1. Show Collections

```
f1_lms_mongo;> show collections;
instructors
progress
users
f1_lms_mongo;>
```

Confirmed collections: **instructors, users, progress**.

2. Insert Instructors

```
f1_lms_mongo;> db.instructors.insertMany([
...     { name: "Christian Horner", email: "horner@f1.com", expertise: "Team Strategy" },
...     { name: "Toto Wolff", email: "wolff@f1.com", expertise: "Race Management" },
...     { name: "Andrea Stella", email: "stella@f1.com", expertise: "Car Engineering" }
... ]);
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('68d2e392557567298dcebea4'),
    '1': ObjectId('68d2e392557567298dcebea5'),
    '2': ObjectId('68d2e392557567298dcebea6')
  }
}
f1_lms_mongo;>
```

Inserted 3 instructors into MongoDB.

3. Insert User

```
f1_lms_mongo;> db.users.insertOne({
...     name: "Charles Leclerc",
...     email: "charles@ferrari.com",
...     password: "testpassword"
... });
...
{
  acknowledged: true,
  insertedId: ObjectId('68d2e3b6557567298dcebea7')
}
f1_lms_mongo;>
```

Added user *Charles Leclerc*.

4. Insert Progress

```
f1_lms_mongo;> db.progress.insertOne({
...     user_id: "Charles Leclerc",
...     course: "Team Foundations",
...     completed: false,
...     score: 0
... });
...
{
  acknowledged: true,
  insertedId: ObjectId('68d2e3cc557567298dcebea8')
}
f1_lms_mongo;>
```

Created progress entry for *Team Foundations*.

5. $lookup Query (MongoDB JOIN Equivalent)

```
f1_lms_mongo;> db.progress.aggregate([
...   {
...     $lookup: {
...       from: "users",
...       localField: "user_id",
...       foreignField: "name",
...       as: "user_info"
...     }
...   },
...   {
...     $lookup: {
...       from: "courses",
...       localField: "course",
...       foreignField: "title",
...       as: "course_info"
...     }
...   },
...   {
...     $project: {
...       _id: 0,
...       "user_info.name": 1,
...       "course_info.title": 1,
...       completed: 1,
...       score: 1
...     }
...   }
... ]);
...
[
  {
    completed: false,
    score: 0,
    user_info: [ { name: 'Charles Leclerc' } ],
    course_info: []
  }
]
f1_lms_mongo;>
```

Successfully joined progress with user and course info.

Summary

The MongoDB section demonstrates:

- Creating **instructors, users, and progress** collections.

- Inserting structured data into MongoDB.

- Using $lookup to achieve JOIN-like queries.