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",

```json
    "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": "2020-10-185T00:00:00Z",
   "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",

```json
    "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"
  },
```

```json
  {
    "_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"
    },
    {
```

```json
    "_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"

},

```json
{
  "_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",

```json
    "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,
```

```json
    "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"
```

```json
  },
  {
   "_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,

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

```
     {
       _id: '667a881d7b4ffdc03ea2e39e',
       task_name: 'MongoDB Full-Text Search',
       date: '2020-10-31T00:00Z',
       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: '2020-10-17T00:00Z'
  }
  {
    _id: ObjectId('6679611fd506c1c5fbd43dd1'),
    drive_id: 4,
    drive_name: 'Artificial Intelligence Conference',
    drive_date: '2020-10-18T00:00Z'
  }
  {
    _id: ObjectId('6679611fd506c1c5fbd43dd2'),
    drive_id: 5,
    drive_name: 'Cybersecurity Summit',
    drive_date: '2020-10-19T00:00Z'
  }
```

```
>_MONGOSH                                                          ⓘ  ⌄

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

```
>_MONGOSH                                                          ⓘ  ⌄

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

```
>_MONGOSH                                                          ⓘ  ⌄

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

```
>_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                                                        0  v
> 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                                                        0  v
      }
    },
    {
      $unwind: "$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                                                                                          i   ∨
< {
    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 oct-2020 and 31-oct-2020   15

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
  }
```