BIG DATA

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C1 BATCH
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1.Create a collection named "Employee" under the "EmployeeDB" database with each document in the format shown below Table 1.

Table 1: Document Format

Name	Age	Salary in INR	Designation	Role
{Firstname, middlename, lastname}	25-40	20000 - 75000	Employee Designation	[Manager, "Team Lead", "Software Developer", "Tester", "UI Designer"]
String BSON Object	int	Number	String	String Array

Queries

1. Populate the database with at least 15 documents

```
db.chaitanyaemp.insertMany([{first_name:"draco",middle_name:"ken",last_name:"malfoy",age:36,salary:70000,designation:"analyst",role:"team_lead"},{first_name:"ginny",middle_name:"kim",last_name:"weasly",age:30,salary:55000,designation:"scientist",role:"manager"}])

db.chaitanyaemp.insertMany([{first_name:"albus",middle_name:"park",last_name:"dumbledore",age:40,salary:65000,designation:"UI designer",role:"team_lead"},{first_name:"enola",middle_name:"kim",last_name:"holmes",age:38,salary:55000,designation:"scientist",role:"tester"}])

db.chaitanyaemp.insertMany([{first_name:"rubius",middle_name:"kim",last_name:"hagrid",age:40,salary:65000,designation:"UI designer",role:"manager"},{first_name:"snape",middle_name:"dennis",last_name:"byers",age:38,salary:55000,designation:"associate",role:"tester"}])
```

```
> db.chaitanyaemp.insertMany([{first_name:"rajesh",middle_name:"kumar",last_name:"panja",age:30,salary:35000,designation:"scientist",role:"manager"},{
first_name:"sitara",middle_name:"srivatsav",last_name:"reddy",age:35,salary:55000,designation:"software_designer",role:"manager"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295a36cd3a1df6dde2f66ca"),
                ObjectId("6295a36cd3a1df6dde2f66cb")
        ]
}
> db.chaitanyaemp.insertMany([{first_name:"satish",middle_name:"kumar",last_name:"varma",age:32,salary:31000,designation:"developer",role:"team_lead"}
,{first_name:"renu",middle_name:"prakash",last_name:"sharma",age:33,salary:33300,designation:"designer",role:"tester"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295a425d3a1df6dde2f66cc"),
                ObjectId("6295a425d3a1df6dde2f66cd")
        ]
}
> db.chaitanyaemp.insertMany([{first_name:"luna",middle_name:"hek",last_name:"lovegood",age:37,salary:55000,designation:"taem_lead",role:"UI_designer"
},{first_name:"damon",middle_name:"vern",last_name:"salvatore",age:34,salary:55000,designation:"designer",role:"manager"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295a62cd3a1df6dde2f66ce"),
                ObjectId("6295a62cd3a1df6dde2f66cf")
        ]
}
```

```
        "role" : "manager"
}
> db.chaitanyaemp.insertMany([{first_name:"draco",middle_name:"ken",last_name:"malfoy",age:36,salary:70000,designation:"analyst",role:"team_lead"},{fi
rst_name:"ginny",middle_name:"kim",last_name:"weasly",age:30,salary:55000,designation:"scientist",role:"manager"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295ea69b1905d596e428838"),
                ObjectId("6295ea69b1905d596e428839")
        ]
}
> db.chaitanyaemp.insertMany([{first_name:"albus",middle_name:"park",last_name:"dumbledore",age:40,salary:65000,designation:"UI designer",role:"team_l
ead"},{first_name:"enola",middle_name:"kim",last_name:"holmes",age:38,salary:55000,designation:"scientist",role:"tester"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295eb25b1905d596e42883a"),
                ObjectId("6295eb25b1905d596e42883b")
        ]
}
> db.chaitanyaemp.insertMany([{first_name:"rubius",middle_name:"kim",last_name:"hagrid",age:40,salary:65000,designation:"UI designer",role:"manager"},
{first_name:"snape",middle_name:"dennis",last_name:"byers",age:38,salary:55000,designation:"associate",role:"tester"}])
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("6295ec1ab1905d596e42883c"),
                ObjectId("6295ec1ab1905d596e42883d")
        ]
}
```

2. List all the records having salary in the range of 20000 - 35000(Exclusive)

```
db.chaitanyaemp.find({$and:[{salary:{$gt:20000}},{salary:{$lt:35000}}]})
```

```
db.chaitanyaemp.find({$and:[{salary:{$gt:20000}},{salary:{$lt:35000}}]})
 "_id" : ObjectId("6295a425d3a1df6dde2f66cc"), "first_name" : "satish", "middle_name" : "kumar", "last_name" : "varma", "age" : 32, "salary" : 31000,
"designation" : "developer", "role" : "team_lead" }
 "_id" : ObjectId("6295a425d3a1df6dde2f66cd"), "first_name" : "renu", "middle_name" : "prakash", "last_name" : "sharma", "age" : 33, "salary" : 33300
 "designation" : "designer", "role" : "tester" }
```

3. List all the Employee whose Middle name is "Kumar"

```
db.chaitanyaemp.find({middle_name:"kumar"})
```

```
> db.chaitanyaemp.find({middlename:"kumar"})
> db.chaitanyaemp.find({middle_name:"kumar"})
{ "_id" : ObjectId("6295a36cd3a1df6dde2f66ca"), "first_name" : "rajesh", "middle_name" : "kumar", "last_name" : "panja", "age" : 30, "salary" : 35000,
 "designation" : "scientist", "role" : "manager" }
{ "_id" : ObjectId("6295a425d3a1df6dde2f66cc"), "first_name" : "satish", "middle_name" : "kumar", "last_name" : "varma", "age" : 32, "salary" : 31000,
 "designation" : "developer", "role" : "team_lead" }
> db.chaitanyaemp.count({role:"manager"})
6
```

4. Count the number of Employees who have a role "Manager" in the Role field.

db.chaitanyaemp.count({role:"manager"})
6

```
> db.chaitanyaemp.count({role:"manager"})
6
```

5. Find out all the documents who have age < 35 and salary in the range of 30000-35000

db.chaitanyaemp.find({$and:[{salary:{$gt:30000}},{salary:{$lt:35000}},{age:{$lt:35}}]})

```
6
> db.chaitanyaemp.find({$and:[{salary:{$gt:30000}},{salary:{$lt:35000}},{age:{$lt:35}}]})
{ "_id" : ObjectId("6295a425d3a1df6dde2f66cc"), "first_name" : "satish", "middle_name" : "kumar", "last_name" : "varma", "age" : 32, "salary" : 31000,
 "designation" : "developer", "role" : "team_lead" }
{ "_id" : ObjectId("6295a425d3a1df6dde2f66cd"), "first_name" : "renu", "middle_name" : "prakash", "last_name" : "sharma", "age" : 33, "salary" : 33300
, "designation" : "designer", "role" : "tester" }
>
```

6. Delete an Employee whose "Firstname" is "Rajesh" and have the designation as "Scientist".

db.chaitanyaemp.deleteOne({$and:[{first_name:"rajesh"},{designation:"scientist"}]})

```
> db.chaitanyaemp.deleteOne({$and:[{firstname:"rajesh"},{designation:"scientist"}]})
{ "acknowledged" : true, "deletedCount" : 0 }
> db.chaitanyaemp.find().pretty()
{
        "_id" : ObjectId("62959cd2d07f145e242b961b"),
```

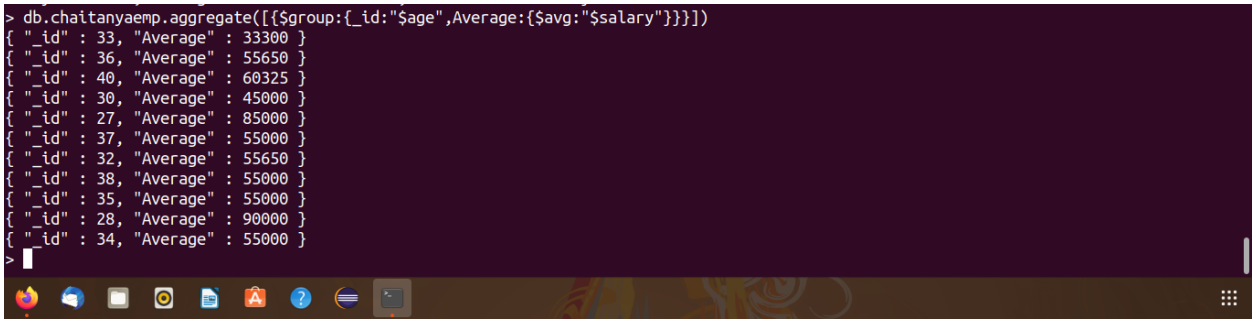
7. Update all the Employees whose role is "Team Lead" with a salary of 55650 INR

db.chaitanyaemp.updateMany({role:"team_lead"},{$set:{salary:55650}})

> db.chaitanyaemp.find()

8. Group all the Employees by their age(common age should be there) and calculate the average salary obtained in the each group

db.chaitanyaemp.aggregate([{$group:{_id:"$age",Average:{$avg:"$salary"}}}])



9. Apply the map-reduce to perform the above operation and obtain the results

var mapfunction=function(){emit(this.age,this.salary)}
> var reducefunction=function(key,values){return Array.avg(values)}
> db.chaitanyaemp.mapReduce(mapfunction,reducefunction,{'out':'result'})
> db.result.find()