Shwetha
1NT19IS152

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 dbEmployeeDB
>db.createCollection("shwethaEmployee")
{"ok" : 1 }
>show collections
shwethaEmployee

1. Populate the database with atleast 15 documents
> db.shwethaEmployee.find().pretty()
{
    "_id" : ObjectId("629592e3ad0d4686cd2e3457"),
    "Firstname" : "Shwetha",
    "Middlename" : "N",
    "Lastname" : "Hebbar",
    "Age" : 26,
    "Salary" : 21000,
    "Designation" : "Lead",
    "Role" : "UI Designer"
}
{
    "_id" : ObjectId("629592e3ad0d4686cd2e3458"),
    "Firstname" : "Rajesh",

```
        "Middlename" : "Kumar",
        "Lastname" : "Rao",
        "Age" : 28,
        "salary" : 58000,
        "Designation" : "Scientist",
        "Role" : "Tester"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e3459"),
        "Firstname" : "Vidya",
        "Middlename" : "C",
        "Lastname" : "Shet",
        "Age" : 29,
        "Salary" : 22000,
        "Designation" : "PA",
        "Role" : "team Lead"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e345a"),
        "Firstname" : "Anvitha",
        "Middlename" : "J",
        "Lastname" : "Shetty",
        "Age" : 31,
        "Salary" : 31000,
        "Designation" : "Associate",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("62959670ad0d4686cd2e345b"),
        "Firstname" : "Kavya",
        "Middlename" : "H",
        "Lastname" : "R",
        "Age" : 28,
        "Salary" : 28000,
        "Designation" : "HR",
        "Role" : "team Lead"
}
{
        "_id" : ObjectId("62959670ad0d4686cd2e345c"),
        "Firstname" : "Sapna",
```

```
        "Middlename" : "V",
        "Lastname" : "Nayak",
        "Age" : 32,
        "Salary" : 32000,
        "Designation" : "Assistant",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("6295973bad0d4686cd2e345d"),
        "Firstname" : "Pramod",
        "Middlename" : "Kumar",
        "Lastname" : "Jain",
        "Age" : 34,
        "Salary" : 38000,
        "Designation" : "Receuiter",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("6295973bad0d4686cd2e345e"),
        "Firstname" : "Jeevan",
        "Middlename" : "Kumar",
        "Lastname" : "Gowda",
        "Age" : 30,
        "Salary" : 33000,
        "Designation" : "Scientist",
        "Role" : "teamlead"
}
{
        "_id" : ObjectId("6295986ead0d4686cd2e345f"),
        "Firstname" : "Prajwal",
        "Middlename" : "M",
        "Lastname" : "Hebbar",
        "Age" : 30,
        "Salary" : 31000,
        "Designation" : "Analyst",
        "Role" : "Tester"
}
{
        "_id" : ObjectId("6295986ead0d4686cd2e3460"),
        "Firstname" : "Darshan",
```

```
    "Middlename" : "M",
    "Lastname" : "Jainapur",
    "Age" : 26,
    "Salary" : 24000,
    "Designation" : "Teacher",
    "Role" : "Software Developer"
}
{
    "_id" : ObjectId("629598edad0d4686cd2e3461"),
    "Firstname" : "Suhas",
    "Middlename" : "C",
    "Lastname" : "Bhat",
    "Age" : 32,
    "Salary" : 25000,
    "Designation" : "Lead",
    "Role" : "team lead"
}
{
    "_id" : ObjectId("629598edad0d4686cd2e3462"),
    "Firstname" : "Jayant",
    "Middlename" : "R",
    "Lastname" : "Kamble",
    "Age" : 35,
    "Salary" : 33000,
    "Designation" : "Analyst",
    "Role" : "UI Designer"
}
{
    "_id" : ObjectId("6295995ead0d4686cd2e3463"),
    "Firstname" : "Prerana",
    "Middlename" : "Shankar",
    "Lastname" : "Hegde",
    "Age" : 28,
    "Salary" : 29000,
    "Designation" : "Guide",
    "Role" : "team lead"
}
{
    "_id" : ObjectId("6295995ead0d4686cd2e3464"),
    "Firstname" : "Shrikara",
```

```
    "Middlename" : "S",
    "Lastname" : "Acharya",
    "Age" : 29,
    "Salary" : 27000,
    "Designation" : "HR",
    "Role" : "Manager"
}
{
    "_id" : ObjectId("62959a0fad0d4686cd2e3465"),
    "Firstname" : "Satwik",
    "Middlename" : "Kumar",
    "Lastname" : "Patil",
    "Age" : 33,
    "Salary" : 32000,
    "Designation" : "Guide",
    "Role" : "team lead"
}
```

```
> db.shwethaEmployee.find().pretty()
{
        "_id" : ObjectId("629592e3ad0d4686cd2e3457"),
        "Firstname" : "Shwetha",
        "Middlename" : "N",
        "Lastname" : "Hebbar",
        "Age" : 26,
        "Salary" : 21000,
        "Designation" : "Lead",
        "Role" : "UI Designer"
}
{
        "_id" : ObjectId("629592e3ad0d4686cd2e3458"),
        "Firstname" : "Rajesh",
        "Middlename" : "Kumar",
        "Lastname" : "Rao",
        "Age" : 28,
        "salary" : 58000,
        "Designation" : "Scientist",
        "Role" : "Tester"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e3459"),
        "Firstname" : "Vidya",
        "Middlename" : "C",
        "Lastname" : "Shet",
        "Age" : 29,
        "Salary" : 22000,
        "Designation" : "PA",
        "Role" : "team Lead"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e345a"),
        "Firstname" : "Anvitha",
        "Middlename" : "J",
        "Lastname" : "Shetty",
        "Age" : 31,
        "Salary" : 31000
```

```
        "Middlename" : "R",
        "Lastname" : "Kamble",
        "Age" : 35,
        "Salary" : 33000,
        "Designation" : "Analyst",
        "Role" : "UI Designer"
}
{
        "_id" : ObjectId("6295995ead0d4686cd2e3463"),
        "Firstname" : "Prerana",
        "Middlename" : "Shankar",
        "Lastname" : "Hegde",
        "Age" : 28,
        "Salary" : 29000,
        "Designation" : "Guide",
        "Role" : "team lead"
}
{
        "_id" : ObjectId("6295995ead0d4686cd2e3464"),
        "Firstname" : "Shrikara",
        "Middlename" : "S",
        "Lastname" : "Acharya",
        "Age" : 29,
        "Salary" : 27000,
        "Designation" : "HR",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("62959a0fad0d4686cd2e3465"),
        "Firstname" : "Satwik",
        "Middlename" : "Kumar",
        "Lastname" : "Patil",
        "Age" : 33,
        "Salary" : 32000,
        "Designation" : "Guide",
        "Role" : "team lead"
}
```

```
}
{
    "_id" : ObjectId("6295973bad0d4686cd2e345e"),
    "Firstname" : "Jeevan",
    "Middlename" : "Kumar",
    "Lastname" : "Gowda",
    "Age" : 30,
    "Salary" : 33000,
    "Designation" : "Scientist",
    "Role" : "teamlead"
}
{
    "_id" : ObjectId("6295986ead0d4686cd2e345f"),
    "Firstname" : "Prajwal",
    "Middlename" : "M",
    "Lastname" : "Hebbar",
    "Age" : 30,
    "Salary" : 31000,
    "Designation" : "Analyst",
    "Role" : "Tester"
}
{
    "_id" : ObjectId("6295986ead0d4686cd2e3460"),
    "Firstname" : "Darshan",
    "Middlename" : "M",
    "Lastname" : "Jainapur",
    "Age" : 26,
    "Salary" : 24000,
    "Designation" : "Teacher",
    "Role" : "Software Developer"
}
```

```
    "Middlename" : "J",
    "Lastname" : "Shetty",
    "Age" : 31,
    "Salary" : 31000,
    "Designation" : "Associate",
    "Role" : "Manager"
}
{
    "_id" : ObjectId("62959670ad0d4686cd2e345b"),
    "Firstname" : "Kavya",
    "Middlename" : "H",
    "Lastname" : "R",
    "Age" : 28,
    "Salary" : 28000,
    "Designation" : "HR",
    "Role" : "team Lead"
}
{
    "_id" : ObjectId("62959670ad0d4686cd2e345c"),
    "Firstname" : "Sapna",
    "Middlename" : "V",
    "Lastname" : "Nayak",
    "Age" : 32,
    "Salary" : 32000,
    "Designation" : "Assistant",
    "Role" : "Manager"
}
{
    "_id" : ObjectId("6295973bad0d4686cd2e345d"),
    "Firstname" : "Pramod",
    "Middlename" : "Kumar",
    "Lastname" : "Jain",
    "Age" : 34,
    "Salary" : 38000,
    "Designation" : "Receuiter",
    "Role" : "Manager"
}
{
```

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

```
> db.shwethaEmployee.find({"Salary":{$gt:20000,$lt:35000}}).pretty()
{
```

```
        "_id" : ObjectId("629592e3ad0d4686cd2e3457"),
        "Firstname" : "Shwetha",
        "Middlename" : "N",
        "Lastname" : "Hebbar",
        "Age" : 26,
        "Salary" : 21000,
        "Designation" : "Lead",
        "Role" : "UI Designer"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e3459"),
        "Firstname" : "Vidya",
        "Middlename" : "C",
        "Lastname" : "Shet",
        "Age" : 29,
        "Salary" : 22000,
        "Designation" : "PA",
        "Role" : "team Lead"
}
{
        "_id" : ObjectId("62959526ad0d4686cd2e345a"),
        "Firstname" : "Anvitha",
        "Middlename" : "J",
        "Lastname" : "Shetty",
        "Age" : 31,
        "Salary" : 31000,
        "Designation" : "Associate",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("62959670ad0d4686cd2e345b"),
        "Firstname" : "Kavya",
        "Middlename" : "H",
        "Lastname" : "R",
        "Age" : 28,
        "Salary" : 28000,
        "Designation" : "HR",
        "Role" : "team Lead"
}
{
```

        "_id" : ObjectId("62959670ad0d4686cd2e345c"),
        "Firstname" : "Sapna",
        "Middlename" : "V",
        "Lastname" : "Nayak",
        "Age" : 32,
        "Salary" : 32000,
        "Designation" : "Assistant",
        "Role" : "Manager"
}
{
        "_id" : ObjectId("6295973bad0d4686cd2e345e"),
        "Firstname" : "Jeevan",
        "Middlename" : "Kumar",
        "Lastname" : "Gowda",
        "Age" : 30,
        "Salary" : 33000,
        "Designation" : "Scientist",
        "Role" : "teamlead"
}
{
        "_id" : ObjectId("6295986ead0d4686cd2e345f"),
        "Firstname" : "Prajwal",
        "Middlename" : "M",
        "Lastname" : "Hebbar",
        "Age" : 30,
        "Salary" : 31000,
        "Designation" : "Analyst",
        "Role" : "Tester"
}
{
        "_id" : ObjectId("6295986ead0d4686cd2e3460"),
        "Firstname" : "Darshan",
        "Middlename" : "M",
        "Lastname" : "Jainapur",
        "Age" : 26,
        "Salary" : 24000,
        "Designation" : "Teacher",
        "Role" : "Software Developer"
}
{

```
    "_id" : ObjectId("629598edad0d4686cd2e3461"),
    "Firstname" : "Suhas",
    "Middlename" : "C",
    "Lastname" : "Bhat",
    "Age" : 32,
    "Salary" : 25000,
    "Designation" : "Lead",
    "Role" : "team lead"
}
{
    "_id" : ObjectId("629598edad0d4686cd2e3462"),
    "Firstname" : "Jayant",
    "Middlename" : "R",
    "Lastname" : "Kamble",
    "Age" : 35,
    "Salary" : 33000,
    "Designation" : "Analyst",
    "Role" : "UI Designer"
}
{
    "_id" : ObjectId("6295995ead0d4686cd2e3463"),
    "Firstname" : "Prerana",
    "Middlename" : "Shankar",
    "Lastname" : "Hegde",
    "Age" : 28,
    "Salary" : 29000,
    "Designation" : "Guide",
    "Role" : "team lead"
}
{
    "_id" : ObjectId("6295995ead0d4686cd2e3464"),
    "Firstname" : "Shrikara",
    "Middlename" : "S",
    "Lastname" : "Acharya",
    "Age" : 29,
    "Salary" : 27000,
    "Designation" : "HR",
    "Role" : "Manager"
}
{
```

"_id" : ObjectId("62959a0fad0d4686cd2e3465"),
"Firstname" : "Satwik",
"Middlename" : "Kumar",
"Lastname" : "Patil",
"Age" : 33,
"Salary" : 32000,
"Designation" : "Guide",
"Role" : "team lead"
}

> db.shwethaEmployee.find({"Salary":{$gt:20000,$lt:35000}})
{ "_id" : ObjectId("629592e3ad0d4686cd2e3457"), "Firstname" : "Shwetha", "Middlename" : "N", "Lastname" : "Hebbar", "Age" : 26, "Salary" : 21000 , "Designation" : "Lead", "Role" : "UI Designer" }
{ "_id" : ObjectId("629592e3ad0d4686cd2e3459"), "Firstname" : "Vidya", "Middlename" : "C", "Lastname" : "Shet", "Age" : 29, "Salary" : 22000, "D esignation" : "PA", "Role" : "team Lead" }
{ "_id" : ObjectId("629592e3ad0d4686cd2e345a"), "Firstname" : "Anvitha", "Middlename" : "J", "Lastname" : "Shetty", "Age" : 31, "Salary" : 31000 , "Designation" : "Associate", "Role" : "Manager" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345b"), "Firstname" : "Kavya", "Middlename" : "H", "Lastname" : "R", "Age" : 28, "Salary" : 28000, "Desi gnation" : "HR", "Role" : "team Lead" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345c"), "Firstname" : "Sapna", "Middlename" : "V", "Lastname" : "Nayak", "Age" : 32, "Salary" : 32000, " Designation" : "Assistant", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345e"), "Firstname" : "Jeevan", "Middlename" : "Kumar", "Lastname" : "Gowda", "Age" : 30, "Salary" : 330 00, "Designation" : "Scientist", "Role" : "teamlead" }
{ "_id" : ObjectId("6295986ead0d4686cd2e345f"), "Firstname" : "Prajwal", "Middlename" : "M", "Lastname" : "Hebbar", "Age" : 30, "Salary" : 31000 , "Designation" : "Analyst", "Role" : "Tester" }
{ "_id" : ObjectId("6295986ead0d4686cd2e3460"), "Firstname" : "Darshan", "Middlename" : "M", "Lastname" : "Jainapur", "Age" : 26, "Salary" : 240 00, "Designation" : "Teacher", "Role" : "Software Developer" }
{ "_id" : ObjectId("629598edad0d4686cd2e3461"), "Firstname" : "Suhas", "Middlename" : "C", "Lastname" : "Bhat", "Age" : 32, "Salary" : 25000, "D esignation" : "Lead", "Role" : "team lead" }
{ "_id" : ObjectId("629598edad0d4686cd2e3462"), "Firstname" : "Jayant", "Middlename" : "R", "Lastname" : "Kamble", "Age" : 35, "Salary" : 33000, "Designation" : "Analyst", "Role" : "UI Designer" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3463"), "Firstname" : "Prerana", "Middlename" : "Shankar", "Lastname" : "Hegde", "Age" : 28, "Salary" : 29000, "Designation" : "Guide", "Role" : "team lead" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3464"), "Firstname" : "Shrikara", "Middlename" : "S", "Lastname" : "Acharya", "Age" : 29, "Salary" : 270 00, "Designation" : "HR", "Role" : "Manager" }
{ "_id" : ObjectId("62959a0fad0d4686cd2e3465"), "Firstname" : "Satwik", "Middlename" : "Kumar", "Lastname" : "Patil", "Age" : 33, "Salary" : 320 00, "Designation" : "Guide", "Role" : "team lead" }
>

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

> db.shwethaEmployee.find({"Middlename":"Kumar"}).pretty()
{
    "_id" : ObjectId("629592e3ad0d4686cd2e3458"),
    "Firstname" : "Rajesh",
    "Middlename" : "Kumar",
    "Lastname" : "Rao",
    "Age" : 28,
    "salary" : 58000,
    "Designation" : "Scientist",
    "Role" : "Tester"
}
{
    "_id" : ObjectId("6295973bad0d4686cd2e345d"),

"Firstname" : "Pramod",

    "Middlename" : "Kumar",

    "Lastname" : "Jain",

    "Age" : 34,

    "Salary" : 38000,

    "Designation" : "Receuiter",

    "Role" : "Manager"

}

{

    "_id" : ObjectId("6295973bad0d4686cd2e345e"),

    "Firstname" : "Jeevan",

    "Middlename" : "Kumar",

    "Lastname" : "Gowda",

    "Age" : 30,

    "Salary" : 33000,

    "Designation" : "Scientist",

    "Role" : "teamlead"

}

{

    "_id" : ObjectId("62959a0fad0d4686cd2e3465"),

    "Firstname" : "Satwik",

    "Middlename" : "Kumar",

    "Lastname" : "Patil",

    "Age" : 33,

    "Salary" : 32000,

    "Designation" : "Guide",

    "Role" : "team lead"

}

```
> db.shwethaEmployee.find({"Middlename":"Kumar"})
{ "_id" : ObjectId("629592e3ad0d4686cd2e3458"), "Firstname" : "Rajesh", "Middlename" : "Kumar", "Lastname" : "Rao", "Age" : 28, "salary" : 58000
, "Designation" : "Scientist", "Role" : "Tester" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345d"), "Firstname" : "Pramod", "Middlename" : "Kumar", "Lastname" : "Jain", "Age" : 34, "Salary" : 3800
0, "Designation" : "Receuiter", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345e"), "Firstname" : "Jeevan", "Middlename" : "Kumar", "Lastname" : "Gowda", "Age" : 30, "Salary" : 330
00, "Designation" : "Scientist", "Role" : "teamlead" }
{ "_id" : ObjectId("62959a0fad0d4686cd2e3465"), "Firstname" : "Satwik", "Middlename" : "Kumar", "Lastname" : "Patil", "Age" : 33, "Salary" : 320
00, "Designation" : "Guide", "Role" : "team lead" }
>
```

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

```
> db.shwethaEmployee.find({"Role":"Manager"}).count()
4
```

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

```
>
db.shwethaEmployee.find({$and:[{Salary:{$gt:30000}},{Salary:{$lt:35000}},{Age:{$lt:35}}]}
).pretty()
{
    "_id" : ObjectId("62959526ad0d4686cd2e345a"),
    "Firstname" : "Anvitha",
    "Middlename" : "J",
    "Lastname" : "Shetty",
    "Age" : 31,
    "Salary" : 31000,
    "Designation" : "Associate",
    "Role" : "Manager"
}
{
    "_id" : ObjectId("62959670ad0d4686cd2e345c"),
    "Firstname" : "Sapna",
    "Middlename" : "V",
    "Lastname" : "Nayak",
    "Age" : 32,
    "Salary" : 32000,
    "Designation" : "Assistant",
    "Role" : "Manager"
}
{
    "_id" : ObjectId("6295973bad0d4686cd2e345e"),
    "Firstname" : "Jeevan",
    "Middlename" : "Kumar",
    "Lastname" : "Gowda",
    "Age" : 30,
    "Salary" : 33000,
    "Designation" : "Scientist",
```

"Role" : "teamlead"
}
{
      "_id" : ObjectId("6295986ead0d4686cd2e345f"),
      "Firstname" : "Prajwal",
      "Middlename" : "M",
      "Lastname" : "Hebbar",
      "Age" : 30,
      "Salary" : 31000,
      "Designation" : "Analyst",
      "Role" : "Tester"
}
{
      "_id" : ObjectId("62959a0fad0d4686cd2e3465"),
      "Firstname" : "Satwik",
      "Middlename" : "Kumar",
      "Lastname" : "Patil",
      "Age" : 33,
      "Salary" : 32000,
      "Designation" : "Guide",
      "Role" : "team lead"
}
>

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

> db.shwethaEmployee.deleteOne({$and:[{Firstname:"Rajesh"},{designation:"Scientist"}]})

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

> db.shwethaEmployee.find()

{ "_id" : ObjectId("629592e3ad0d4686cd2e3457"), "Firstname" : "Shwetha", "Middlename" : "N", "Lastname" : "Hebbar", "Age" : 26, "Salary" : 21000, "Designation" : "Lead", "Role" : "UI Designer" }
{ "_id" : ObjectId("629592e3ad0d4686cd2e3458"), "Firstname" : "Rajesh", "Middlename" : "Kumar", "Lastname" : "Rao", "Age" : 28, "salary" : 58000, "Designation" : "Scientist", "Role" : "Tester" }
{ "_id" : ObjectId("62959526ad0d4686cd2e3459"), "Firstname" : "Vidya", "Middlename" : "C", "Lastname" : "Shet", "Age" : 29, "Salary" : 22000, "Designation" : "PA", "Role" : "team Lead" }
{ "_id" : ObjectId("62959526ad0d4686cd2e345a"), "Firstname" : "Anvitha", "Middlename" : "J", "Lastname" : "Shetty", "Age" : 31, "Salary" : 31000, "Designation" : "Associate", "Role" : "Manager" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345b"), "Firstname" : "Kavya", "Middlename" : "H", "Lastname" : "R", "Age" : 28, "Salary" : 28000, "Designation" : "HR", "Role" : "team Lead" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345c"), "Firstname" : "Sapna", "Middlename" : "V", "Lastname" : "Nayak", "Age" : 32, "Salary" : 32000, "Designation" : "Assistant", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345d"), "Firstname" : "Pramod", "Middlename" : "Kumar", "Lastname" : "Jain", "Age" : 34, "Salary" : 38000, "Designation" : "Receuiter", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345e"), "Firstname" : "Jeevan", "Middlename" : "Kumar", "Lastname" : "Gowda", "Age" : 30, "Salary" : 33000, "Designation" : "Scientist", "Role" : "teamlead" }
{ "_id" : ObjectId("6295986ead0d4686cd2e345f"), "Firstname" : "Prajwal", "Middlename" : "M", "Lastname" : "Hebbar", "Age" : 30, "Salary" : 31000, "Designation" : "Analyst", "Role" : "Tester" }
{ "_id" : ObjectId("6295986ead0d4686cd2e3460"), "Firstname" : "Darshan", "Middlename" : "M", "Lastname" : "Jainapur", "Age" : 26, "Salary" : 24000, "Designation" : "Teacher", "Role" : "Software Developer" }
{ "_id" : ObjectId("629598edad0d4686cd2e3461"), "Firstname" : "Suhas", "Middlename" : "C", "Lastname" : "Bhat", "Age" : 32, "Salary" : 25000, "Designation" : "Lead", "Role" : "team lead" }
{ "_id" : ObjectId("629598edad0d4686cd2e3462"), "Firstname" : "Jayant", "Middlename" : "R", "Lastname" : "Kamble", "Age" : 35, "Salary" : 33000, "Designation" : "Analyst", "Role" : "UI Designer" }

{ "_id" : ObjectId("6295995ead0d4686cd2e3463"), "Firstname" : "Prerana", "Middlename" : "Shankar", "Lastname" : "Hegde", "Age" : 28, "Salary" : 29000, "Designation" : "Guide", "Role" : "team lead" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3464"), "Firstname" : "Shrikara", "Middlename" : "S", "Lastname" : "Acharya", "Age" : 29, "Salary" : 27000, "Designation" : "HR", "Role" : "Manager" }
{ "_id" : ObjectId("62959a0fad0d4686cd2e3465"), "Firstname" : "Satwik", "Middlename" : "Kumar", "Lastname" : "Patil", "Age" : 33, "Salary" : 32000, "Designation" : "Guide", "Role" : "team lead" }
>

```
> db.shwethaEmployee.find()
{ "_id" : ObjectId("629592e3ad0d4686cd2e3457"), "Firstname" : "Shwetha", "Middlename" : "N", "Lastname" : "Hebbar", "Age" : 26, "Salary" : 21000
, "Designation" : "Lead", "Role" : "UI Designer" }
{ "_id" : ObjectId("629592e3ad0d4686cd2e3458"), "Firstname" : "Rajesh", "Middlename" : "Kumar", "Lastname" : "Rao", "Age" : 28, "salary" : 58000
, "Designation" : "Scientist", "Role" : "Tester" }
{ "_id" : ObjectId("62959526ad0d4686cd2e3459"), "Firstname" : "Vidya", "Middlename" : "C", "Lastname" : "Shet", "Age" : 29, "Salary" : 22000, "D
esignation" : "PA", "Role" : "team Lead" }
{ "_id" : ObjectId("62959526ad0d4686cd2e345a"), "Firstname" : "Anvitha", "Middlename" : "J", "Lastname" : "Shetty", "Age" : 31, "Salary" : 31000
, "Designation" : "Associate", "Role" : "Manager" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345b"), "Firstname" : "Kavya", "Middlename" : "H", "Lastname" : "R", "Age" : 28, "Salary" : 28000, "Desi
gnation" : "HR", "Role" : "team Lead" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345c"), "Firstname" : "Sapna", "Middlename" : "V", "Lastname" : "Nayak", "Age" : 32, "Salary" : 32000, "
Designation" : "Assistant", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345d"), "Firstname" : "Pramod", "Middlename" : "Kumar", "Lastname" : "Jain", "Age" : 34, "Salary" : 3800
0, "Designation" : "Receuiter", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345e"), "Firstname" : "Jeevan", "Middlename" : "Kumar", "Lastname" : "Gowda", "Age" : 30, "Salary" : 330
00, "Designation" : "Scientist", "Role" : "teamlead" }
{ "_id" : ObjectId("6295986ead0d4686cd2e345f"), "Firstname" : "Prajwal", "Middlename" : "M", "Lastname" : "Hebbar", "Age" : 30, "Salary" : 31000
, "Designation" : "Analyst", "Role" : "Tester" }
{ "_id" : ObjectId("6295986ead0d4686cd2e3460"), "Firstname" : "Darshan", "Middlename" : "M", "Lastname" : "Jainapur", "Age" : 26, "Salary" : 240
00, "Designation" : "Teacher", "Role" : "Software Developer" }
{ "_id" : ObjectId("629598edad0d4686cd2e3461"), "Firstname" : "Suhas", "Middlename" : "C", "Lastname" : "Bhat", "Age" : 32, "Salary" : 25000, "D
esignation" : "Lead", "Role" : "team lead" }
{ "_id" : ObjectId("629598edad0d4686cd2e3462"), "Firstname" : "Jayant", "Middlename" : "R", "Lastname" : "Kamble", "Age" : 35, "Salary" : 33000,
 "Designation" : "Analyst", "Role" : "UI Designer" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3463"), "Firstname" : "Prerana", "Middlename" : "Shankar", "Lastname" : "Hegde", "Age" : 28, "Salary" :
29000, "Designation" : "Guide", "Role" : "team lead" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3464"), "Firstname" : "Shrikara", "Middlename" : "S", "Lastname" : "Acharya", "Age" : 29, "Salary" : 270
00, "Designation" : "HR", "Role" : "Manager" }
{ "_id" : ObjectId("62959a0fad0d4686cd2e3465"), "Firstname" : "Satwik", "Middlename" : "Kumar", "Lastname" : "Patil", "Age" : 33, "Salary" : 320
00, "Designation" : "Guide", "Role" : "team lead" }
>
```

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

> db.shwethaEmployee.updateMany({"Role":"team lead"},{$set:{"Salary":55650}})
{ "acknowledged" : true, "matchedCount" : 3, "modifiedCount" : 3 }

```
> db.shwethaEmployee.find()
{ "_id" : ObjectId("629592e3ad0d4686cd2e3457"), "Firstname" : "Shwetha", "Middlename" : "N", "Lastname" : "Hebbar", "Age" : 26, "Salary" : 21000
, "Designation" : "Lead", "Role" : "UI Designer" }
{ "_id" : ObjectId("629592e3ad0d4686cd2e3458"), "Firstname" : "Rajesh", "Middlename" : "Kumar", "Lastname" : "Rao", "Age" : 28, "salary" : 58000
, "Designation" : "Scientist", "Role" : "Tester" }
{ "_id" : ObjectId("62959526ad0d4686cd2e3459"), "Firstname" : "Vidya", "Middlename" : "C", "Lastname" : "Shet", "Age" : 29, "Salary" : 22000, "D
esignation" : "PA", "Role" : "team Lead" }
{ "_id" : ObjectId("62959526ad0d4686cd2e345a"), "Firstname" : "Anvitha", "Middlename" : "J", "Lastname" : "Shetty", "Age" : 31, "Salary" : 31000
, "Designation" : "Associate", "Role" : "Manager" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345b"), "Firstname" : "Kavya", "Middlename" : "H", "Lastname" : "R", "Age" : 28, "Salary" : 28000, "Desi
gnation" : "HR", "Role" : "team Lead" }
{ "_id" : ObjectId("62959670ad0d4686cd2e345c"), "Firstname" : "Sapna", "Middlename" : "V", "Lastname" : "Nayak", "Age" : 32, "Salary" : 32000, "
Designation" : "Assistant", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345d"), "Firstname" : "Pramod", "Middlename" : "Kumar", "Lastname" : "Jain", "Age" : 34, "Salary" : 3800
0, "Designation" : "Receuiter", "Role" : "Manager" }
{ "_id" : ObjectId("6295973bad0d4686cd2e345e"), "Firstname" : "Jeevan", "Middlename" : "Kumar", "Lastname" : "Gowda", "Age" : 30, "Salary" : 330
00, "Designation" : "Scientist", "Role" : "teamlead" }
{ "_id" : ObjectId("6295986ead0d4686cd2e345f"), "Firstname" : "Prajwal", "Middlename" : "M", "Lastname" : "Hebbar", "Age" : 30, "Salary" : 31000
, "Designation" : "Analyst", "Role" : "Tester" }
{ "_id" : ObjectId("6295986ead0d4686cd2e3460"), "Firstname" : "Darshan", "Middlename" : "M", "Lastname" : "Jainapur", "Age" : 26, "Salary" : 240
00, "Designation" : "Teacher", "Role" : "Software Developer" }
{ "_id" : ObjectId("629598edad0d4686cd2e3461"), "Firstname" : "Suhas", "Middlename" : "C", "Lastname" : "Bhat", "Age" : 32, "Salary" : 55650, "D
esignation" : "Lead", "Role" : "team lead" }
{ "_id" : ObjectId("629598edad0d4686cd2e3462"), "Firstname" : "Jayant", "Middlename" : "R", "Lastname" : "Kamble", "Age" : 35, "Salary" : 33000,
 "Designation" : "Analyst", "Role" : "UI Designer" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3463"), "Firstname" : "Prerana", "Middlename" : "Shankar", "Lastname" : "Hegde", "Age" : 28, "Salary" :
55650, "Designation" : "Guide", "Role" : "team lead" }
{ "_id" : ObjectId("6295995ead0d4686cd2e3464"), "Firstname" : "Shrikara", "Middlename" : "S", "Lastname" : "Acharya", "Age" : 29, "Salary" : 270
00, "Designation" : "HR", "Role" : "Manager" }
{ "_id" : ObjectId("62959a0fad0d4686cd2e3465"), "Firstname" : "Satwik", "Middlename" : "Kumar", "Lastname" : "Patil", "Age" : 33, "Salary" : 556
50, "Designation" : "Guide", "Role" : "team lead" }
```

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

```
> db.shwethaEmployee.aggregate([{$group:{_id:"$Age",Average:{$avg:"$Salary"}}}])
{ "_id" : 31, "Average" : 31000 }
{ "_id" : 34, "Average" : 38000 }
{ "_id" : 33, "Average" : 55650 }
{ "_id" : 30, "Average" : 32000 }
{ "_id" : 28, "Average" : 41825 }
{ "_id" : 26, "Average" : 22500 }
{ "_id" : 35, "Average" : 33000 }
{ "_id" : 32, "Average" : 43825 }
{ "_id" : 29, "Average" : 24500 }
```

```
> db.shwethaEmployee.aggregate([{$group:{_id:"$Age",Average:{$avg:"$Salary"}}}])
{ "_id" : 31, "Average" : 31000 }
{ "_id" : 34, "Average" : 38000 }
{ "_id" : 33, "Average" : 55650 }
{ "_id" : 30, "Average" : 32000 }
{ "_id" : 28, "Average" : 41825 }
{ "_id" : 26, "Average" : 22500 }
{ "_id" : 35, "Average" : 33000 }
{ "_id" : 32, "Average" : 43825 }
{ "_id" : 29, "Average" : 24500 }
>
```

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.shwethaEmployee.mapReduce(mapfunction,reducefunction,{'out':'result'})
{ "result" : "result", "ok" : 1 }
> db.result.find()
{ "_id" : 35, "value" : 33000 }
{ "_id" : 32, "value" : 43825 }
{ "_id" : 29, "value" : 24500 }
{ "_id" : 31, "value" : 31000 }
{ "_id" : 34, "value" : 38000 }
{ "_id" : 33, "value" : 55650 }
{ "_id" : 26, "value" : 22500 }
{ "_id" : 28, "value" : NaN }
{ "_id" : 30, "value" : 32000 }

```
> var mapfunction=function(){emit(this.Age,this.Salary)}
> var reducefunction=function(key,values){return Array.avg(values)}
> db.shwethaEmployee.mapReduce(mapfunction,reducefunction,{'out':'result'})
{ "result" : "result", "ok" : 1 }
> db.result.find()
{ "_id" : 35, "value" : 33000 }
{ "_id" : 32, "value" : 43825 }
{ "_id" : 29, "value" : 24500 }
{ "_id" : 31, "value" : 31000 }
{ "_id" : 34, "value" : 38000 }
{ "_id" : 33, "value" : 55650 }
{ "_id" : 26, "value" : 22500 }
{ "_id" : 28, "value" : NaN }
{ "_id" : 30, "value" : 32000 }
```