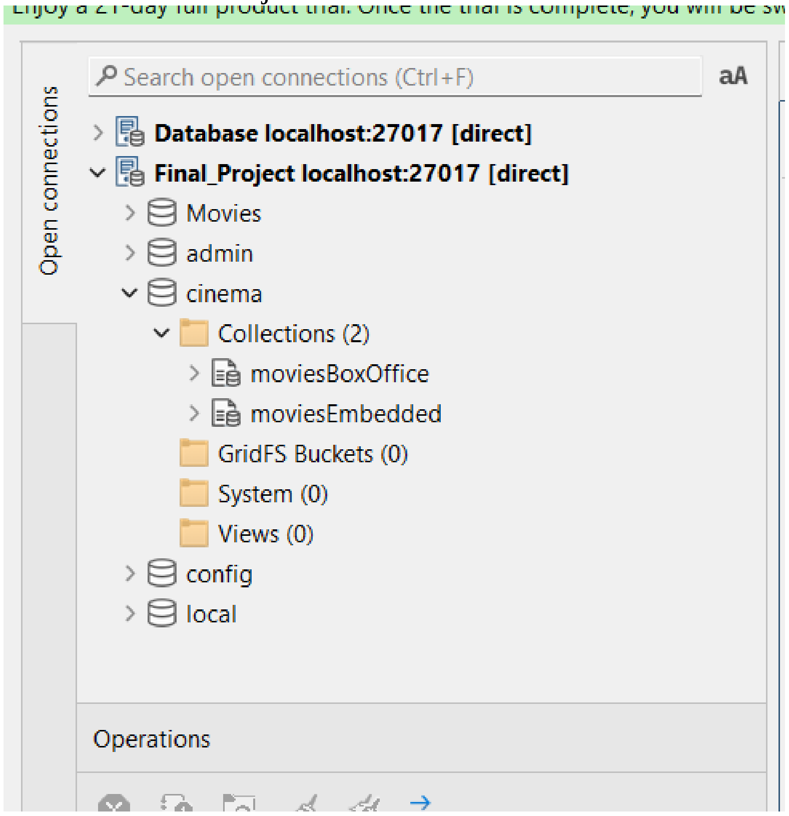
Jaini Bhaveshbhai Topiwala 991669857

PERSONAL PROJECT-2

Part 1: MongoDB Database

Create a MongoDB database named ***cinema*** and create the two collections moviesEmbedded.json and moviesBoxOffice.json into it. 2



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Part 2: MongoDB Queries

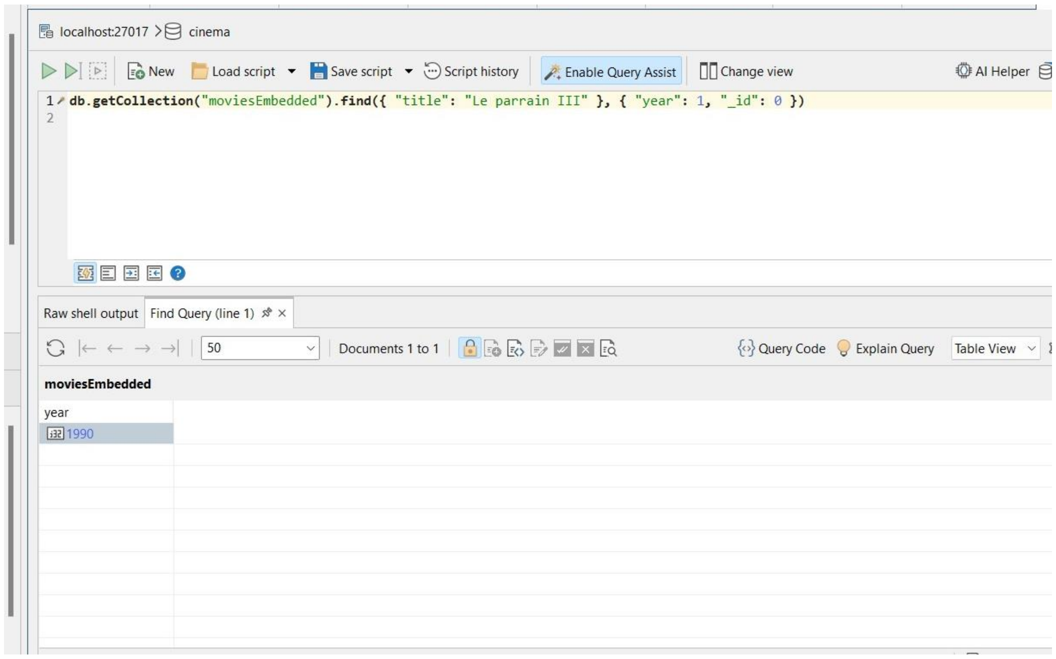
Use the collections you created to answer the following queries:

a. What was the release year of the movie "Le parrain III".

Query:

```
db.getCollection("moviesEmbedded").find(
 {"title": "Le parrain III" }, { "year": 1, "_id": 0 })
```

Snapshots:



```
db.getCollection("moviesEmbedded").find({ "title": "Le parrain III" }, { "year": 1, "_id": 0 })
```

moviesEmbedded

year
1990

b. The titles of the movies released between 1980 and 1990.

Query:

```
db.getCollection("moviesEmbedded").find(
{"year": { $gte: 1980, $lte: 1990 } }, { "title": 1, "_id": 0 })
```

Snapshots:

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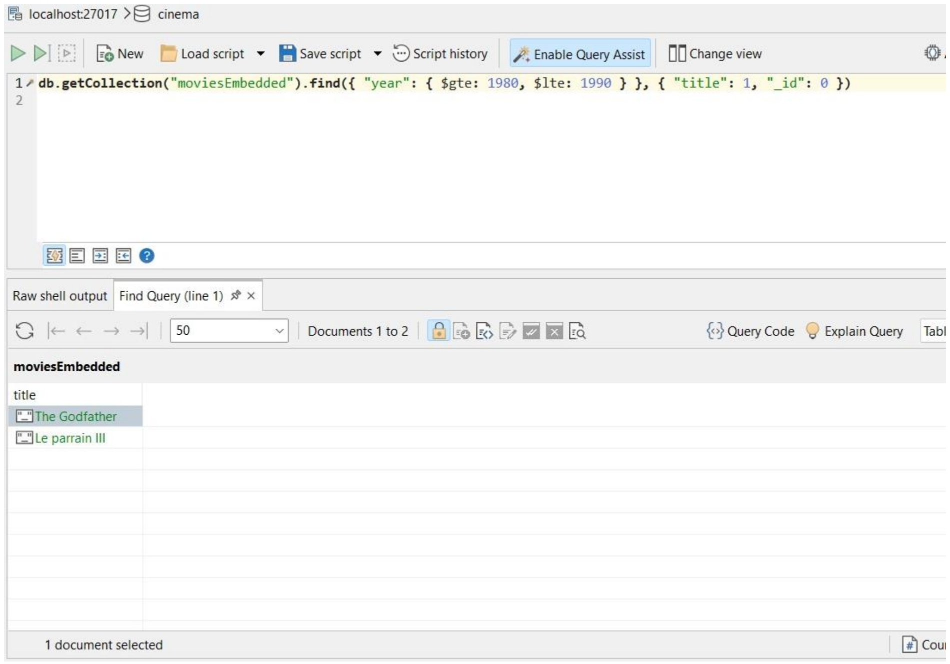


```
db.getCollection("moviesEmbedded").find({ "year": { $gte: 1980, $lte: 1990 } }, { "title": 1, "_id": 0 })
```

moviesEmbedded

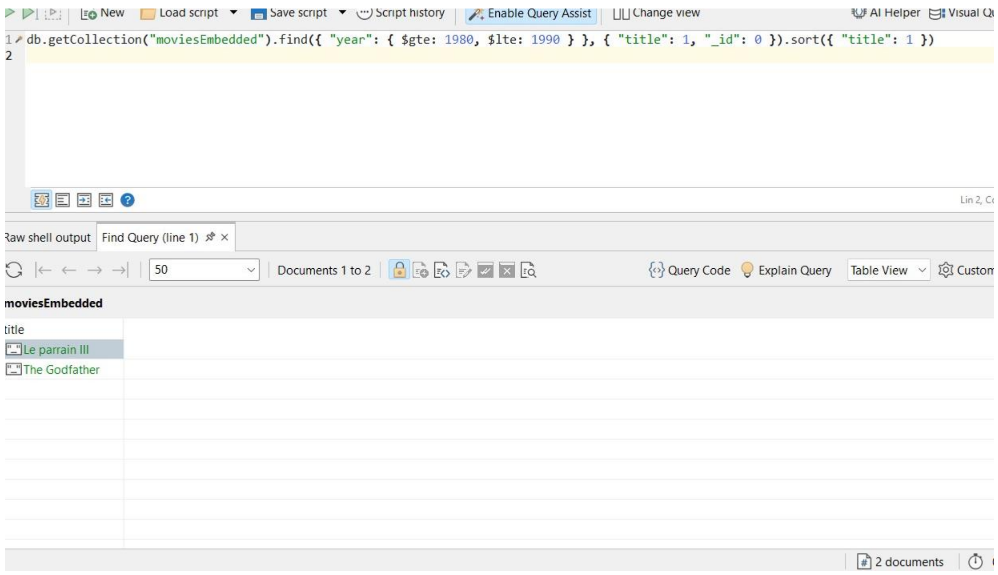
title
The Godfather
Le parrain III

1 document selected

c. Same query in b. with the titles sorted in alphabetical order.Query:

db.getCollection("moviesEmbedded").find({ "year": { $gte: 1980, $lte: 1990 } }, { "title": 1,"_id": 0 }).sort({ "title": 1 })

Snapshot:



```
db.getCollection("moviesEmbedded").find({ "year": { $gte: 1980, $lte: 1990 } }, { "title": 1, "_id": 0 }).sort({ "title": 1 })
```

moviesEmbedded

title
Le parrain III
The Godfather

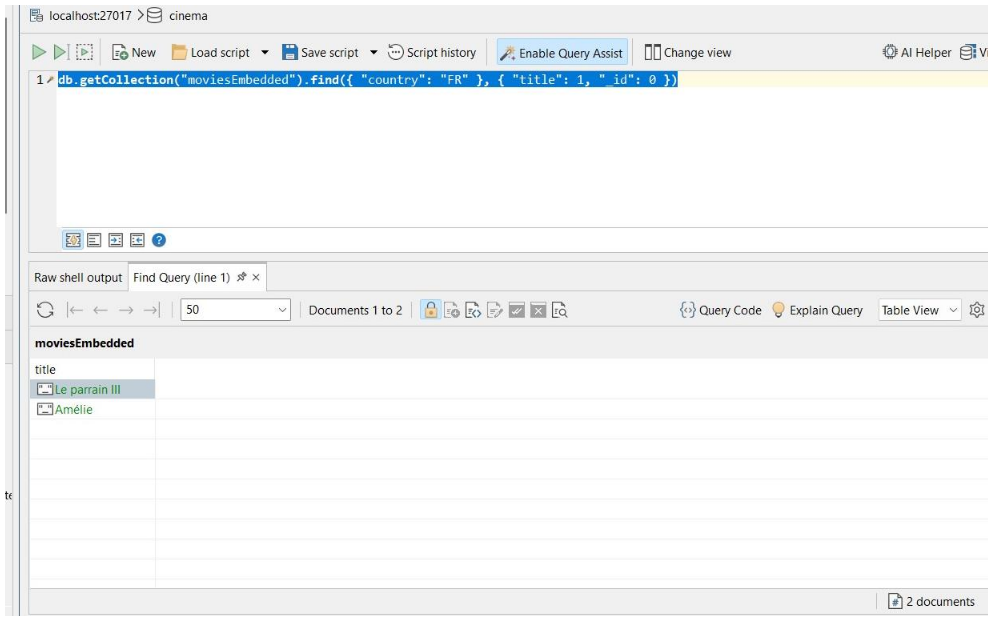
2 documents

d. The titles of all the French movies.

Query:

db.getCollection("moviesEmbedded").find({ "country": "FR" }, { "title": 1, "_id": 0 })

Snapshot:



localhost:27017 > cinema

```
db.getCollection("moviesEmbedded").find({ "country": "FR" }, { "title": 1, "_id": 0 })
```

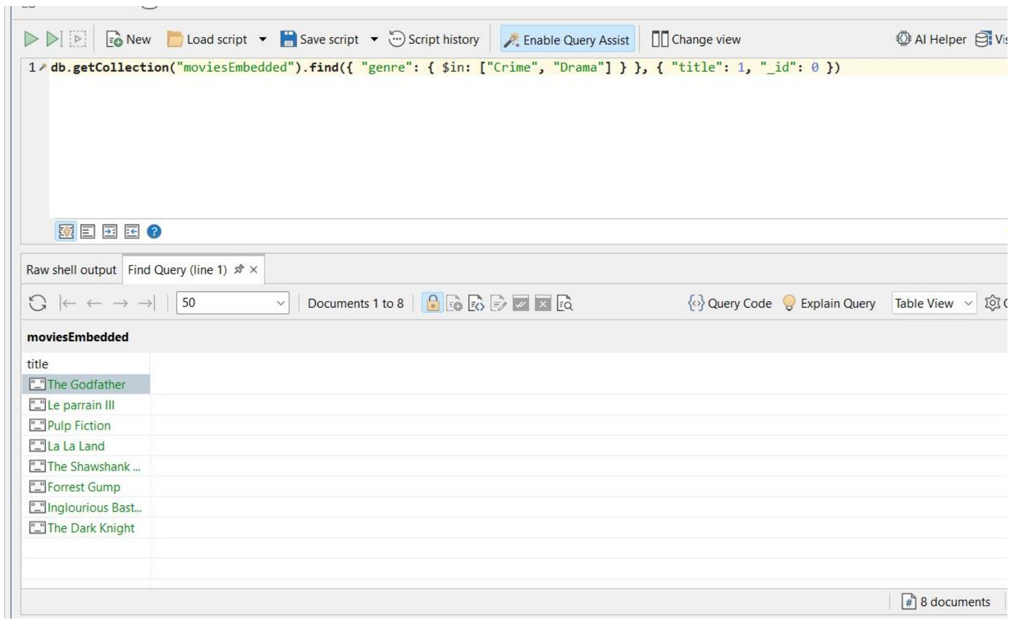
moviesEmbedded

title
Le parrain III
Amélie

2 documents

e. The title of the movies with genre “crime” or “drama”.Query:
db.**getCollection(**"moviesEmbedded"**).find({** "genre": **{** $in: **[**"Crime", "Drama"**] } }, {** "title": 1,"_id": 0 **})**

Snapshot:



```
db.getCollection("moviesEmbedded").find({ "genre": { $in: ["Crime", "Drama"] } }, { "title": 1, "_id": 0 })
```

Raw shell output | Find Query (line 1)

50 | Documents 1 to 8

moviesEmbedded

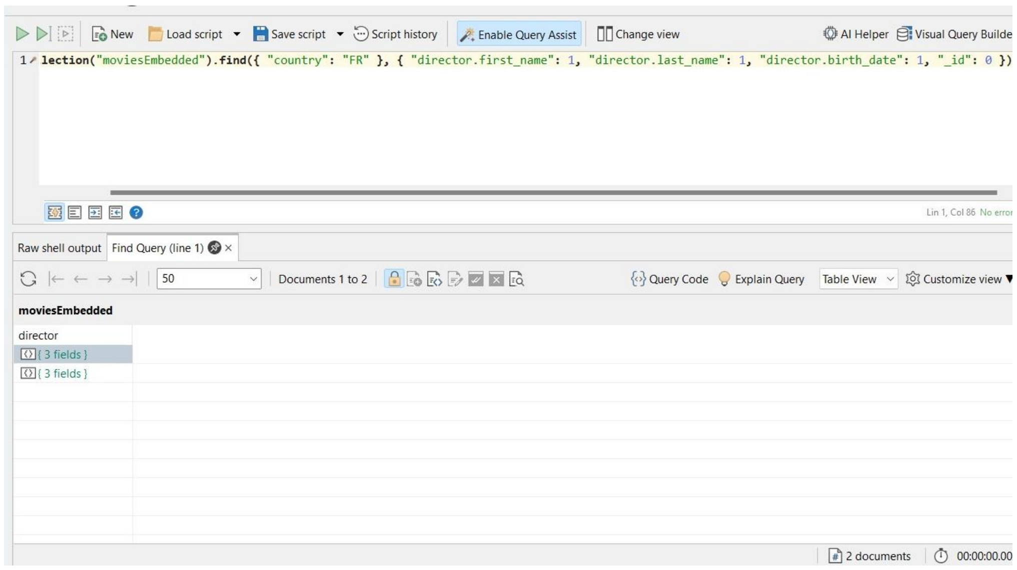
title
The Godfather
Le parrain III
Pulp Fiction
La La Land
The Shawshank ...
Forrest Gump
Inglourious Bast...
The Dark Knight

8 documents

f. The names and birth dates of the directors of French movies.Query:

```
 db.getCollection("moviesEmbedded").find({ "country": "FR" }, { "director.first_name": 1,
"director.last_name": 1, "director.birth_date": 1, "_id": 0 })
```

Snapshot:



```
lection("moviesEmbedded").find({ "country": "FR" }, { "director.first_name": 1, "director.last_name": 1, "director.birth_date": 1, "_id": 0 })
```

Lin 1, Col 86 No error

Raw shell output | Find Query (line 1)

50 | Documents 1 to 2

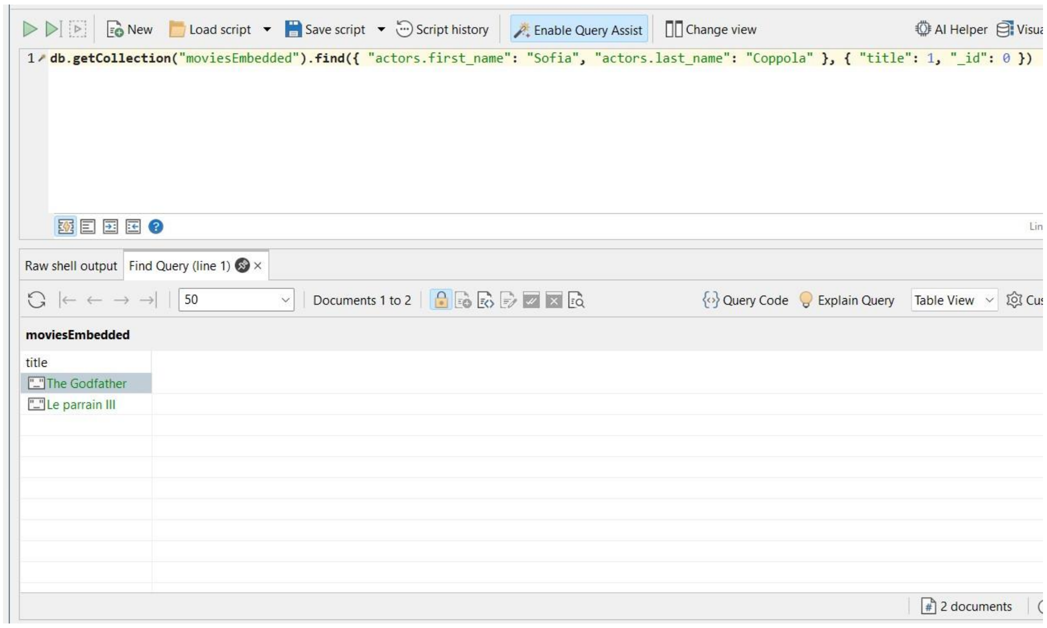
moviesEmbedded

director
{ 3 fields }
{ 3 fields }

2 documents | 00:00:00.00

g. The title of the movies of which Sofia Coppola is one of the actors.Query:
db.getCollection("moviesEmbedded"**).find({** "actors.first_name"**:** "Sofia"**,** "actors.last_name"**:** "Coppola" **}, {** "title"**:** 1**,** "_id"**:** 0 **})**

Snapshot:



```
db.getCollection("moviesEmbedded").find({ "actors.first_name": "Sofia", "actors.last_name": "Coppola" }, { "title": 1, "_id": 0 })
```

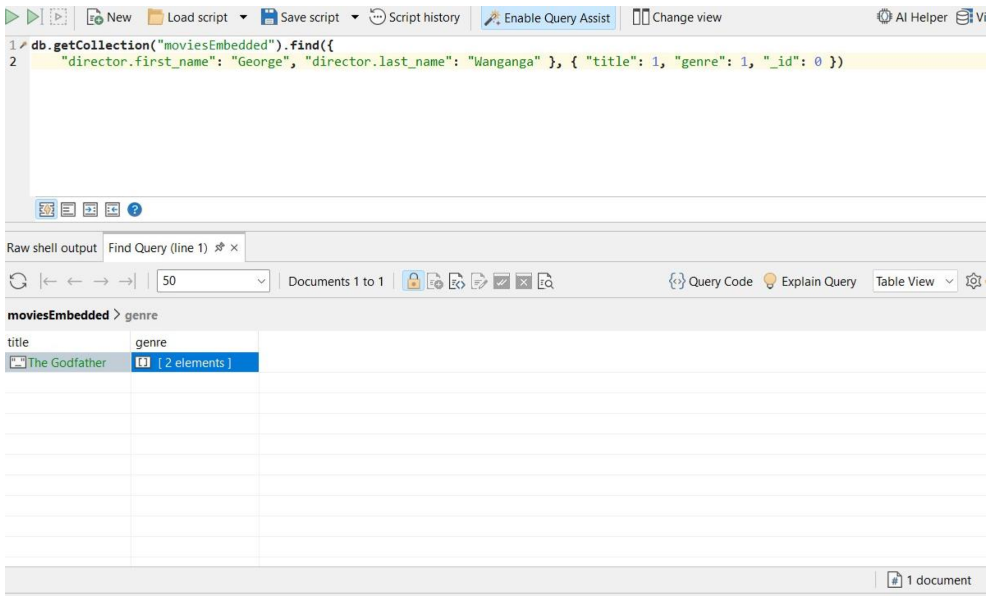
moviesEmbedded

title
The Godfather
Le parrain III

2 documents

h. The title and the genres of the movies of which the director is George Wanganga.Query:
db.getCollection("moviesEmbedded"**).find({**"director.first_name"**:** "George"**,** "director.last_name"**:** "Wanganga" **}, {** "title"**:** 1**,** "genre"**:** 1**,** "_id"**:** 0 **})**

Snapshot:



```
db.getCollection("moviesEmbedded").find({
    "director.first_name": "George", "director.last_name": "Wanganga" }, { "title": 1, "genre": 1, "_id": 0 })
```

moviesEmbedded > genre

title	genre
The Godfather	[2 elements]

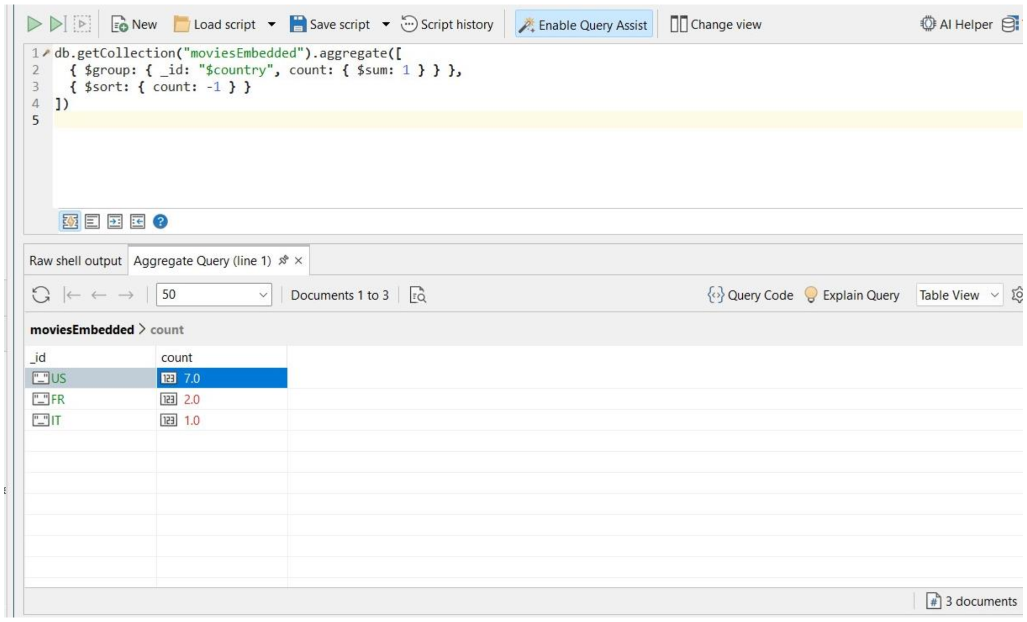
1 document

Part 3: MongoDB Aggregations

a. Get the number of movies per country. Show the result in descending order.Query:

db.getCollection("moviesEmbedded").aggregate([{ $group: { _id: "$country", count: { $sum: 1 } } },{ $sort: { count: -1 } }])

Snapshots:



```
db.getCollection("moviesEmbedded").aggregate([
  { $group: { _id: "$country", count: { $sum: 1 } } },
  { $sort: { count: -1 } }
])
```

moviesEmbedded > count

_id	count
US	7.0
FR	2.0
IT	1.0

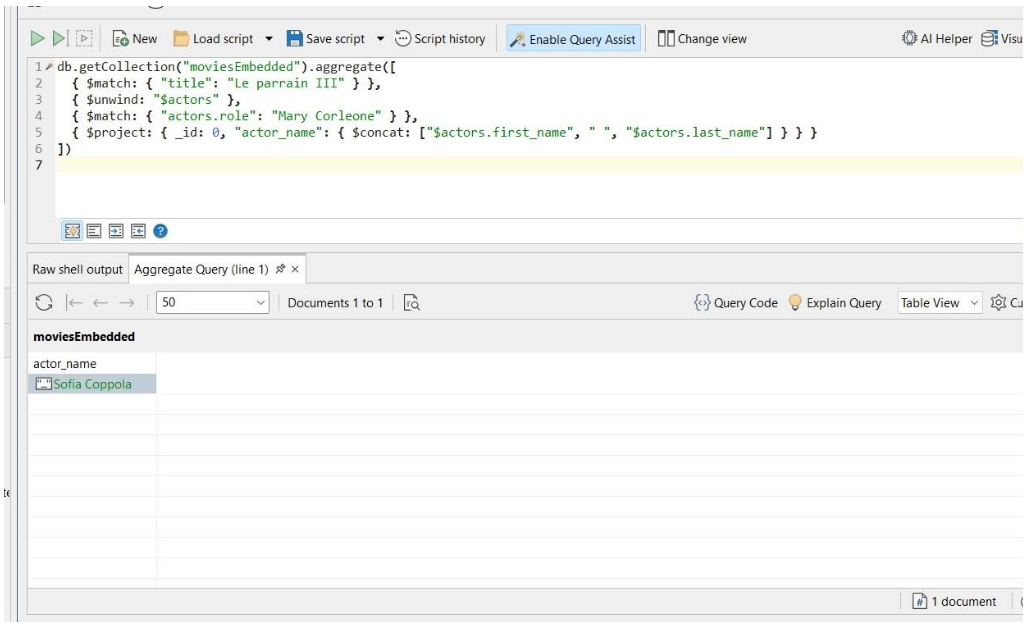
3 documents

b. Get the name of the actor with the role "Mary Corleone" in the movie "Le parrainIII".

Query:

db.getCollection("moviesEmbedded").aggregate([{ $match: { "title": "Le parrain III" } },{ $unwind: "$actors" },{ $match: { "actors.role": "Mary Corleone" } },{ $project: { _id: 0,"actor_name": { $concat: ["$actors.first_name", " ", "$actors.last_name"] } } }])

Snapshots:



```
db.getCollection("moviesEmbedded").aggregate([
  { $match: { "title": "Le parrain III" } },
  { $unwind: "$actors" },
  { $match: { "actors.role": "Mary Corleone" } },
  { $project: { _id: 0, "actor_name": { $concat: ["$actors.first_name", " ", "$actors.last_name"] } } }
])
```

Documents 1 to 1

moviesEmbedded

actor_name
Sofia Coppola

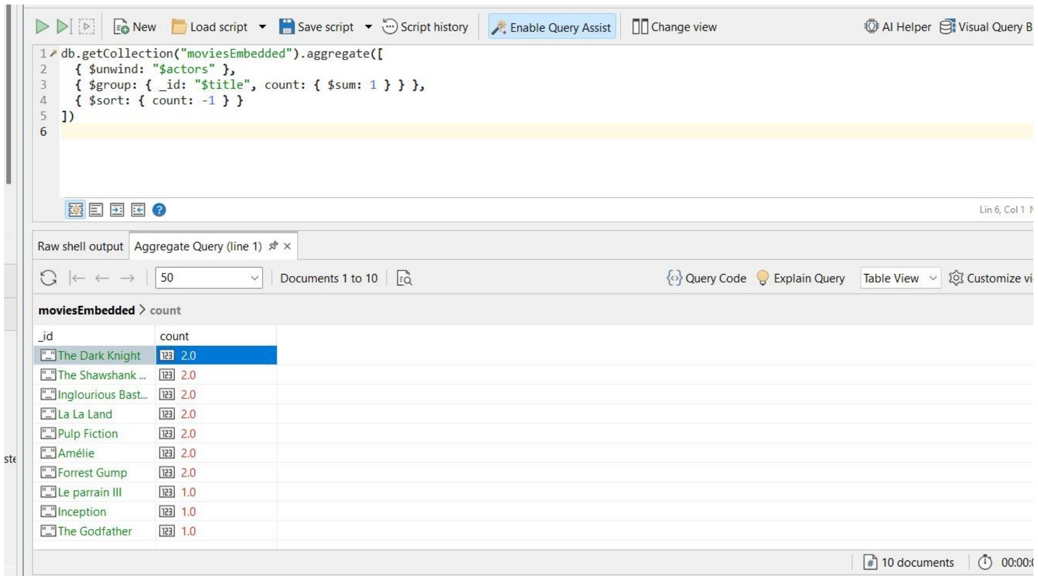
1 document

c. Get the number of actors by film, sorted in descending order.

Query:

db.**getCollection(**"moviesEmbedded"**).aggregate([{** $unwind**:** "$actors" **},{** $group**: {** _id**:** "$title"**,**count**: {** $sum**:** 1 **} } },{** $sort**: {** count**:** -1 **} }])**

Snapshots:



```
db.getCollection("moviesEmbedded").aggregate([
  { $unwind: "$actors" },
  { $group: { _id: "$title", count: { $sum: 1 } } },
  { $sort: { count: -1 } }
])
```

Documents 1 to 10

moviesEmbedded > count

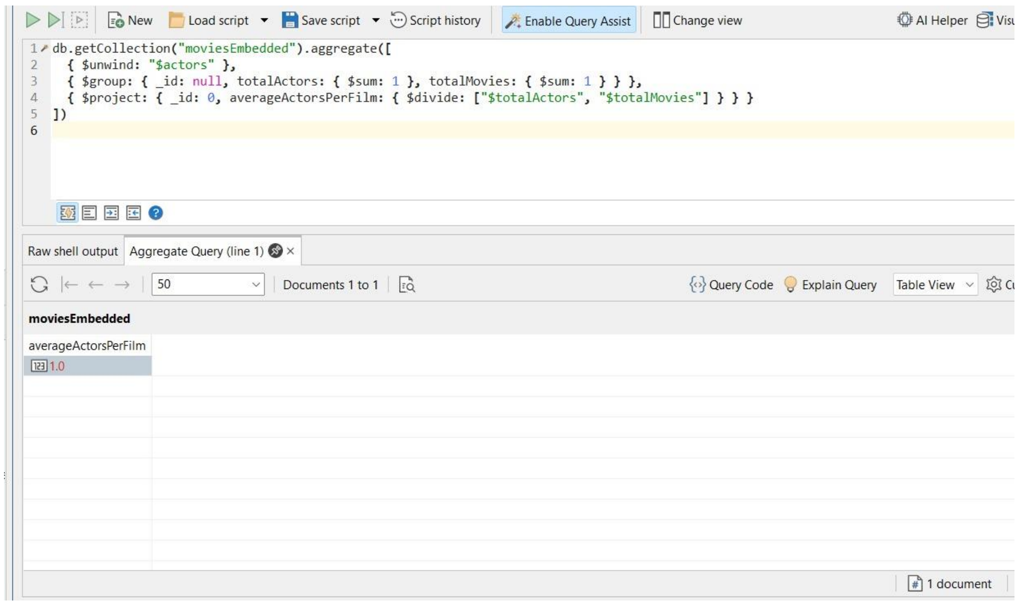
_id	count
The Dark Knight	2.0
The Shawshank ...	2.0
Inglourious Bast...	2.0
La La Land	2.0
Pulp Fiction	2.0
Amélie	2.0
Forrest Gump	2.0
Le parrain III	1.0
Inception	1.0
The Godfather	1.0

10 documents 00:00:0

d. Get the average number of actors per film.

Query:
db.getCollection("moviesEmbedded"**).aggregate([{** $unwind: "$actors" **},{** $group: **{** _id: null, totalActors: **{** $sum: 1 **},** totalMovies: **{** $sum: 1 **} } },{** $project: **{** _id: 0, averageActorsPerFilm: **{** $divide: **[**"$totalActors", "$totalMovies"**] } } }])**

Snapshots:



```
db.getCollection("moviesEmbedded").aggregate([
  { $unwind: "$actors" },
  { $group: { _id: null, totalActors: { $sum: 1 }, totalMovies: { $sum: 1 } } },
  { $project: { _id: 0, averageActorsPerFilm: { $divide: ["$totalActors", "$totalMovies"] } } }
])
```

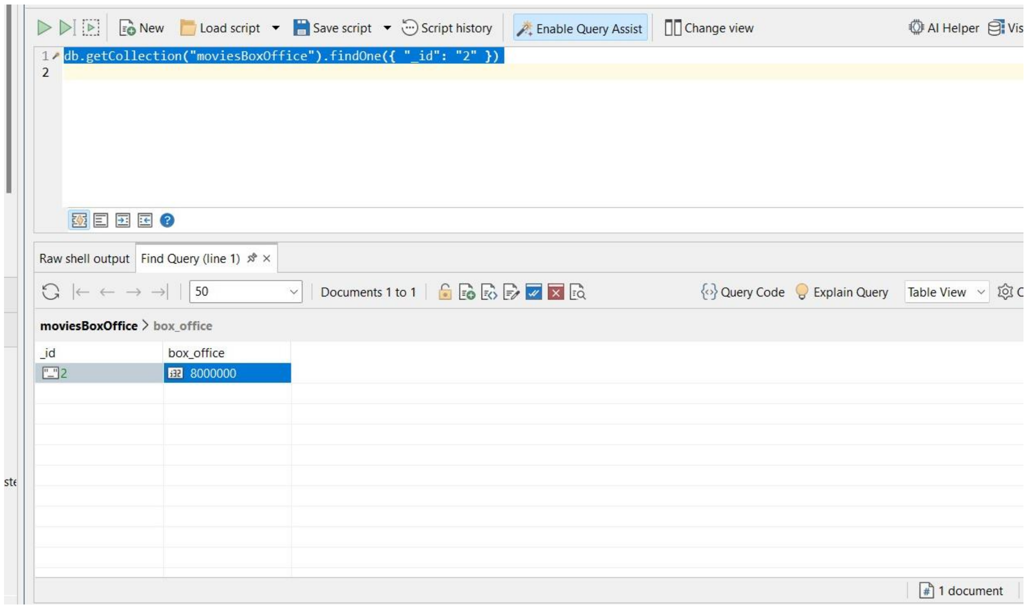
```
moviesEmbedded
averageActorsPerFilm
1.0
```

1 document

e. Find the number of tickets sold for "Le parrain III." Query:

db.getCollection("moviesBoxOffice").findOne**({** "_id": "2" **})**

Snapshots:



```
db.getCollection("moviesBoxOffice").findOne({ "_id": "2" })
```

```
moviesBoxOffice > box_office
_id    box_office
2      8000000
```

1 document