# Exercise-I

## Asma

## 1NT19IS039

## May 23, 2022

## 1 Problem Statement & Dataset

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 |

> use EmployeeDB;

switched to db EmployeeDB

> db.createCollection("Employee");

{ "ok" : 1 }

>db.Employee.insertOne({"Name":{"Firstname":"Asma","middlename":"A","lastname":"Kazaa"},"Age":26,"Salary":30500,"Designation":"Engineer","Role":["Team Lead","UI Designer"]});

{

    "acknowledged" : true,

    "insertedId" : ObjectId("628b72d182039db8bb82a40b")

}

# 2 Queries

1. Populate the database with atleast 15 documents

```
>db.Employee.insertMany([{"Name":{"Firstname":"Afshan","middlename":"B","lastname":
"Kazaa"},"Age":26,"Salary":30800,"Designation":"Professor","Role":["Team
Lead","Manager"]},{"Name":{"Firstname":"Anusha","middlename":"B","lastname":"Patil"},
"Age":26,"Salary":31000,"Designation":"Professor","Role":["UI
Designer","Manager"]},{"Name":{"Firstname":"Arnav","middlename":"R","lastname":"Sing
h"},"Age":26,"Salary":40000,"Designation":"Professor","Role":["Team
Lead","Manager"]},{"Name":{"Firstname":"Khushi","middlename":"Kumari","lastname":"G
upta"},"Age":26,"Salary":32000,"Designation":"Engineer","Role":["Tester","Manager"]},{"
Name":{"Firstname":"Neha","middlename":"P","lastname":"Kakkar"},"Age":28,"Salary":30
800,"Designation":"Professor","Role":["Software
Developer","Manager"]},{"Name":{"Firstname":"Yash","middlename":"B","lastname":"Kap
oor"},"Age":26,"Salary":30800,"Designation":"Engineer","Role":["Team
Lead","Tester","Manager"]},{"Name":{"Firstname":"Annu","middlename":"N","lastname":"
Bhat"},"Age":26,"Salary":50000,"Designation":"Professor","Role":["UI
Developer","Manager"]},{"Name":{"Firstname":"Rajesh","middlename":"B","lastname":"Ka
poor"},"Age":26,"Salary":30800,"Designation":"Scientist","Role":["UI
Developer","Tester"]},{"Name":{"Firstname":"Suresh","middlename":"Kumar","lastname":"
C"},"Age":36,"Salary":40000,"Designation":"Engineer","Role":["Software
Developer","Manager"]}]);
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("628b8a8aa7d62ffe9d1fcfdc"),
                ObjectId("628b8a8aa7d62ffe9d1fcfdd"),
                ObjectId("628b8a8aa7d62ffe9d1fcfde"),
                ObjectId("628b8a8aa7d62ffe9d1fcfdf"),
                ObjectId("628b8a8aa7d62ffe9d1fcfe0"),
                ObjectId("628b8a8aa7d62ffe9d1fcfe1"),
                ObjectId("628b8a8aa7d62ffe9d1fcfe2"),
                ObjectId("628b8a8aa7d62ffe9d1fcfe3"),
                ObjectId("628b8a8aa7d62ffe9d1fcfe4")
```

```
        ]

}

>db.Employee.insertMany([{"Name":{"Firstname":"Priyanka","middlename":"N","lastname":"Chopra"},"Age":38,"Salary":30000,"Designation":"Teacher","Role":["Tester","Manager"]},{"Name":{"Firstname":"Nick","middlename":"P","lastname":"jones"},"Age":26,"Salary":30800,"Designation":"Professor","Role":["Team Lead","Tester"]},{"Name":{"Firstname":"Akshay","middlename":"V","lastname":"singh"},"Age":25,"Salary":20100,"Designation":"Engineer","Role":["UI Designer","Manager"]},{"Name":{"Firstname":"Katrina","middlename":"V","lastname":"Kaif"},"Age":26,"Salary":31000,"Designation":"Teacher","Role":["Team Lead","Software Developer"]},{"Name":{"Firstname":"Shah","middlename":"Rukh","lastname":"Khan"},"Age":25,"Salary":30900,"Designation":"Scientist","Role":["Team Lead","Tester"]}]);
{
        "acknowledged" : true,
        "insertedIds" : [
                ObjectId("628b8beaa7d62ffe9d1fcfe5"),
                ObjectId("628b8beaa7d62ffe9d1fcfe6"),
                ObjectId("628b8beaa7d62ffe9d1fcfe7"),
                ObjectId("628b8beaa7d62ffe9d1fcfe8"),
                ObjectId("628b8beaa7d62ffe9d1fcfe9")
        ]
}
> db.Employee.find().pretty();
{
        "_id" : ObjectId("628b72d182039db8bb82a40b"),
        "Name" : {
                "Firstname" : "Asma",
                "middlename" : "A",
                "lastname" : "Kazaa"
        },
        "Age" : 26,
        "Salary" : 30500,
        "Designation" : "Engineer",
        "Role" : [
```

```
                    "Team Lead",
                    "UI Designer"
            ]
    }
    {
            "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdc"),
            "Name" : {
                    "Firstname" : "Afshan",
                    "middlename" : "B",
                    "lastname" : "Kazaa"
            },
            "Age" : 26,
            "Salary" : 30800,
            "Designation" : "Professor",
            "Role" : [
                    "Team Lead",
                    "Manager"
            ]
    }
    {
            "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdd"),
            "Name" : {
                    "Firstname" : "Anusha",
                    "middlename" : "B",
                    "lastname" : "Patil"
            },
            "Age" : 26,
            "Salary" : 31000,
            "Designation" : "Professor",
            "Role" : [
```

```
                "UI Designer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfde"),
        "Name" : {
                "Firstname" : "Arnav",
                "middlename" : "R",
                "lastname" : "Singh"
        },
        "Age" : 26,
        "Salary" : 40000,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdf"),
        "Name" : {
                "Firstname" : "Khushi",
                "middlename" : "Kumari",
                "lastname" : "Gupta"
        },
        "Age" : 26,
        "Salary" : 32000,
        "Designation" : "Engineer",
        "Role" : [
```

```
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe0"),
        "Name" : {
                "Firstname" : "Neha",
                "middlename" : "P",
                "lastname" : "Kakkar"
        },
        "Age" : 28,
        "Salary" : 30800,
        "Designation" : "Professor",
        "Role" : [
                "Software Developer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe1"),
        "Name" : {
                "Firstname" : "Yash",
                "middlename" : "B",
                "lastname" : "Kapoor"
        },
        "Age" : 26,
        "Salary" : 30800,
        "Designation" : "Engineer",
        "Role" : [
```

```
                "Team Lead",
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe2"),
        "Name" : {
                "Firstname" : "Annu",
                "middlename" : "N",
                "lastname" : "Bhat"
        },
        "Age" : 26,
        "Salary" : 50000,
        "Designation" : "Professor",
        "Role" : [
                "UI Developer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe3"),
        "Name" : {
                "Firstname" : "Rajesh",
                "middlename" : "B",
                "lastname" : "Kapoor"
        },
        "Age" : 26,
        "Salary" : 30800,
        "Designation" : "Scientist",
```

```
        "Role" : [

                "UI Developer",

                "Tester"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe4"),

        "Name" : {

                "Firstname" : "Suresh",

                "middlename" : "Kumar",

                "lastname" : "C"

        },

        "Age" : 36,

        "Salary" : 40000,

        "Designation" : "Engineer",

        "Role" : [

                "Software Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe5"),

        "Name" : {

                "Firstname" : "Priyanka",

                "middlename" : "N",

                "lastname" : "Chopra"

        },

        "Age" : 38,

        "Salary" : 30000,

        "Designation" : "Teacher",
```

```
        "Role" : [
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe6"),
        "Name" : {
                "Firstname" : "Nick",
                "middlename" : "P",
                "lastname" : "jones"
        },
        "Age" : 26,
        "Salary" : 30800,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Tester"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe7"),
        "Name" : {
                "Firstname" : "Akshay",
                "middlename" : "V",
                "lastname" : "singh"
        },
        "Age" : 25,
        "Salary" : 20100,
        "Designation" : "Engineer",
```

```
"Role" : [

        "UI Designer",

        "Manager"

]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe8"),

        "Name" : {

                "Firstname" : "Katrina",

                "middlename" : "V",

                "lastname" : "Kaif"

        },

        "Age" : 26,

        "Salary" : 31000,

        "Designation" : "Teacher",

        "Role" : [

                "Team Lead",

                "Software Developer"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe9"),

        "Name" : {

                "Firstname" : "Shah",

                "middlename" : "Rukh",

                "lastname" : "Khan"

        },

        "Age" : 25,

        "Salary" : 30900,

        "Designation" : "Scientist",
```

```
        "Role" : [

                "Team Lead",

                "Tester"

        ]

}


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

>db.Employee.find({$and:[{"Salary":{$gt:20000}},{"Salary":{$lt:35000}}]}).pretty();

{

        "_id" : ObjectId("628b72d182039db8bb82a40b"),

        "Name" : {

                "Firstname" : "Asma",

                "middlename" : "A",

                "lastname" : "Kazaa"

        },

        "Age" : 26,

        "Salary" : 30500,

        "Designation" : "Engineer",

        "Role" : [

                "Team Lead",

                "UI Designer"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdc"),

        "Name" : {

                "Firstname" : "Afshan",

                "middlename" : "B",

                "lastname" : "Kazaa"

        },
```

```
                "Age" : 26,

                "Salary" : 30800,

                "Designation" : "Professor",

                "Role" : [

                        "Team Lead",

                        "Manager"

                ]

        }

        {

                "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdd"),

                "Name" : {

                        "Firstname" : "Anusha",

                        "middlename" : "B",

                        "lastname" : "Patil"

                },

                "Age" : 26,

                "Salary" : 31000,

                "Designation" : "Professor",

                "Role" : [

                        "UI Designer",

                        "Manager"

                ]

        }

        {

                "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdf"),

                "Name" : {

                        "Firstname" : "Khushi",

                        "middlename" : "Kumari",

                        "lastname" : "Gupta"

                },
```

```
        "Age" : 26,

        "Salary" : 32000,

        "Designation" : "Engineer",

        "Role" : [

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe0"),

        "Name" : {

                "Firstname" : "Neha",

                "middlename" : "P",

                "lastname" : "Kakkar"

        },

        "Age" : 28,

        "Salary" : 30800,

        "Designation" : "Professor",

        "Role" : [

                "Software Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe1"),

        "Name" : {

                "Firstname" : "Yash",

                "middlename" : "B",

                "lastname" : "Kapoor"

        },
```

```
        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Engineer",

        "Role" : [

                "Team Lead",

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe3"),

        "Name" : {

                "Firstname" : "Rajesh",

                "middlename" : "B",

                "lastname" : "Kapoor"

        },

        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Scientist",

        "Role" : [

                "UI Developer",

                "Tester"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe5"),

        "Name" : {

                "Firstname" : "Priyanka",

                "middlename" : "N",

                "lastname" : "Chopra"
```

```
        },
        "Age" : 38,
        "Salary" : 30000,
        "Designation" : "Teacher",
        "Role" : [
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe6"),
        "Name" : {
                "Firstname" : "Nick",
                "middlename" : "P",
                "lastname" : "jones"
        },
        "Age" : 26,
        "Salary" : 30800,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Tester"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe7"),
        "Name" : {
                "Firstname" : "Akshay",
                "middlename" : "V",
                "lastname" : "singh"
```

```
        },
        "Age" : 25,
        "Salary" : 20100,
        "Designation" : "Engineer",
        "Role" : [
                "UI Designer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe8"),
        "Name" : {
                "Firstname" : "Katrina",
                "middlename" : "V",
                "lastname" : "Kaif"
        },
        "Age" : 26,
        "Salary" : 31000,
        "Designation" : "Teacher",
        "Role" : [
                "Team Lead",
                "Software Developer"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe9"),
        "Name" : {
                "Firstname" : "Shah",
                "middlename" : "Rukh",
                "lastname" : "Khan"
```

```
                },
                "Age" : 25,
                "Salary" : 30900,
                "Designation" : "Scientist",
                "Role" : [
                        "Team Lead",
                        "Tester"
                ]
        }
```

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

```
> db.Employee.find({"Name.middlename":"Kumar"}).pretty();
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe4"),
        "Name" : {
                "Firstname" : "Suresh",
                "middlename" : "Kumar",
                "lastname" : "C"
        },
        "Age" : 36,
        "Salary" : 40000,
        "Designation" : "Engineer",
        "Role" : [
                "Software Developer",
                "Manager"
        ]
}
```

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

> db.Employee.count(({"Role":{$in:["Manager"]}}));

10

> db.Employee.find(({"Role":{$in:["Manager"]}})).pretty();

```
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdc"),
        "Name" : {
                "Firstname" : "Afshan",
                "middlename" : "B",
                "lastname" : "Kazaa"
        },
        "Age" : 26,
        "Salary" : 30800,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdd"),
        "Name" : {
                "Firstname" : "Anusha",
                "middlename" : "B",
                "lastname" : "Patil"
        },
        "Age" : 26,
        "Salary" : 31000,
        "Designation" : "Professor",
        "Role" : [
```

```
                "UI Designer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfde"),
        "Name" : {
                "Firstname" : "Arnav",
                "middlename" : "R",
                "lastname" : "Singh"
        },
        "Age" : 26,
        "Salary" : 40000,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdf"),
        "Name" : {
                "Firstname" : "Khushi",
                "middlename" : "Kumari",
                "lastname" : "Gupta"
        },
        "Age" : 26,
        "Salary" : 32000,
        "Designation" : "Engineer",
        "Role" : [
```

```
                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe0"),

        "Name" : {

                "Firstname" : "Neha",

                "middlename" : "P",

                "lastname" : "Kakkar"

        },

        "Age" : 28,

        "Salary" : 30800,

        "Designation" : "Professor",

        "Role" : [

                "Software Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe1"),

        "Name" : {

                "Firstname" : "Yash",

                "middlename" : "B",

                "lastname" : "Kapoor"

        },

        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Engineer",

        "Role" : [
```

```
                "Team Lead",

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe2"),

        "Name" : {

                "Firstname" : "Annu",

                "middlename" : "N",

                "lastname" : "Bhat"

        },

        "Age" : 26,

        "Salary" : 50000,

        "Designation" : "Professor",

        "Role" : [

                "UI Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe4"),

        "Name" : {

                "Firstname" : "Suresh",

                "middlename" : "Kumar",

                "lastname" : "C"

        },

        "Age" : 36,

        "Salary" : 40000,

        "Designation" : "Engineer",
```

```
        "Role" : [

                "Software Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe5"),

        "Name" : {

                "Firstname" : "Priyanka",

                "middlename" : "N",

                "lastname" : "Chopra"

        },

        "Age" : 38,

        "Salary" : 30000,

        "Designation" : "Teacher",

        "Role" : [

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe7"),

        "Name" : {

                "Firstname" : "Akshay",

                "middlename" : "V",

                "lastname" : "singh"

        },

        "Age" : 25,

        "Salary" : 20100,

        "Designation" : "Engineer",
```

```
        "Role" : [

                "UI Designer",

                "Manager"

        ]

 }
```

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

```
>
db.Employee.find({$and:[{"Age":{$lt:35}},{"Salary":{$gte:30000}},{"Salary":{$lte:35000}
}]}).pretty();
{

        "_id" : ObjectId("628b72d182039db8bb82a40b"),

        "Name" : {

                "Firstname" : "Asma",

                "middlename" : "A",

                "lastname" : "Kazaa"

        },

        "Age" : 26,

        "Salary" : 30500,

        "Designation" : "Engineer",

        "Role" : [

                "Team Lead",

                "UI Designer"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdc"),

        "Name" : {

                "Firstname" : "Afshan",
```

```
                        "middlename" : "B",
                        "lastname" : "Kazaa"
                },
                "Age" : 26,
                "Salary" : 30800,
                "Designation" : "Professor",
                "Role" : [
                        "Team Lead",
                        "Manager"
                ]
        }
        {
                "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdd"),
                "Name" : {
                        "Firstname" : "Anusha",
                        "middlename" : "B",
                        "lastname" : "Patil"
                },
                "Age" : 26,
                "Salary" : 31000,
                "Designation" : "Professor",
                "Role" : [
                        "UI Designer",
                        "Manager"
                ]
        }
        {
                "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdf"),
                "Name" : {
                        "Firstname" : "Khushi",
```

```
                "middlename" : "Kumari",

                "lastname" : "Gupta"

        },

        "Age" : 26,

        "Salary" : 32000,

        "Designation" : "Engineer",

        "Role" : [

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe0"),

        "Name" : {

                "Firstname" : "Neha",

                "middlename" : "P",

                "lastname" : "Kakkar"

        },

        "Age" : 28,

        "Salary" : 30800,

        "Designation" : "Professor",

        "Role" : [

                "Software Developer",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe1"),

        "Name" : {

                "Firstname" : "Yash",
```

```
                "middlename" : "B",

                "lastname" : "Kapoor"

        },

        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Engineer",

        "Role" : [

                "Team Lead",

                "Tester",

                "Manager"

        ]

}

{

        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe3"),

        "Name" : {

                "Firstname" : "Rajesh",

                "middlename" : "B",

                "lastname" : "Kapoor"

        },

        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Scientist",

        "Role" : [

                "UI Developer",

                "Tester"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe6"),

        "Name" : {
```

```
                "Firstname" : "Nick",

                "middlename" : "P",

                "lastname" : "jones"

        },

        "Age" : 26,

        "Salary" : 30800,

        "Designation" : "Professor",

        "Role" : [

                "Team Lead",

                "Tester"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe8"),

        "Name" : {

                "Firstname" : "Katrina",

                "middlename" : "V",

                "lastname" : "Kaif"

        },

        "Age" : 26,

        "Salary" : 31000,

        "Designation" : "Teacher",

        "Role" : [

                "Team Lead",

                "Software Developer"

        ]

}

{

        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe9"),

        "Name" : {
```

"Firstname" : "Shah",

                    "middlename" : "Rukh",

                    "lastname" : "Khan"

            },

            "Age" : 25,

            "Salary" : 30900,

            "Designation" : "Scientist",

            "Role" : [

                    "Team Lead",

                    "Tester"

            ]

}


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

>db.Employee.deleteMany({$and:[{"Name.Firstname":"Rajesh"},{"Designation":"Scientist"}]});

{ "acknowledged" : true, "deletedCount" : 0 }

> db.Employee.find({"Name.Firstname":"Rajesh"});


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

> db.Employee.updateMany({"Role":{$in:["Team Lead"]}},{$set:{"Salary":55650}});

{ "acknowledged" : true, "matchedCount" : 7, "modifiedCount" : 7 }

> db.Employee.find().pretty();

{

        "_id" : ObjectId("628b72d182039db8bb82a40b"),

        "Name" : {

                "Firstname" : "Asma",

                "middlename" : "A",

                "lastname" : "Kazaa"

```
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Engineer",
        "Role" : [
                "Team Lead",
                "UI Designer"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdc"),
        "Name" : {
                "Firstname" : "Afshan",
                "middlename" : "B",
                "lastname" : "Kazaa"
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdd"),
        "Name" : {
                "Firstname" : "Anusha",
                "middlename" : "B",
                "lastname" : "Patil"
```

```
        },
        "Age" : 26,
        "Salary" : 31000,
        "Designation" : "Professor",
        "Role" : [
                "UI Designer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfde"),
        "Name" : {
                "Firstname" : "Arnav",
                "middlename" : "R",
                "lastname" : "Singh"
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfdf"),
        "Name" : {
                "Firstname" : "Khushi",
                "middlename" : "Kumari",
                "lastname" : "Gupta"
```

```
        },
        "Age" : 26,
        "Salary" : 32000,
        "Designation" : "Engineer",
        "Role" : [
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe0"),
        "Name" : {
                "Firstname" : "Neha",
                "middlename" : "P",
                "lastname" : "Kakkar"
        },
        "Age" : 28,
        "Salary" : 30800,
        "Designation" : "Professor",
        "Role" : [
                "Software Developer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe1"),
        "Name" : {
                "Firstname" : "Yash",
                "middlename" : "B",
                "lastname" : "Kapoor"
```

```
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Engineer",
        "Role" : [
                "Team Lead",
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe2"),
        "Name" : {
                "Firstname" : "Annu",
                "middlename" : "N",
                "lastname" : "Bhat"
        },
        "Age" : 26,
        "Salary" : 50000,
        "Designation" : "Professor",
        "Role" : [
                "UI Developer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8a8aa7d62ffe9d1fcfe4"),
        "Name" : {
                "Firstname" : "Suresh",
                "middlename" : "Kumar",
```

```
                "lastname" : "C"
        },
        "Age" : 36,
        "Salary" : 40000,
        "Designation" : "Engineer",
        "Role" : [
                "Software Developer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe5"),
        "Name" : {
                "Firstname" : "Priyanka",
                "middlename" : "N",
                "lastname" : "Chopra"
        },
        "Age" : 38,
        "Salary" : 30000,
        "Designation" : "Teacher",
        "Role" : [
                "Tester",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe6"),
        "Name" : {
                "Firstname" : "Nick",
                "middlename" : "P",
```

```
                "lastname" : "jones"
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Professor",
        "Role" : [
                "Team Lead",
                "Tester"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe7"),
        "Name" : {
                "Firstname" : "Akshay",
                "middlename" : "V",
                "lastname" : "singh"
        },
        "Age" : 25,
        "Salary" : 20100,
        "Designation" : "Engineer",
        "Role" : [
                "UI Designer",
                "Manager"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe8"),
        "Name" : {
                "Firstname" : "Katrina",
                "middlename" : "V",
```

```
                "lastname" : "Kaif"
        },
        "Age" : 26,
        "Salary" : 55650,
        "Designation" : "Teacher",
        "Role" : [
                "Team Lead",
                "Software Developer"
        ]
}
{
        "_id" : ObjectId("628b8beaa7d62ffe9d1fcfe9"),
        "Name" : {
                "Firstname" : "Shah",
                "middlename" : "Rukh",
                "lastname" : "Khan"
        },
        "Age" : 25,
        "Salary" : 55650,
        "Designation" : "Scientist",
        "Role" : [
                "Team Lead",
                "Tester"
        ]
}
```

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

>db.Employee.aggregate([{$group:{_id:"$Age",avg_salary:{$avg:"$Salary"}}}])

{ "_id" : 36, "avg_salary" : 40000 }

{ "_id" : 38, "avg_salary" : 30000 }

{ "_id" : 25, "avg_salary" : 37875 }

{ "_id" : 28, "avg_salary" : 30800 }

{ "_id" : 26, "avg_salary" : 49655.555555555555 }


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

> var mapc=function(){emit(this.Age,this.Salary)}

> var redc=function(key,value){return Array.avg(value)}

> db.Employee.mapReduce(mapc,redc,{"out":"Result"})

{ "result" : "Result", "ok" : 1 }

> db.Result.find()

{ "_id" : 36, "value" : 40000 }

{ "_id" : 38, "value" : 30000 }

{ "_id" : 25, "value" : 37875 }

{ "_id" : 28, "value" : 30800 }

{ "_id" : 26, "value" : 49655.555555555555 }