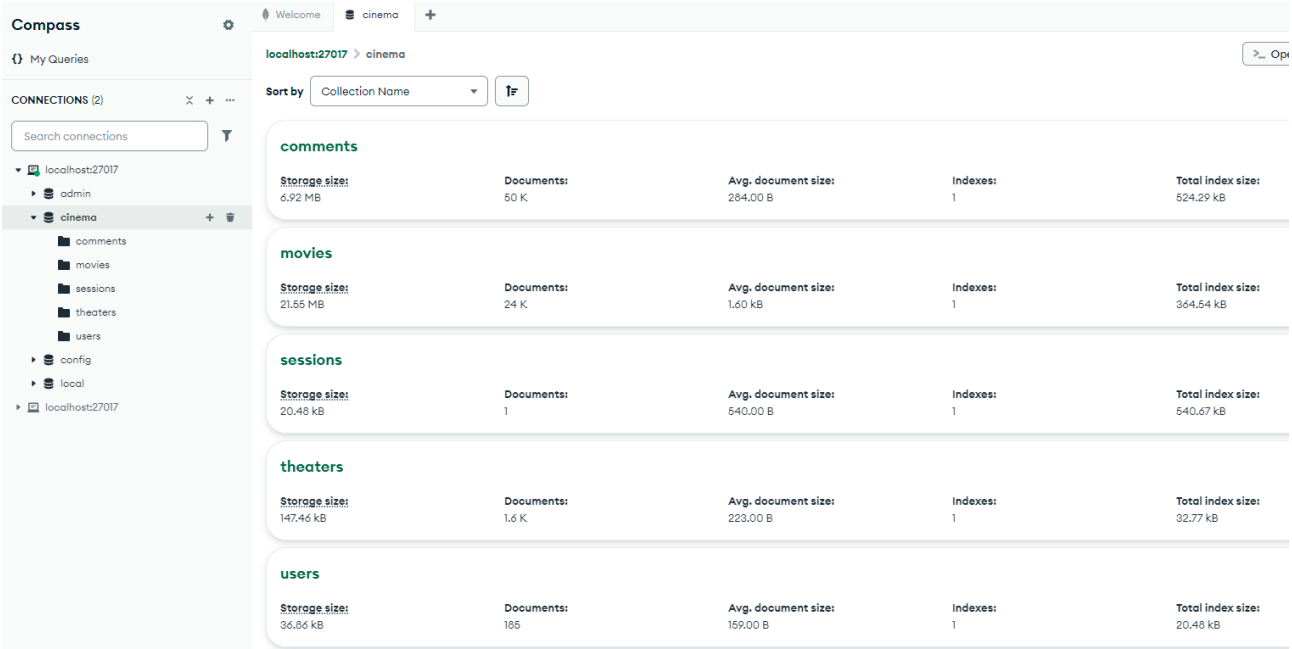
Task 9.
MongoDB

A database '*cinema*' containing information related to a movie entertainment application was created in MongoDB Compass and populated with data from the provided `.csv` files:

- `users`: user information, including names, emails, and encrypted passwords
- `theatres`: theater data, such as ID, location (address and geographic coordinates)
- `sessions`: user sessions, including user ID and JWT tokens for authentication
- `movies`: movie details, such as plot, genres, duration, cast, reviews, release year, directors, ratings, and awards
- `comments`: user comments about movies, with information about the comment author, movie ID, comment text, and date.

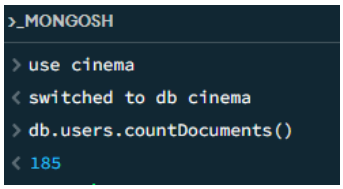


Level 1.
Exercise 1.1.
The first 2 comments in the data base.

```
db.comments.find().limit(2)
```

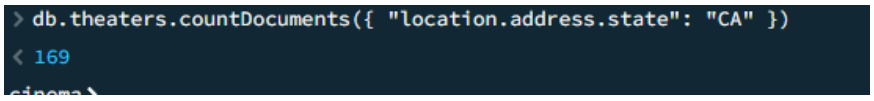
Exercise 1.2.
How many users do we have registered?

```
db.users.countDocuments()
```



Exercise 1.3.
How many movie theaters are there in the state of California?

```
db.theaters.countDocuments({ "location.address.state": "CA" })
```



Exercise 1.4.
Who was the first user to register?

```
db.users.find().sort({ _id: 1 }).limit(1)
```

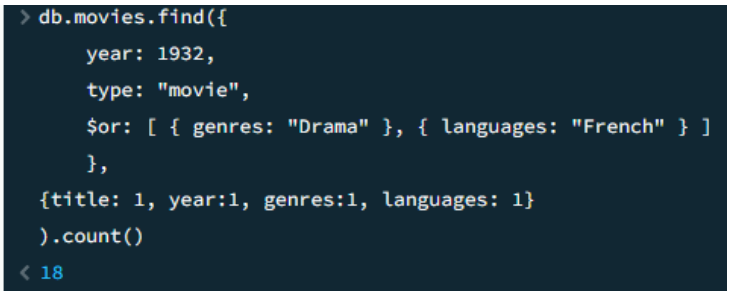
Exercise 1.5.
How many comedy movies are in our database?

```
db.movies.countDocuments({ type: "movie", genres: "Comedy" })
```

```
> db.movies.countDocuments( {type: "movie", genres: "Comedy"} )
< 7002
```

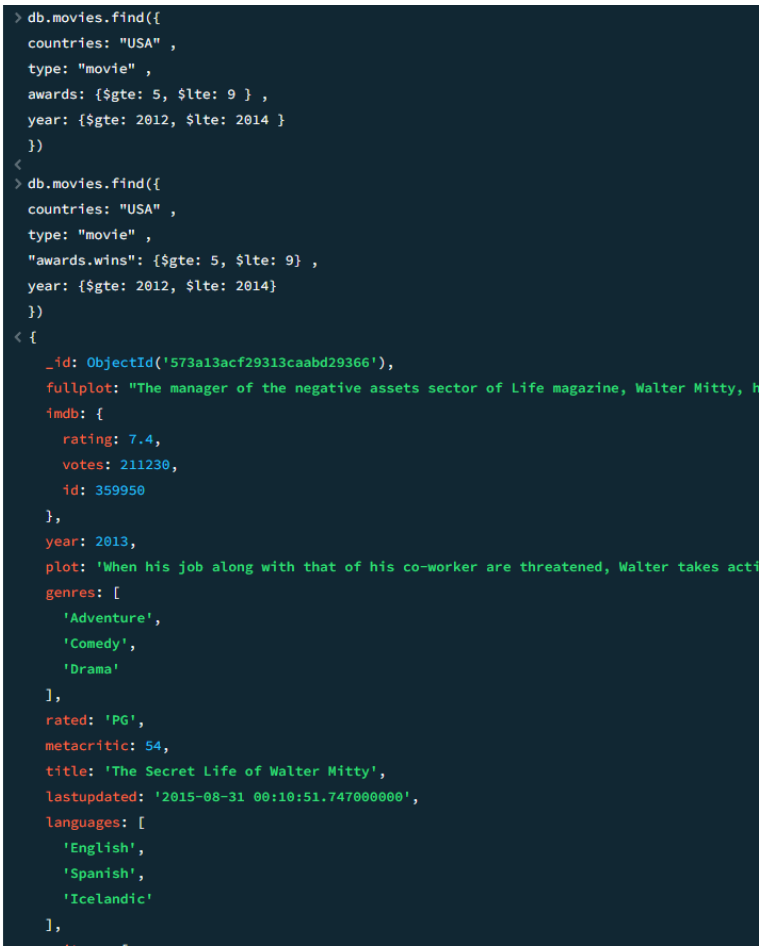
Exercise 2.
All documents for movies produced in 1932, but the genre is drama or they are in French.
Let's show only title, year, genre and language of the movies.

```
db.movies.find({
     year: 1932,
     type: "movie",
     $or: [ { genres: "Drama" }, { languages: "French" } ]
     },
{title: 1, year:1, genres:1, languages: 1}
)
```



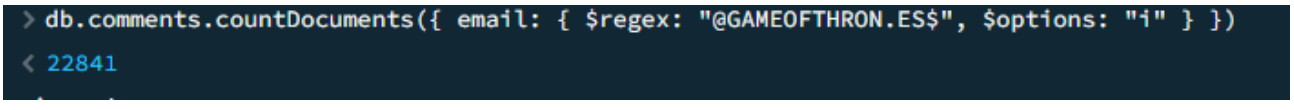
Exercise 3.
All documents of USA movies with between 5 and 9 awards that were produced between 2012 and 2014.

```
db.movies.find({
    countries: "USA",
    type: "movie",
    "awards.wins": {$gte: 5, $lte: 9 },
    year: {$gte: 2012, $lte: 2014 }
})
```



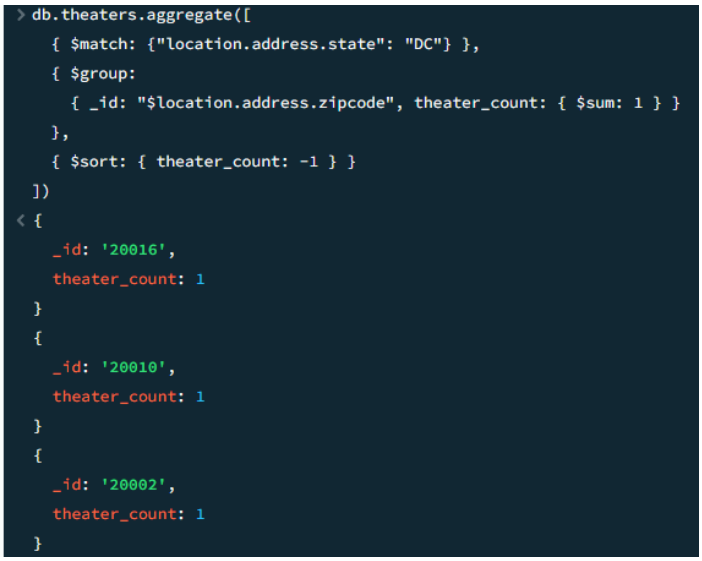
Level 2.
Exercise 1.
How many comments a user writes who uses "GAMEOFTHRON.ES" as his/her email domain?

```
db.comments.countDocuments(
    { email: { $regex: "@GAMEOFTHRON.ES$", $options: "i" } }
)
```



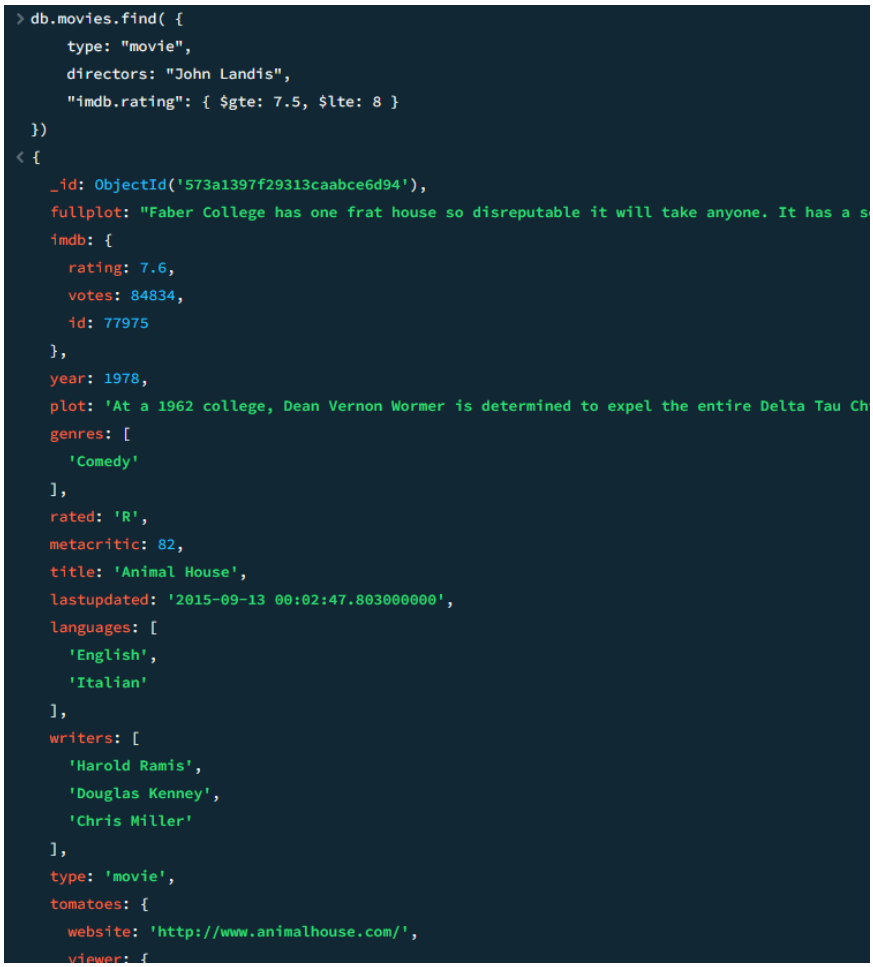
Exercise 2.
How many movie theaters are there in each zip code located within the state of Washington D. C. (DC)?

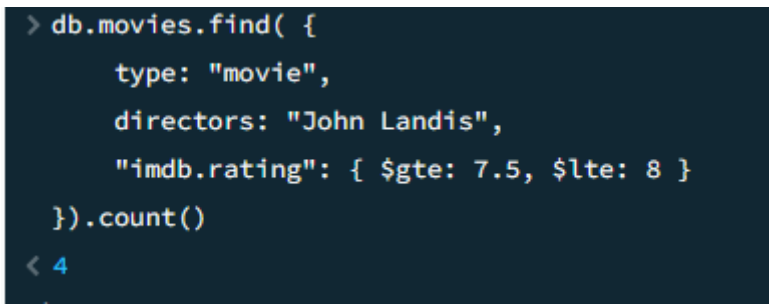
```
db.theaters.aggregate([
  { $match: {"location.address.state": "DC"} },
  { $group:
    { _id: "$location.address.zipcode", theater_count: { $sum: 1 } }
  },
  { $sort: { theater_count: -1 } }
])
```



Level 3.
Exercise 1.
All movies directed by John Landis with an IMDb (Internet Movie Database) rating between 7.5 and 8.

```
db.movies.find({
    type: "movie",
    directors: "John Landis",
    "imdb.rating": { $gte: 7.5, $lte: 8 }
})
```





Exercise 2.
The location of all the theaters in the database on a map.