```
use zenclass

db.createCollection("users")

db.users.insertMany([

... { id: 1, name: 'Riya', email: 'riya@gmail.com', phone: '1234567890', role: 'student' },

... { id: 2, name: 'Harshith', email: 'harshith@gmail.com', phone: '1234567890', role: 'student' },

... { id: 3, name: 'Chandu', email: 'chandu@example.com', phone: '1122334455', role: 'student' },

... { id: 4, name: 'Jilan', email: 'jilan@example.com', phone: '9191223344', role: 'student' },

... { id: 5, name: 'Venki', email: 'venki@example.com', phone: '9988227744', role: 'mentor' },

... { id: 6, name: 'Varun', email: 'varun@example.com', phone: '1002334455', role: 'student' },

... { id: 7, name: 'Rohan', email: 'rohan@example.com', phone: '2233445511', role: 'mentor' },

... { id: 8, name: 'Loki', email: 'loki@example.com', phone: '9988877111', role: 'student' }

... ]);

db.users.find();

db.createCollection("codekata")

db.codekata.insertMany([

... { user_id: 1, problems_solved: 15 },

... { user_id: 2, problems_solved: 0 },

... { user_id: 3, problems_solved: 70 },

... { user_id: 4, problems_solved: 60 },

... { user_id: 6, problems_solved: 1 },

... { user_id: 8, problems_solved: 50 }

... ]);

db.codekata.find();

db.createCollection("attendance")

db.attendance.insertMany([

... { user_id: 1, date: '2020-10-15', status: 'Present' },

... { user_id: 2, date: '2020-10-15', status: 'Absent' },

... { user_id: 3, date: '2020-10-15', status: 'Present' },

... { user_id: 4, date: '2020-10-15', status: 'Absent' },

... { user_id: 6, date: '2020-10-15', status: 'Present' },

... { user_id: 8, date: '2020-10-15', status: 'Absent' },
```

```
...
...  { user_id: 1, date: '2020-10-16', status: 'Present' },
...  { user_id: 2, date: '2020-10-16', status: 'Absent' },
...  { user_id: 3, date: '2020-10-16', status: 'Present' },
...  { user_id: 4, date: '2020-10-16', status: 'Present' },
...  { user_id: 6, date: '2020-10-16', status: 'Absent' },
...  { user_id: 8, date: '2020-10-16', status: 'Present' },
...
...  { user_id: 1, date: '2020-10-17', status: 'Absent' },
...  { user_id: 2, date: '2020-10-17', status: 'Present' },
...  { user_id: 3, date: '2020-10-17', status: 'Absent' },
...  { user_id: 4, date: '2020-10-17', status: 'Present' },
...  { user_id: 6, date: '2020-10-17', status: 'Present' },
...  { user_id: 8, date: '2020-10-17', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-18', status: 'Present' },
...  { user_id: 2, date: '2020-10-18', status: 'Absent' },
...  { user_id: 3, date: '2020-10-18', status: 'Present' },
...  { user_id: 4, date: '2020-10-18', status: 'Absent' },
...  { user_id: 6, date: '2020-10-18', status: 'Present' },
...  { user_id: 8, date: '2020-10-18', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-19', status: 'Absent' },
...  { user_id: 2, date: '2020-10-19', status: 'Present' },
...  { user_id: 3, date: '2020-10-19', status: 'Present' },
...  { user_id: 4, date: '2020-10-19', status: 'Absent' },
...  { user_id: 6, date: '2020-10-19', status: 'Present' },
...  { user_id: 8, date: '2020-10-19', status: 'Present' },
...
...  { user_id: 1, date: '2020-10-20', status: 'Present' },
...  { user_id: 2, date: '2020-10-20', status: 'Absent' },
```

```
...  { user_id: 3, date: '2020-10-20', status: 'Present' },
...  { user_id: 4, date: '2020-10-20', status: 'Present' },
...  { user_id: 6, date: '2020-10-20', status: 'Absent' },
...  { user_id: 8, date: '2020-10-20', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-21', status: 'Absent' },
...  { user_id: 2, date: '2020-10-21', status: 'Present' },
...  { user_id: 3, date: '2020-10-21', status: 'Present' },
...  { user_id: 4, date: '2020-10-21', status: 'Absent' },
...  { user_id: 6, date: '2020-10-21', status: 'Present' },
...  { user_id: 8, date: '2020-10-21', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-22', status: 'Present' },
...  { user_id: 2, date: '2020-10-22', status: 'Absent' },
...  { user_id: 3, date: '2020-10-22', status: 'Present' },
...  { user_id: 4, date: '2020-10-22', status: 'Present' },
...  { user_id: 6, date: '2020-10-22', status: 'Present' },
...  { user_id: 8, date: '2020-10-22', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-23', status: 'Present' },
...  { user_id: 2, date: '2020-10-23', status: 'Present' },
...  { user_id: 3, date: '2020-10-23', status: 'Absent' },
...  { user_id: 4, date: '2020-10-23', status: 'Present' },
...  { user_id: 6, date: '2020-10-23', status: 'Absent' },
...  { user_id: 8, date: '2020-10-23', status: 'Absent' },
...
...  { user_id: 1, date: '2020-10-24', status: 'Absent' },
...  { user_id: 2, date: '2020-10-24', status: 'Present' },
...  { user_id: 3, date: '2020-10-24', status: 'Present' },
...  { user_id: 4, date: '2020-10-24', status: 'Absent' },
...  { user_id: 6, date: '2020-10-24', status: 'Present' },
```

... { user_id: 8, date: '2020-10-24', status: 'Present' },

...

... { user_id: 1, date: '2020-10-25', status: 'Present' },

... { user_id: 2, date: '2020-10-25', status: 'Absent' },

... { user_id: 3, date: '2020-10-25', status: 'Present' },

... { user_id: 4, date: '2020-10-25', status: 'Present' },

... { user_id: 6, date: '2020-10-25', status: 'Absent' },

... { user_id: 8, date: '2020-10-25', status: 'Absent' },

...

... { user_id: 1, date: '2020-10-26', status: 'Absent' },

... { user_id: 2, date: '2020-10-26', status: 'Present' },

... { user_id: 3, date: '2020-10-26', status: 'Present' },

... { user_id: 4, date: '2020-10-26', status: 'Absent' },

... { user_id: 6, date: '2020-10-26', status: 'Present' },

... { user_id: 8, date: '2020-10-26', status: 'Present' },

...

... { user_id: 1, date: '2020-10-27', status: 'Present' },

... { user_id: 2, date: '2020-10-27', status: 'Absent' },

... { user_id: 3, date: '2020-10-27', status: 'Present' },

... { user_id: 4, date: '2020-10-27', status: 'Absent' },

... { user_id: 6, date: '2020-10-27', status: 'Present' },

... { user_id: 8, date: '2020-10-27', status: 'Absent' },

...

... { user_id: 1, date: '2020-10-28', status: 'Absent' },

... { user_id: 2, date: '2020-10-28', status: 'Present' },

... { user_id: 3, date: '2020-10-28', status: 'Present' },

... { user_id: 4, date: '2020-10-28', status: 'Present' },

... { user_id: 6, date: '2020-10-28', status: 'Absent' },

... { user_id: 8, date: '2020-10-28', status: 'Present' },

...

... { user_id: 1, date: '2020-10-29', status: 'Present' },

```
...   { user_id: 2, date: '2020-10-29', status: 'Absent' },

...   { user_id: 3, date: '2020-10-29', status: 'Present' },

...   { user_id: 4, date: '2020-10-29', status: 'Absent' },

...   { user_id: 6, date: '2020-10-29', status: 'Present' },

...   { user_id: 8, date: '2020-10-29', status: 'Present' },

...

...   { user_id: 1, date: '2020-10-30', status: 'Present' },

...   { user_id: 2, date: '2020-10-30', status: 'Absent' },

...   { user_id: 3, date: '2020-10-30', status: 'Present' },

...   { user_id: 4, date: '2020-10-30', status: 'Present' },

...   { user_id: 6, date: '2020-10-30', status: 'Absent' },

...   { user_id: 8, date: '2020-10-30', status: 'Present' },

...

...   { user_id: 1, date: '2020-10-31', status: 'Absent' },

...   { user_id: 2, date: '2020-10-31', status: 'Present' },

...   { user_id: 3, date: '2020-10-31', status: 'Present' },

...   { user_id: 4, date: '2020-10-31', status: 'Absent' },

...   { user_id: 6, date: '2020-10-31', status: 'Present' },

...   { user_id: 8, date: '2020-10-31', status: 'Absent' }

... ]);


db.createCollection("topics")

db.topics.insertMany([

...   { topic_id: 1, date: '2020-10-15', topic: 'HTML: Basic Structure' },

...   { topic_id: 2, date: '2020-10-16', topic: 'HTML: Tags, Attributes, and Elements' },

...   { topic_id: 3, date: '2020-10-17', topic: 'CSS: Introduction and Syntax' },

...   { topic_id: 4, date: '2020-10-18', topic: 'CSS: Selectors and Styling' },

...   { topic_id: 5, date: '2020-10-19', topic: 'HTML: Forms and Input Elements' },

...   { topic_id: 6, date: '2020-10-20', topic: 'CSS: Box Model and Layout' },

...   { topic_id: 7, date: '2020-10-21', topic: 'HTML: Links and Images' },

...   { topic_id: 8, date: '2020-10-22', topic: 'CSS: Flexbox Basics' },
```

```
...   { topic_id: 9, date: '2020-10-23', topic: 'HTML: Tables and Lists' },

...   { topic_id: 10, date: '2020-10-24', topic: 'CSS: Positioning (Static, Relative, Absolute)' },

...   { topic_id: 11, date: '2020-10-25', topic: 'Introduction to MongoDB' },

...   { topic_id: 12, date: '2020-10-26', topic: 'CRUD Operations in MongoDB' },

...   { topic_id: 13, date: '2020-10-27', topic: 'Setting Up Express.js Server' },

...   { topic_id: 14, date: '2020-10-28', topic: 'Express.js Routing' },

...   { topic_id: 15, date: '2020-10-29', topic: 'Introduction to React.js' },

...   { topic_id: 16, date: '2020-10-30', topic: 'React Components and State Management' },

...   { topic_id: 17, date: '2020-10-31', topic: 'Building RESTful APIs with Express.js' }

... ]);

db.topics.find();

db.topics.find();

[

 {

   _id: ObjectId('675ed9a35d1c0fb0e179a1b6'),

   topic_id: 1,

   date: '2020-10-15',

   topic: 'HTML: Basic Structure'

 },

 {

   _id: ObjectId('675ed9a35d1c0fb0e179a1b7'),

   topic_id: 2,

   date: '2020-10-16',

   topic: 'HTML: Tags, Attributes, and Elements'

 },

 {

   _id: ObjectId('675ed9a35d1c0fb0e179a1b8'),

   topic_id: 3,

   date: '2020-10-17',

   topic: 'CSS: Introduction and Syntax'

 },
```

```
{
  _id: ObjectId('675ed9a35d1c0fb0e179a1b9'),
  topic_id: 4,
  date: '2020-10-18',
  topic: 'CSS: Selectors and Styling'
},
{
  _id: ObjectId('675ed9a35d1c0fb0e179a1ba'),
  topic_id: 5,
  date: '2020-10-19',
  topic: 'HTML: Forms and Input Elements'
},
{
  _id: ObjectId('675ed9a35d1c0fb0e179a1bb'),
  topic_id: 6,
  date: '2020-10-20',
  topic: 'CSS: Box Model and Layout'
},
{
  _id: ObjectId('675ed9a35d1c0fb0e179a1bc'),
  topic_id: 7,
  date: '2020-10-21',
  topic: 'HTML: Links and Images'
},
{
  _id: ObjectId('675ed9a35d1c0fb0e179a1bd'),
  topic_id: 8,
  date: '2020-10-22',
  topic: 'CSS: Flexbox Basics'
},
{
```

  _id: ObjectId('675ed9a35d1c0fb0e179a1be'),

  topic_id: 9,

  date: '2020-10-23',

  topic: 'HTML: Tables and Lists'

},

{

  _id: ObjectId('675ed9a35d1c0fb0e179a1bf'),

  topic_id: 10,

  date: '2020-10-24',

  topic: 'CSS: Positioning (Static, Relative, Absolute)'

},

{

  _id: ObjectId('675ed9a35d1c0fb0e179a1c0'),

  topic_id: 11,

  date: '2020-10-25',

  topic: 'Introduction to MongoDB'

},

{

  _id: ObjectId('675ed9a35d1c0fb0e179a1c1'),

  topic_id: 12,

  date: '2020-10-26',

  topic: 'CRUD Operations in MongoDB'

},

{

  _id: ObjectId('675ed9a35d1c0fb0e179a1c2'),

  topic_id: 13,

  date: '2020-10-27',

  topic: 'Setting Up Express.js Server'

},

{

  _id: ObjectId('675ed9a35d1c0fb0e179a1c3'),

```
    topic_id: 14,

    date: '2020-10-28',

    topic: 'Express.js Routing'

  },

  {

    _id: ObjectId('675ed9a35d1c0fb0e179a1c4'),

    topic_id: 15,

    date: '2020-10-29',

    topic: 'Introduction to React.js'

  },

  {

    _id: ObjectId('675ed9a35d1c0fb0e179a1c5'),

    topic_id: 16,

    date: '2020-10-30',

    topic: 'React Components and State Management'

  },

  {

    _id: ObjectId('675ed9a35d1c0fb0e179a1c6'),

    topic_id: 17,

    date: '2020-10-31',

    topic: 'Building RESTful APIs with Express.js'

  }

]

db.createCollection("tasks")


zenclass> db.tasks.insertMany([

...  { task_id: 1, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 1, submission_date: '2020-10-15' },

...  { task_id: 2, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 2, submission_date: '2020-10-15' },

...  { task_id: 3, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 3, submission_date: '2020-10-15' },
```

...  { task_id: 4, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 4, submission_date: '2020-10-15' },

...  { task_id: 5, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 6, submission_date: '2020-10-15' },

...  { task_id: 6, task_name: 'HTML Basic Structure', topic_id: 1, user_id: 8, submission_date: '2020-10-15' },

...

...  { task_id: 7, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 1, submission_date: '2020-10-16' },

...  { task_id: 8, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 2, submission_date: '2020-10-16' },

...  { task_id: 9, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 3, submission_date: '2020-10-16' },

...  { task_id: 10, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 4, submission_date: '2020-10-16' },

...  { task_id: 11, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 6, submission_date: '2020-10-16' },

...  { task_id: 12, task_name: 'HTML Tags, Attributes, and Elements', topic_id: 2, user_id: 8, submission_date: '2020-10-16' },

...

...  { task_id: 13, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 1, submission_date: '2020-10-17' },

...  { task_id: 14, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 2, submission_date: '2020-10-17' },

...  { task_id: 15, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 3, submission_date: '2020-10-17' },

...  { task_id: 16, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 4, submission_date: '2020-10-17' },

...  { task_id: 17, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 6, submission_date: '2020-10-17' },

...  { task_id: 18, task_name: 'CSS Introduction and Syntax', topic_id: 3, user_id: 8, submission_date: '2020-10-17' },

...

...  { task_id: 19, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 1, submission_date: '2020-10-18' },

...  { task_id: 20, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 2, submission_date: '2020-10-18' },

...   { task_id: 21, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 3, submission_date: '2020-10-18' },

...   { task_id: 22, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 4, submission_date: '2020-10-18' },

...   { task_id: 23, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 6, submission_date: '2020-10-18' },

...   { task_id: 24, task_name: 'CSS Selectors and Styling', topic_id: 4, user_id: 8, submission_date: '2020-10-18' },

...

...   { task_id: 25, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 1, submission_date: '2020-10-19' },

...   { task_id: 26, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 2, submission_date: '2020-10-19' },

...   { task_id: 27, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 3, submission_date: '2020-10-19' },

...   { task_id: 28, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 4, submission_date: '2020-10-19' },

...   { task_id: 29, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 6, submission_date: '2020-10-19' },

...   { task_id: 30, task_name: 'Express.js Server Setup', topic_id: 13, user_id: 8, submission_date: '2020-10-19' },

...

...   { task_id: 31, task_name: 'React Components and State Management', topic_id: 16, user_id: 1, submission_date: '2020-10-20' },

...   { task_id: 32, task_name: 'React Components and State Management', topic_id: 16, user_id: 2, submission_date: '2020-10-20' },

...   { task_id: 33, task_name: 'React Components and State Management', topic_id: 16, user_id: 3, submission_date: '2020-10-20' },

...   { task_id: 34, task_name: 'React Components and State Management', topic_id: 16, user_id: 4, submission_date: '2020-10-20' },

...   { task_id: 35, task_name: 'React Components and State Management', topic_id: 16, user_id: 6, submission_date: '2020-10-20' },

...   { task_id: 36, task_name: 'React Components and State Management', topic_id: 16, user_id: 8, submission_date: '2020-10-20' },

...

...   { task_id: 37, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 1, submission_date: '2020-10-21' },

```
...   { task_id: 38, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 2,
submission_date: '2020-10-21' },

...   { task_id: 39, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 3,
submission_date: '2020-10-21' },

...   { task_id: 40, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 4,
submission_date: '2020-10-21' },

...   { task_id: 41, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 6,
submission_date: '2020-10-21' },

...   { task_id: 42, task_name: 'Building RESTful APIs with Express.js', topic_id: 17, user_id: 8,
submission_date: '2020-10-21' }

... ]);


db.createCollection("company_drives")

db.company_drives.insertMany([

...   { drive_id: 1, company_name: 'Google', drive_date: '2020-10-15', user_id: 1 },

...   { drive_id: 2, company_name: 'Google', drive_date: '2020-10-15', user_id: 2 },

...   { drive_id: 3, company_name: 'Google', drive_date: '2020-10-15', user_id: 3 },

...   { drive_id: 4, company_name: 'Google', drive_date: '2020-10-15', user_id: 4 },

...   { drive_id: 5, company_name: 'Amazon', drive_date: '2020-10-10', user_id: 1 },

...   { drive_id: 6, company_name: 'Amazon', drive_date: '2020-10-10', user_id: 2 },

...   { drive_id: 7, company_name: 'Amazon', drive_date: '2020-10-10', user_id: 6 },

...   { drive_id: 8, company_name: 'Microsoft', drive_date: '2020-10-18', user_id: 1 },

...   { drive_id: 9, company_name: 'Microsoft', drive_date: '2020-10-18', user_id: 2 },

...   { drive_id: 10, company_name: 'Microsoft', drive_date: '2020-10-18', user_id: 3 },

...   { drive_id: 11, company_name: 'Microsoft', drive_date: '2020-10-18', user_id: 4 },

...   { drive_id: 12, company_name: 'Facebook', drive_date: '2020-10-20', user_id: 1 },

...   { drive_id: 13, company_name: 'Facebook', drive_date: '2020-10-20', user_id: 3 },

...   { drive_id: 14, company_name: 'Facebook', drive_date: '2020-10-20', user_id: 6 },

...   { drive_id: 15, company_name: 'Apple', drive_date: '2020-10-22', user_id: 4 },

...   { drive_id: 16, company_name: 'Apple', drive_date: '2020-10-22', user_id: 6 },

...   { drive_id: 17, company_name: 'Apple', drive_date: '2020-10-22', user_id: 8 },

...   { drive_id: 18, company_name: 'Uber', drive_date: '2020-10-10', user_id: 1 },

...   { drive_id: 19, company_name: 'Uber', drive_date: '2020-10-10', user_id: 2 },
```

```
...   { drive_id: 20, company_name: 'Uber', drive_date: '2020-10-10', user_id: 3 },

...   { drive_id: 21, company_name: 'Uber', drive_date: '2020-10-10', user_id: 8 },

...   { drive_id: 22, company_name: 'Spotify', drive_date: '2020-10-26', user_id: 6 },

...   { drive_id: 23, company_name: 'Spotify', drive_date: '2020-10-26', user_id: 8 },

...   { drive_id: 24, company_name: 'Spotify', drive_date: '2020-10-26', user_id: 3 },

...   { drive_id: 25, company_name: 'Stripe', drive_date: '2020-10-28', user_id: 1 },

...   { drive_id: 26, company_name: 'Stripe', drive_date: '2020-10-28', user_id: 2 },

...   { drive_id: 27, company_name: 'Stripe', drive_date: '2020-10-28', user_id: 4 },

...   { drive_id: 28, company_name: 'Stripe', drive_date: '2020-10-28', user_id: 8 }

... ]);

db.createCollection("mentors")

db.mentors.insertMany([

...   { mentor_id: 1, mentor_name: 'Venki', mentee_count: 18, user_id: 5 },

... { mentor_id: 2, mentor_name: 'Rohan', mentee_count: 10, user_id: 7 },

... ]);

db.mentors.find();

[

  {

    _id: ObjectId('675ee1328b50df16aa79a1b6'),

    mentor_id: 1,

    mentor_name: 'Venki',

    mentee_count: 18,

    user_id: 5

  },

  {

    _id: ObjectId('675ee1328b50df16aa79a1b7'),

    mentor_id: 2,

    mentor_name: 'Rohan',

    mentee_count: 10,

    user_id: 7

  }
```

```
]
--Query 1- Find all the topics and tasks which are thought in the month of October
db.topics.aggregate([

  {

   $addFields: {

     date: { $dateFromString: { dateString: "$date" } }

    }

  },

  {

   $match: {

     $expr: { $eq: [{ $month: "$date" }, 10] }

    }

  },

  {

   $lookup: {

     from: "tasks",

     localField: "topic_id",

     foreignField: "topic_id",

     as: "tasks"

    }

  },

  {

   $unwind: "$tasks"

  },

  {

   $addFields: {

     "tasks.submission_date": { $dateFromString: { dateString: "$tasks.submission_date" } }

    }

  },

  {

   $group: {
```

```
    _id: { topic_name: "$topic", task_name: "$tasks.task_name", submission_date:
"$tasks.submission_date" },

      count: { $sum: 1 }

    }

  },

  {

    $project: {

      topic_name: "$_id.topic_name",

      task_name: "$_id.task_name",

      submission_date: "$_id.submission_date",

      _id: 0

    }

  }

]);
```

```
zenclass> db.topics.aggregate([
...    {
...      $addFields: {
...      date: { $dateFromString: { dateString: "$date" } }
...      }
...    },
...    {
...      $match: {
...      $expr: { $eq: [{ $month: "$date" }, 10] }
...      }
...    },
...    {
...      $lookup: {
...        from: "tasks",
...        localField: "topic_id",
...        foreignField: "topic_id",
...        as: "tasks"
...      }
...    },
...    {
...      $unwind: "$tasks"
...    },
...    {
...      $addFields: {
...        "tasks.submission_date": { $dateFromString: { dateString: "$tasks.submission_date" } }
...      }
...    },
...    {
...      $group: {
...        _id: { topic_name: "$topic", task_name: "$tasks.task_name", submission_date: "$tasks.submission_date" },
...        count: { $sum: 1 }
...      }
...    },
...    {
...      $project: {
...        topic_name: "$_id.topic_name",
...        task_name: "$_id.task_name",
...        submission_date: "$_id.submission_date",
...        _id: 0
...      }
...    }
... ]);
```

```
... 3],
[
  {
    topic_name: 'Building RESTful APIs with Express.js',
    task_name: 'Building RESTful APIs with Express.js',
    submission_date: ISODate('2020-10-21T00:00:00.000Z')
  },
  {
    topic_name: 'HTML: Basic Structure',
    task_name: 'HTML Basic Structure',
    submission_date: ISODate('2020-10-15T00:00:00.000Z')
  },
  {
    topic_name: 'CSS: Introduction and Syntax',
    task_name: 'CSS Introduction and Syntax',
    submission_date: ISODate('2020-10-17T00:00:00.000Z')
  },
  {
    topic_name: 'HTML: Tags, Attributes, and Elements',
    task_name: 'HTML Tags, Attributes, and Elements',
    submission_date: ISODate('2020-10-16T00:00:00.000Z')
  },
  {
    topic_name: 'CSS: Selectors and Styling',
    task_name: 'CSS Selectors and Styling',
    submission_date: ISODate('2020-10-18T00:00:00.000Z')
  },
  {
    topic_name: 'Setting Up Express.js Server',
    task_name: 'Express.js Server Setup',
    submission_date: ISODate('2020-10-19T00:00:00.000Z')
  },
  {
    topic_name: 'React Components and State Management',
    task_name: 'React Components and State Management',
    submission_date: ISODate('2020-10-20T00:00:00.000Z')
  }
]
zenclass>
```

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

db.company_drives.find({ drive_date: { $gte: "2020-10-15", $lte: "2020-10-31" } });

```
zenclass> db.company_drives.find({
...     drive_date: {
...         $gte: "2020-10-15",
...         $lte: "2020-10-31"
...     }
... });
[
    {
        _id: ObjectId('675ede2718fafb6c9e79a1b6'),
        drive_id: 1,
        company_name: 'Google',
        drive_date: '2020-10-15',
        user_id: 1
    },
    {
        _id: ObjectId('675ede2718fafb6c9e79a1b7'),
        drive_id: 2,
        company_name: 'Google',
        drive_date: '2020-10-15',
        user_id: 2
    },
    {
        _id: ObjectId('675ede2718fafb6c9e79a1b8'),
        drive_id: 3,
```

--Query 3: Find all the company drives and students who are appeared for the placement.
db.company_drives.aggregate([

{

$lookup: {

from: "users",

localField: "id",

foreignField: "user_id",

as: "student_info"

}

},

{

$unwind: "$student_info"

},

{

```
$match: {

"student_info.role": "student"

}

},

{

$project: {

company_name: 1,

drive_date: 1,

student_name: "$student_info.name"

}

}

]);
```

```
zenclass> db.company_drives.aggregate([
...    {
...      $lookup: {
...        from: "users",
...        localField: "id",
...        foreignField: "user_id",
...        as: "student_info"
...      }
...    },
...    {
...      $unwind: "$student_info"
...    },
...    {
...      $match: {
...        "student_info.role": "student"
...      }
...    },
...    {
...      $project: {
...        company_name: 1,
...        drive_date: 1,
...        student_name: "$student_info.name"
...      }
...    }
... ]);
[
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Riya'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Harshith'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Chandu'
```

```
[
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Riya'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Harshith'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Chandu'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Jilan'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Varun'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b6'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Loki'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b7'),
    company_name: 'Google',
    drive_date: '2020-10-15',
    student_name: 'Riya'
  },
  {
    _id: ObjectId('675ede2718fafb6c9e79a1b7'),
```

--Query4: Find the number of problems solved by the user in codekata

```
db.codekata.aggregate([
  {
    $lookup: {
      from: "users",
      localField: "user_id",
```

```
      foreignField: "id",
      as: "user_info"
    }
  },
  {
    $unwind: "$user_info"
  },
  {
    $group: {
      _id: "$user_id",
      total_problems_solved: { $sum: "$problems_solved" },
      username: { $first: "$user_info.name" }
    }
  },
  {
    $project: {
      _id: 0,
      username: 1,
      total_problems_solved: 1
    }
  }
}
```

```
]);
zenclass> db.codekata.aggregate([
...     {
...         $lookup: {
...             from: "users",
...             localField: "user_id",
...             foreignField: "id",
...             as: "user_info"
...         }
...     },
...     {
...         $unwind: "$user_info"
...     },
...     {
...         $group: {
...             _id: "$user_id",
...             total_problems_solved: { $sum: "$problems_solved" },
...             username: { $first: "$user_info.name" }
...         }
...     },
...     {
...         $project: {
...             _id: 0,
...             username: 1,
...             total_problems_solved: 1
...         }
...     }
... ]);
[
  { total_problems_solved: 15, username: 'Riya' },
  { total_problems_solved: 70, username: 'Chandu' },
  { total_problems_solved: 1, username: 'Varun' },
  { total_problems_solved: 50, username: 'Loki' },
  { total_problems_solved: 60, username: 'Jilan' },
  { total_problems_solved: 0, username: 'Harshith' }
]
zenclass> |
```

--Query5: Find all the mentors with who has the mentee's count more than 15

db.mentors.find(

 { mentee_count: { $gt: 15 } },

 { mentor_name: 1, mentee_count: 1, _id: 0 }

);

```
]
zenclass> db.mentors.find(
...     { mentee_count: { $gt: 15 } },
...     { mentor_name: 1, mentee_count: 1, _id: 0 }
... );
[ { mentor_name: 'Venki', mentee_count: 18 } ]
zenclass>
```

--Query6: Find the number of users who are absent and task is not submitted  between 15 oct-2020 and 31-oct-2020

db.users.aggregate([

 {

  $lookup: {

   from: "attendance",

   localField: "id",

   foreignField: "user_id",

   as: "attendance_info"

  }

 },

 {

  $lookup: {

   from: "tasks",

   localField: "id",

   foreignField: "user_id",

   as: "tasks_info"

  }

 },

 {

  $project: {

   id: 1,

   name: 1,

   email: 1,

   phone: 1,

```
    role: 1,
    attendance_info: {
      $filter: {
        input: "$attendance_info",
        as: "attendance",
        cond: {
          $and: [
            { $gte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-15")] },
            { $lte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-31")] }
          ]
        }
      }
    },
    tasks_info: {
      $filter: {
        input: "$tasks_info",
        as: "task",
        cond: {
          $and: [
            { $gte: [{ $dateFromString: { dateString: "$$task.submission_date" } }, new Date("2020-10-15")] },
            { $lte: [{ $dateFromString: { dateString: "$$task.submission_date" } }, new Date("2020-10-31")] }
          ]
        }
      }
    }
  }
},
{
  $match: {
    $or: [
```

```
      { "attendance_info.status": { $ne: "Present" } },

      { "tasks_info.status": { $ne: "Submitted" } }

    ]

  }

},

{

  $count: "absent_and_not_submitted_count"

}

]);
```

```
zenclass> db.users.aggregate([
...   {
...     $lookup: {
...       from: "attendance",
...       localField: "id",
...       foreignField: "user_id",
...       as: "attendance_info"
...     }
...   },
...   {
...     $lookup: {
...       from: "tasks",
...       localField: "id",
...       foreignField: "user_id",
...       as: "tasks_info"
...     }
...   },
...   {
...     $project: {
...       id: 1,
...       name: 1,
...       email: 1,
...       phone: 1,
...       role: 1,
...       attendance_info: {
...         $filter: {
...           input: "$attendance_info",
...           as: "attendance",
...           cond: {
...             $and: [
...               { $gte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-15")] },
...               { $lte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-31")] }
...             ]
...           }
...         }
...       },
...       tasks_info: {
...         $filter: {
...           input: "$tasks_info",
...           as: "task",
...           cond: {
...             $and: [
                 { $gte: [{ $dateFromString: { dateString: "$$task.submission_date" } }, new Date("2020-10-15")] }
```

```
...               $and: [
...                 { $gte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-15")] },
...                 { $lte: [{ $dateFromString: { dateString: "$$attendance.date" } }, new Date("2020-10-31")] }
...               ]
...             }
...           }
...         },
...         tasks_info: {
...           $filter: {
...             input: "$tasks_info",
...             as: "task",
...             cond: {
...               $and: [
...                 { $gte: [{ $dateFromString: { dateString: "$$task.submission_date" } }, new Date("2020-10-15")] },
...                 { $lte: [{ $dateFromString: { dateString: "$$task.submission_date" } }, new Date("2020-10-31")] }
...               ]
...             }
...           }
...         }
...       }
...     },
...     {
...       $match: {
...         $or: [
...           { "attendance_info.status": { $ne: "Present" } },
...           { "tasks_info.status": { $ne: "Submitted" } }
...         ]
...       }
...     },
...     {
...       $count: "absent_and_not_submitted_count"
...     }
... ]);
[ { absent_and_not_submitted_count: 8 } ]
zenclass>
```