Experiment No.4 b : MongoDB – Aggregation and Indexing: Design and Develop MongoDB Queries using aggregation andindexing with suitable example using MongoDB.

Code:

```
{
    "_id": ObjectId("5f5b312b1721765668546e4f"),
    "userId": 1,
    "text": "Hello, MongoDB!",
    "timestamp": ISODate("2023-10-31T12:00:00Z"),
    "likes": 50,
    "comments": [
        {
            "userId": 2,
            "text": "Great post!",
            "timestamp": ISODate("2023-10-31T12:15:00Z")
        },
        {
            "userId": 3,
            "text": "I agree!",
            "timestamp": ISODate("2023-10-31T12:30:00Z")
        }
    ]
}
```

```
db.posts.createIndex({ "userId": 1, "timestamp": -1 });
```

```
db.posts.aggregate([
    {
        $group: {
            _id: "$userId",
            avgLikes: { $avg: "$likes" }
        }
    },
    {
        $sort: { avgLikes: -1 }
    }
]);
```

```
db.posts.find({ "userId": 1 }).sort({ "timestamp": -1 });
```

Output:

```
{ "_id" : 1, "avgLikes" : 60.5 }
{ "_id" : 2, "avgLikes" : 25 }
{ "_id" : 3, "avgLikes" : 15 }
```