
  student_id: 20
}

```

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

```

db.mentors.aggregate([
  {
    $match: {
      mentees_count: { $gt: 15 }
    }
  },
  {
    $project: {
      _id: 0,
      mentor_name_with_count: {
        $concat: [
          "$mentor_name",
          " - Mentees Count: ",
          { $toString: "$mentees_count" }
        ]
      }
    }
  }
])

```

```
>_MONGOSH
< {
  mentor_name_with_count: 'Jessica Lee - Mentees Count: 23'
}
{
  mentor_name_with_count: 'Sophia Martinez - Mentees Count: 25'
}
{
  mentor_name_with_count: 'Daniel Thompson - Mentees Count: 20'
}
{
  mentor_name_with_count: 'William Davis - Mentees Count: 19'
}
{
  mentor_name_with_count: 'Olivia Garcia - Mentees Count: 19'
}
}
```

```
{
  mentor_name_with_count: 'Jessica Lee - Mentees Count: 20'
}
{
  mentor_name_with_count: 'David Wilson - Mentees Count: 16'
}
}
```

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: {
      date_attended: {
        $gte: "2020-10-15T00:00:00Z",
        $lte: "2020-10-31T23:59:59Z"
      },
      status: "absent"
    }
  },
  {
    $lookup: {
      from: "tasks",
      let: { student_id: "$student_id" },
      pipeline: [
        {
          $match: {
            $expr: {
              $and: [
                { $eq: ["$student_id", "$$student_id"] },
                { $gte: ["$date", "2020-10-15T00:00:00Z"] },
                { $lte: ["$date", "2020-10-31T23:59:59Z"] },
                { $ne: ["$task_status", "Completed"] }
              ]
            }
          }
        }
      ]
    }
  },
  as: "not_completed_tasks"
```

```

    }
  },
  {
    $match: {
      "not_completed_tasks": { $exists: true, $not: { $size: 0 } }
    }
  },
  {
    $count: "The number of users who are absent and task is not submitted between 15 oct-2020 and 31-oct-2020"
  }
}
])

```

```

>_MONGOSH
> db.attendance.aggregate([
  {
    $match: {
      date_attended: {
        $gte: "2020-10-15T00:00:00Z",
        $lte: "2020-10-31T23:59:59Z"
      },
      status: "absent"
    }
  },
  {
    $lookup: {
      from: "tasks",
      let: { student_id: "$student_id" },

```

```

>_MONGOSH
pipeline: [
  {
    $match: {
      $expr: {
        $and: [
          { $eq: ["$student_id", "$$student_id"] },
          { $gte: ["$date", "2020-10-15T00:00:00Z"] },
          { $lte: ["$date", "2020-10-31T23:59:59Z"] },
          { $ne: ["$task_status", "Completed"] }
        ]
      }
    }
  },
  {
    as: "not_completed_tasks"
  }
],

```

```

{
  $match: {
    "not_completed_tasks": { $exists: true, $not: { $size: 0 } }
  }
},
{
  $count: "The number of users who are absent and task is not submitted between 15 oct-2020 and 31-oct-2020"
}
])

```

```

< {
  'The number of users who are absent and task is not submitted between 15 oct-2020 and 31-oct-2020': 4
}

```

