Assignment 11 : mongoDB Aggregation & Indices

```
show dbs
use Asg10

1. Find the number of books published by john.
db.books.aggregate([
     { $match: { by: "john" } },
     { $group: {     _id: null,
                     author:{$first:"$by"},
                     numberOfBooks: { $sum: 1 }
                }
     }
])

2. Find books which have minimum likes and maximum likes published
by john.
Max:
db.books.aggregate([
     { $match: { by: "john" } },
     { $group: {
                     _id: null,
                     maxLikes: { $max: "$likes" }
                }
     }
])

Min:
db.books.aggregate([
     { $match: { by: "john" } },
     { $group: {
                     _id: null,
                     minLikes: { $mix: "$likes" }
                }
     }
])
```

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3. Find the average number of likes for books published by John

```
db.books.aggregate([
      {$match:{by:"john"}},
      {$group:   {
                        _id:null,
                        avgLikes:{$avg:"$likes"}
                  }
      }
])
```

4. Find the first and last book published by john

```
db.books.aggregate([
      {$match: {by:"john"}},
      {$sort:{title : 1}},
      {$group:   {
                        _id: null,
                        firstBook:{$first:"$title"},
                        lastBook:{$last:"$title"}
                  }
      }
])
```

5. Create an index on the author name.

```
db.books.createIndex({ by: 1 })
```

6. Display the books published by John and check if the index is used:

```
db.books.find({ by: "john" }).hint({ by: 1 }).forEach(printjson)
```