// DBMSL B5 – 31139 (Durvesh)

// Design and implement any 5 query using MongoDB
// Queries

> use doorways

switched to db doorways

>
db.teachers.insertOne({name:"Paresh",qualification:"MTech",deptno:1,deptname:"computer",designation:"assistant
professor",experience:12,salary:{basic:20000,TA:1000,DA:1000,HRA:2000},date_of_joining:new
Date("2008-06-01"),areaOfExpertise:"DBMS"})

{

    "acknowledged" : true,

    "insertedId" : ObjectId("5fa2562cb06734c11a24749b")

}

>
db.teachers.insertOne({name:"Sarvadnya",qualification:"PhD",deptno:1,deptname:"computer",designation:"HOD",experience:20,salary:{basic:75000,TA:1000,DA:1000,HRA:2000},date_of_joining:new
Date("2000-06-01"),areaOfExpertise:"CN"})

{

    "acknowledged" : true,

    "insertedId" : ObjectId("5fa25632b06734c11a24749c")

}

>
db.teachers.insertOne({name:"Nilesh",qualification:"MTech",deptno:1,deptname:"computer",designation:"assistant
professor",experience:10,salary:{basic:18000,TA:1000,DA:1000,HRA:2000},date_of_joining:new
Date("2010-06-01"),areaOfExpertise:"DBMS"})

{

    "acknowledged" : true,

    "insertedId" : ObjectId("5fa25639b06734c11a24749d")

}

>
db.teachers.insertOne({name:"Digvijay",qualification:"PhD",deptno:2,deptname:"IT",designation:"H

OD",experience:18,salary:{basic:75000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2002-06-01"),areaOfExpertise:"ML"})

```
{
    "acknowledged" : true,
    "insertedId" : ObjectId("5fa25640b06734c11a24749e")
}
>
db.teachers.insertOne({name:"Dhananjay",qualification:"ME",deptno:2,deptname:"IT",designation:"assistant professor",experience:15,salary:{basic:40000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2005-06-01"),areaOfExpertise:"AI"})
{
    "acknowledged" : true,
    "insertedId" : ObjectId("5fa25646b06734c11a24749f")
}
>
db.teachers.insertOne({name:"Dipesh",qualification:"ME",deptno:2,deptname:"IT",designation:"assistant professor",experience:13,salary:{basic:60000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2007-06-01"),areaOfExpertise:"ML"})
{
    "acknowledged" : true,
    "insertedId" : ObjectId("5fa2564bb06734c11a2474a0")
}
>
db.teachers.insertOne({name:"Ram",qualification:"PhD",deptno:3,deptname:"ENTC",designation:"HOD",experience:22,salary:{basic:80000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("1998-06-01"),areaOfExpertise:"Communication"})
{
    "acknowledged" : true,
    "insertedId" : ObjectId("5fa25650b06734c11a2474a1")
}
>
db.teachers.insertOne({name:"Sham",qualification:"ME",deptno:3,deptname:"ENTC",designation:"assistant professor",experience:5,salary:{basic:25000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2015-06-01"),areaOfExpertise:"Digital electronics"})
```

```
{

    "acknowledged" : true,

    "insertedId" : ObjectId("5fa25656b06734c11a2474a2")

}

>
db.teachers.insertOne({name:"Anil",qualification:"ME",deptno:3,deptname:"ENTC",designation:"ass
istant professor",experience:8,salary:{basic:40000,TA:1000,DA:1000,HRA:2000},date_of_joining:new
Date("2012-06-01"),areaOfExpertise:"Digital electronics"})

{

    "acknowledged" : true,

    "insertedId" : ObjectId("5fa2565cb06734c11a2474a3")

}

>

>

>

>

>

> db.teachers.find()

{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech",
"deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12,
"salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" :
ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }

{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD",
"deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic"
: 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-
01T00:00:00Z"), "areaOfExpertise" : "CN" }

{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech",
"deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10,
"salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" :
ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }

{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD",
"deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 18, "salary" : { "basic" : 75000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
"areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME",
"deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : {
```

"basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }

{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }

{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

```
> db.teachers.find({deptname:"computer"}).pretty()
{
    "_id" : ObjectId("5fa2562cb06734c11a24749b"),
    "name" : "Paresh",
    "qualification" : "MTech",
    "deptno" : 1,
    "deptname" : "computer",
    "designation" : "assistant professor",
    "experience" : 12,
    "salary" : {
        "basic" : 20000,
        "TA" : 1000,
        "DA" : 1000,
        "HRA" : 2000
    },
    "date_of_joining" : ISODate("2008-06-01T00:00:00Z"),
    "areaOfExpertise" : "DBMS"
}
```

```
{
    "_id" : ObjectId("5fa25632b06734c11a24749c"),
    "name" : "Sarvadnya",
    "qualification" : "PhD",
    "deptno" : 1,
    "deptname" : "computer",
    "designation" : "HOD",
    "experience" : 20,
    "salary" : {
        "basic" : 75000,
        "TA" : 1000,
        "DA" : 1000,
        "HRA" : 2000
    },
    "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),
    "areaOfExpertise" : "CN"
}
{
    "_id" : ObjectId("5fa25639b06734c11a24749d"),
    "name" : "Nilesh",
    "qualification" : "MTech",
    "deptno" : 1,
    "deptname" : "computer",
    "designation" : "assistant professor",
    "experience" : 10,
    "salary" : {
        "basic" : 18000,
        "TA" : 1000,
        "DA" : 1000,
        "HRA" : 2000
    },
```

```
        "date_of_joining" : ISODate("2010-06-01T00:00:00Z"),

        "areaOfExpertise" : "DBMS"

}

>

>

>

>

>

>

> db.teachers.find({deptname:{$in:["computer","IT","ENTC"]}})
```

{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12, "salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }

{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }

{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }

{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD", "deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 18, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }

{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }

{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

>

>

>

>

>

>
db.teachers.find({$and:[{"salary.basic":{$gte:70000}},{"salary.basic":{$lte:100000}},{deptname:{$in:["computer","IT","ENTC"]}}]}).pretty()

{

    "_id" : ObjectId("5fa25632b06734c11a24749c"),

    "name" : "Sarvadnya",

    "qualification" : "PhD",

    "deptno" : 1,

    "deptname" : "computer",

    "designation" : "HOD",

    "experience" : 20,

    "salary" : {

        "basic" : 75000,

        "TA" : 1000,

        "DA" : 1000,

        "HRA" : 2000

    },

    "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),

    "areaOfExpertise" : "CN"

}

{

```
        "_id" : ObjectId("5fa25640b06734c11a24749e"),

        "name" : "Digvijay",

        "qualification" : "PhD",

        "deptno" : 2,

        "deptname" : "IT",

        "designation" : "HOD",

        "experience" : 18,

        "salary" : {

              "basic" : 75000,

              "TA" : 1000,

              "DA" : 1000,

              "HRA" : 2000

        },

        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),

        "areaOfExpertise" : "ML"

}

{

        "_id" : ObjectId("5fa25650b06734c11a2474a1"),

        "name" : "Ram",

        "qualification" : "PhD",

        "deptno" : 3,

        "deptname" : "ENTC",

        "designation" : "HOD",

        "experience" : 22,

        "salary" : {

              "basic" : 80000,

              "TA" : 1000,

              "DA" : 1000,

              "HRA" : 2000

        },

        "date_of_joining" : ISODate("1998-06-01T00:00:00Z"),
```

```
        "areaOfExpertise" : "Communication"
}
>
>
>
>
> db.teachers.update({name:"Digvijay"},{$set:{experience:10}},{upsert:true})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.teachers.find({name:"Digvijay"}).pretty()
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "qualification" : "PhD",
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
        "areaOfExpertise" : "ML"
}
>
>
>
>
> db.teachers.find({},{name:1,experience:1}).sort({experience:-1}).pretty()
```

```
{
    "_id" : ObjectId("5fa25650b06734c11a2474a1"),
    "name" : "Ram",
    "experience" : 22
}
{
    "_id" : ObjectId("5fa25632b06734c11a24749c"),
    "name" : "Sarvadnya",
    "experience" : 20
}
{
    "_id" : ObjectId("5fa25646b06734c11a24749f"),
    "name" : "Dhananjay",
    "experience" : 15
}
{
    "_id" : ObjectId("5fa2564bb06734c11a2474a0"),
    "name" : "Dipesh",
    "experience" : 13
}
{
    "_id" : ObjectId("5fa2562cb06734c11a24749b"),
    "name" : "Paresh",
    "experience" : 12
}
{
    "_id" : ObjectId("5fa25639b06734c11a24749d"),
    "name" : "Nilesh",
    "experience" : 10
}
{
```

```
        "_id" : ObjectId("5fa25640b06734c11a24749e"),

        "name" : "Digvijay",

        "experience" : 10
}
{

        "_id" : ObjectId("5fa2565cb06734c11a2474a3"),

        "name" : "Anil",

        "experience" : 8
}
{

        "_id" : ObjectId("5fa25656b06734c11a2474a2"),

        "name" : "Sham",

        "experience" : 5
}
>
>
>
>
>
> db.teachers.save({_id:
ObjectId("5fa161eec75635cd6451dbc0"),name:"Sundar",qualification:"MTech",deptno:1,deptname:
"computer",designation:"assistant
professor",experience:14,salary:{basic:45000,TA:1000,DA:1000,HRA:2000},date_of_joining:new
Date("2006-06-01"),areaOfExpertise:"DBMS"})
WriteResult({

        "nMatched" : 0,

        "nUpserted" : 1,

        "nModified" : 0,

        "_id" : ObjectId("5fa161eec75635cd6451dbc0")
})
> db.teachers.find({name:"Sundar"}).pretty()
{
```

```
        "_id" : ObjectId("5fa161eec75635cd6451dbc0"),

        "name" : "Sundar",

        "qualification" : "MTech",

        "deptno" : 1,

        "deptname" : "computer",

        "designation" : "assistant professor",

        "experience" : 14,

        "salary" : {

                "basic" : 45000,

                "TA" : 1000,

                "DA" : 1000,

                "HRA" : 2000

        },

        "date_of_joining" : ISODate("2006-06-01T00:00:00Z"),

        "areaOfExpertise" : "DBMS"

}

>
db.teachers.save({_id:ObjectId("5fa161eec75635cd6451dbc0"),name:"Sham",qualification:"ME",dep
tno:3,deptname:"ENTC",designation:"professor",experience:5,salary:{basic:25000,TA:1000,DA:1000,
HRA:2000},date_of_joining:new Date("2015-06-01"),areaOfExpertise:"Digital
electronics",appointment:"adhoc"})

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

>

>

>

>

> db.teachers.deleteMany({appointment:"adhoc"})

{ "acknowledged" : true, "deletedCount" : 1 }

> db.teachers.find()

{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech",
"deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12,
"salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" :
ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
```

{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }

{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }

{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD", "deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 10, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }

{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }

{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }

{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }

>

>

>

>

>

> db.teachers.find().sort({experience:1}).limit(3).pretty()

{

        "_id" : ObjectId("5fa25656b06734c11a2474a2"),

        "name" : "Sham",

        "qualification" : "ME",

        "deptno" : 3,

        "deptname" : "ENTC",

        "designation" : "assistant professor",

        "experience" : 5,

        "salary" : {

            "basic" : 25000,

            "TA" : 1000,

            "DA" : 1000,

            "HRA" : 2000

        },

        "date_of_joining" : ISODate("2015-06-01T00:00:00Z"),

        "areaOfExpertise" : "Digital electronics"

}

{

        "_id" : ObjectId("5fa2565cb06734c11a2474a3"),

        "name" : "Anil",

        "qualification" : "ME",

        "deptno" : 3,

        "deptname" : "ENTC",

        "designation" : "assistant professor",

        "experience" : 8,

        "salary" : {

            "basic" : 40000,

            "TA" : 1000,

            "DA" : 1000,

            "HRA" : 2000

        },

        "date_of_joining" : ISODate("2012-06-01T00:00:00Z"),

```
        "areaOfExpertise" : "Digital electronics"
}
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "qualification" : "PhD",
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
        "areaOfExpertise" : "ML"
}
>
>
>
>
>
>
> db.teachers.find({"designation":"HOD"}).sort({"salary.basic":-1}).pretty()
{
        "_id" : ObjectId("5fa25650b06734c11a2474a1"),
        "name" : "Ram",
        "qualification" : "PhD",
        "deptno" : 3,
```

```
        "deptname" : "ENTC",

        "designation" : "HOD",

        "experience" : 22,

        "salary" : {

            "basic" : 80000,

            "TA" : 1000,

            "DA" : 1000,

            "HRA" : 2000

        },

        "date_of_joining" : ISODate("1998-06-01T00:00:00Z"),

        "areaOfExpertise" : "Communication"

}

{

        "_id" : ObjectId("5fa25632b06734c11a24749c"),

        "name" : "Sarvadnya",

        "qualification" : "PhD",

        "deptno" : 1,

        "deptname" : "computer",

        "designation" : "HOD",

        "experience" : 20,

        "salary" : {

            "basic" : 75000,

            "TA" : 1000,

            "DA" : 1000,

            "HRA" : 2000

        },

        "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),

        "areaOfExpertise" : "CN"

}

{

        "_id" : ObjectId("5fa25640b06734c11a24749e"),
```

```
        "name" : "Digvijay",

        "qualification" : "PhD",

        "deptno" : 2,

        "deptname" : "IT",

        "designation" : "HOD",

        "experience" : 10,

        "salary" : {

                "basic" : 75000,

                "TA" : 1000,

                "DA" : 1000,

                "HRA" : 2000

        },

        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),

        "areaOfExpertise" : "ML"

}

>

>

>

>

>

>

> db.teachers.find({},{name:1,salary:1}).sort({"salary.TA":1})

{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "salary" : { "basic" : 20000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "salary" : { "basic" : 75000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "salary" : { "basic" : 18000, "TA"
: 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "salary" : { "basic" : 75000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "salary" : { "basic" : 40000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
```

{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }

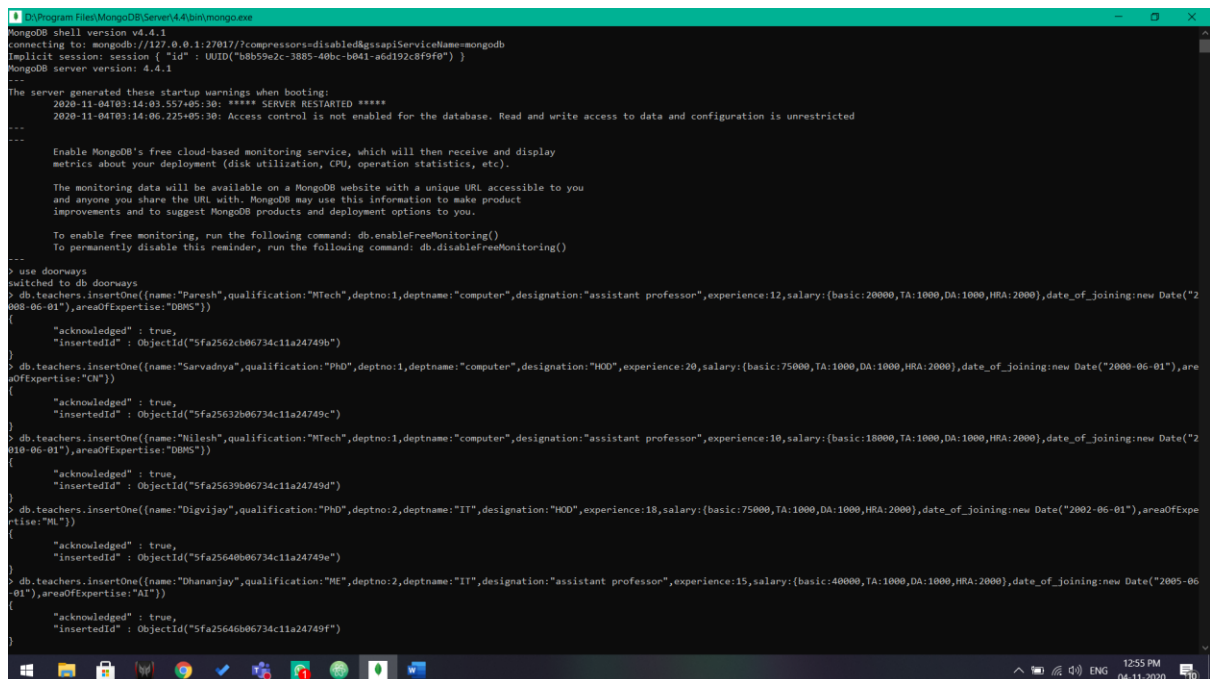# // Outputs:

```
D:\Program Files\MongoDB\Server\4.4\bin\mongo.exe

        "insertedId" : ObjectId("5fa25639b06734c11a24749d")
}
> db.teachers.insertOne({name:"Digvijay",qualification:"PhD",deptno:2,deptname:"IT",designation:"HOD",experience:18,salary:{basic:75000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2002-06-01"),areaOfExpertise:"ML"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5fa25640b06734c11a24749e")
}
> db.teachers.insertOne({name:"Dhananjay",qualification:"ME",deptno:2,deptname:"IT",designation:"assistant professor",experience:15,salary:{basic:40000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2005-06-01"),areaOfExpertise:"AI"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5fa25646b06734c11a24749f")
}
> db.teachers.insertOne({name:"Dipesh",qualification:"ME",deptno:2,deptname:"IT",designation:"assistant professor",experience:13,salary:{basic:60000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2007-06-01"),areaOfExpertise:"ML"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5fa2564bb06734c11a2474a0")
}
> db.teachers.insertOne({name:"Ram",qualification:"PhD",deptno:3,deptname:"ENTC",designation:"HOD",experience:22,salary:{basic:80000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("1998-06-01"),areaOfExpertise:"Communication"})

        "insertedId" : ObjectId("5fa25650b06734c11a2474a1")
}
> db.teachers.insertOne({name:"Sham",qualification:"ME",deptno:3,deptname:"ENTC",designation:"assistant professor",experience:5,salary:{basic:25000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2015-06-01"),areaOfExpertise:"Digital electronics"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5fa25656b06734c11a2474a2")
}

),areaOfExpertise:"Digital electronics"})
{
        "acknowledged" : true,
        "insertedId" : ObjectId("5fa2565cb06734c11a2474a3")
}
>
>
>
> db.teachers.find()
{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12, "salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }
{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
```

```
D:\Program Files\MongoDB\Server\4.4\bin\mongo.exe

>
>
>
> db.teachers.find()
{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12, "salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }
{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD", "deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 18, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }
{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }
{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
> db.teachers.find({deptname:"computer"}).pretty()
{
        "_id" : ObjectId("5fa2562cb06734c11a24749b"),
        "name" : "Paresh",
        "qualification" : "MTech",
        "deptno" : 1,
        "deptname" : "computer",
        "designation" : "assistant professor",
        "experience" : 12,
        "salary" : {
                "basic" : 20000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2008-06-01T00:00:00Z"),
        "areaOfExpertise" : "DBMS"
}
{
        "_id" : ObjectId("5fa25632b06734c11a24749c"),
        "name" : "Sarvadnya",
        "qualification" : "PhD",
        "deptno" : 1,
        "deptname" : "computer",
        "designation" : "HOD",
        "experience" : 20,
        "salary" : {
                "basic" : 75000,
```

```
                            "TA" : 1000,
                            "DA" : 1000,
                            "HRA" : 2000
                },
                "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),
                "areaOfExpertise" : "CN"
}
{
                "_id" : ObjectId("5fa25639b06734c11a24749d"),
                "name" : "Nilesh",
                "qualification" : "MTech",
                "deptno" : 1,
                "deptname" : "computer",
                "designation" : "assistant professor",
                "experience" : 10,
                "salary" : {
                            "basic" : 18000,
                            "TA" : 1000,
                            "DA" : 1000,
                            "HRA" : 2000
                },
                "date_of_joining" : ISODate("2010-06-01T00:00:00Z"),
                "areaOfExpertise" : "DBMS"
}
>
>
>
>
> db.teachers.find({deptname:{$in:["computer","IT","ENTC"]}})
{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12, "salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }
{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD", "deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 18, "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa25645b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }
{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }
{ "_id" : ObjectId("5fa2565cb06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
{ "_id" : ObjectId("5fa2565b06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
>
>
>
```

```
>
>
>
> db.teachers.find({$and:[{"salary.basic":{$gte:70000}},{"salary.basic":{$lte:100000}},{deptname:{$in:["computer","IT","ENTC"]}}]}).pretty()
{
                "_id" : ObjectId("5fa25632b06734c11a24749c"),
                "name" : "Sarvadnya",
                "qualification" : "PhD",
                "deptno" : 1,
                "deptname" : "computer",
                "designation" : "HOD",
                "experience" : 20,
                "salary" : {
                            "basic" : 75000,
                            "TA" : 1000,
                            "DA" : 1000,
                            "HRA" : 2000
                },
                "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),
                "areaOfExpertise" : "CN"
}
{
                "_id" : ObjectId("5fa25640b06734c11a24749e"),
                "name" : "Digvijay",
                "qualification" : "PhD",
                "deptno" : 2,
                "deptname" : "IT",
                "designation" : "HOD",
                "experience" : 18,
                "salary" : {
                            "basic" : 75000,
                            "TA" : 1000,
                            "DA" : 1000,
                            "HRA" : 2000
                },
                "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
                "areaOfExpertise" : "ML"
}
{
                "_id" : ObjectId("5fa25650b06734c11a2474a1"),
                "name" : "Ram",
                "qualification" : "PhD",
                "deptno" : 3,
                "deptname" : "ENTC",
                "designation" : "HOD",
                "experience" : 22,
                "salary" : {
                            "basic" : 80000,
                            "TA" : 1000,
                            "DA" : 1000,
                            "HRA" : 2000
```

```
>
>
> db.teachers.update({name:"Digvijay"},{$set:{experience:10}},{upsert:true})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.teachers.find({name:"Digvijay"}).pretty()
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "qualification" : "PhD",
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
        "areaOfExpertise" : "ML"
}
>
>
>
> db.teachers.find({},{name:1,experience:1}).sort({experience:-1}).pretty()
{
        "_id" : ObjectId("5fa25650b06734c11a2474a1"),
        "name" : "Ram",
        "experience" : 22
}
{
        "_id" : ObjectId("5fa25632b06734c11a24749c"),
        "name" : "Sarvadnya",
        "experience" : 20
}
{
        "_id" : ObjectId("5fa25646b06734c11a24749f"),
        "name" : "Dhananjay",
        "experience" : 15
}
{
        "_id" : ObjectId("5fa2564bb06734c11a2474a0"),
        "name" : "Dipesh",
        "experience" : 13
}
{
        "_id" : ObjectId("5fa2562cb06734c11a24749b"),
        "name" : "Paresh",
        "experience" : 12
```

```
        "_id" : ObjectId("5fa2562cb06734c11a24749b"),
        "name" : "Paresh",
        "experience" : 12
}
{
        "_id" : ObjectId("5fa25639b06734c11a24749d"),
        "name" : "Nilesh",
        "experience" : 10
}
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "experience" : 10
}
{
        "_id" : ObjectId("5fa2565cb06734c11a2474a3"),
        "name" : "Anil",
        "experience" : 8
}
{
        "_id" : ObjectId("5fa25656b06734c11a2474a2"),
        "name" : "Sham",
        "experience" : 5
}
>
>
>
> db.teachers.save({_id: ObjectId("5fa161eec75635cd6451dbc0"),name:"Sundar",qualification:"MTech",deptno:1,deptname:"computer",designation:"assistant professor",experience:14,salary:{basic:45000,TA:1000,DA:1000,HRA:2000},date_of_joining:new Date("2006-06-01"),areaOfExpertise:"DBMS"})
WriteResult({
        "nMatched" : 0,
        "nUpserted" : 1,
        "nModified" : 0,
        "_id" : ObjectId("5fa161eec75635cd6451dbc0")
})
> db.teachers.find({name:"Sundar"}).pretty()
{
        "_id" : ObjectId("5fa161eec75635cd6451dbc0"),
        "name" : "Sundar",
        "qualification" : "MTech",
        "deptno" : 1,
        "deptname" : "computer",
        "designation" : "assistant professor",
        "experience" : 14,
        "salary" : {
                "basic" : 45000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
```

```
                "nMatched" : 0,
                "nUpserted" : 1,
                "nModified" : 0,
                "_id" : ObjectId("5fa161eec75635cd6451dbc0")
})
> db.teachers.find({name:"Sundar"}).pretty()
{
        "_id" : ObjectId("5fa161eec75635cd6451dbc0"),
        "name" : "Sundar",
        "qualification" : "MTech",
        "deptno" : 1,
        "deptname" : "computer",
        "designation" : "assistant professor",
        "experience" : 14,
        "salary" : {
                "basic" : 45000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2006-06-01T00:00:00Z"),
        "areaOfExpertise" : "DBMS"
}
> db.teachers.save({_id:ObjectId("5fa161eec75635cd6451dbc0"),name:"Sham",qualification:"ME",deptno:3,deptname:"ENTC",designation:"professor",experience:5,salary:{basic:25000,TA:1000,DA:1000,HRA:2000},date_of_joi
ning:new Date("2015-06-01"),areaOfExpertise:"Digital electronics",appointment:"adhoc"})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
>
>
>
> db.teachers.deleteMany({appointment:"adhoc"})
{ "acknowledged" : true, "deletedCount" : 1 }
> db.teachers.find()
{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 12, "salary" : { "basic"
: 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2008-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa2563zb06734c11a24749c"), "name" : "Sarvadnya", "qualification" : "PhD", "deptno" : 1, "deptname" : "computer", "designation" : "HOD", "experience" : 20, "salary" : { "basic" : 75000, "TA"
: 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2000-06-01T00:00:00Z"), "areaOfExpertise" : "CN" }
{ "_id" : ObjectId("5fa2639b06734c11a24749d"), "name" : "Nilesh", "qualification" : "MTech", "deptno" : 1, "deptname" : "computer", "designation" : "assistant professor", "experience" : 10, "salary" : { "basic"
: 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2010-06-01T00:00:00Z"), "areaOfExpertise" : "DBMS" }
{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "qualification" : "PhD", "deptno" : 2, "deptname" : "IT", "designation" : "HOD", "experience" : 10, "salary" : { "basic" : 75000, "TA" : 1000,
"DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2002-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 15, "salary" : { "basic" : 400
00, "TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2005-06-01T00:00:00Z"), "areaOfExpertise" : "AI" }
{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "qualification" : "ME", "deptno" : 2, "deptname" : "IT", "designation" : "assistant professor", "experience" : 13, "salary" : { "basic" : 60000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2007-06-01T00:00:00Z"), "areaOfExpertise" : "ML" }
{ "_id" : ObjectId("5fa2565bb06734c11a2474a1"), "name" : "Ram", "qualification" : "PhD", "deptno" : 3, "deptname" : "ENTC", "designation" : "HOD", "experience" : 22, "salary" : { "basic" : 80000, "TA" : 1000, "D
A" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("1998-06-01T00:00:00Z"), "areaOfExpertise" : "Communication" }
{ "_id" : ObjectId("5fa2565bb06734c11a2474a2"), "name" : "Sham", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 5, "salary" : { "basic" : 25000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2015-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "qualification" : "ME", "deptno" : 3, "deptname" : "ENTC", "designation" : "assistant professor", "experience" : 8, "salary" : { "basic" : 40000,
"TA" : 1000, "DA" : 1000, "HRA" : 2000 }, "date_of_joining" : ISODate("2012-06-01T00:00:00Z"), "areaOfExpertise" : "Digital electronics" }
>
```

```
>
> db.teachers.find().sort({experience:1}).limit(3).pretty()
{
        "_id" : ObjectId("5fa2565bb06734c11a2474a2"),
        "name" : "Sham",
        "qualification" : "ME",
        "deptno" : 3,
        "deptname" : "ENTC",
        "designation" : "assistant professor",
        "experience" : 5,
        "salary" : {
                "basic" : 25000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2015-06-01T00:00:00Z"),
        "areaOfExpertise" : "Digital electronics"
}
{
        "_id" : ObjectId("5fa2565cb06734c11a2474a3"),
        "name" : "Anil",
        "qualification" : "ME",
        "deptno" : 3,
        "deptname" : "ENTC",
        "designation" : "assistant professor",
        "experience" : 8,
        "salary" : {
                "basic" : 40000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2012-06-01T00:00:00Z"),
        "areaOfExpertise" : "Digital electronics"
}
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "qualification" : "PhD",
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
```

```
> db.teachers.find({"designation":"HOD"}).sort({"salary.basic":-1}).pretty()
{
        "_id" : ObjectId("5fa25650b06734c11a2474a1"),
        "name" : "Ram",
        "qualification" : "PhD",
        "deptno" : 3,
        "deptname" : "ENTC",
        "designation" : "HOD",
        "experience" : 22,
        "salary" : {
                "basic" : 80000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("1998-06-01T00:00:00Z"),
        "areaOfExpertise" : "Communication"
}
{
        "_id" : ObjectId("5fa25632b06734c11a24749c"),
        "name" : "Sarvadnya",
        "qualification" : "PhD",
        "deptno" : 1,
        "deptname" : "computer",
        "designation" : "HOD",
        "experience" : 20,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2000-06-01T00:00:00Z"),
        "areaOfExpertise" : "CN"
}
{
        "_id" : ObjectId("5fa25640b06734c11a24749e"),
        "name" : "Digvijay",
        "qualification" : "PhD",
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
        "areaOfExpertise" : "ML"
}
```

```
        "deptno" : 2,
        "deptname" : "IT",
        "designation" : "HOD",
        "experience" : 10,
        "salary" : {
                "basic" : 75000,
                "TA" : 1000,
                "DA" : 1000,
                "HRA" : 2000
        },
        "date_of_joining" : ISODate("2002-06-01T00:00:00Z"),
        "areaOfExpertise" : "ML"
}
>
>
>
>
>
> db.teachers.find({},{name:1,salary:1}).sort({"salary.TA":1})
{ "_id" : ObjectId("5fa2562cb06734c11a24749b"), "name" : "Paresh", "salary" : { "basic" : 20000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25632b06734c11a24749c"), "name" : "Sarvadnya", "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25639b06734c11a24749d"), "name" : "Nilesh", "salary" : { "basic" : 18000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25640b06734c11a24749e"), "name" : "Digvijay", "salary" : { "basic" : 75000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25646b06734c11a24749f"), "name" : "Dhananjay", "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa2564bb06734c11a2474a0"), "name" : "Dipesh", "salary" : { "basic" : 60000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25650b06734c11a2474a1"), "name" : "Ram", "salary" : { "basic" : 80000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa25656b06734c11a2474a2"), "name" : "Sham", "salary" : { "basic" : 25000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
{ "_id" : ObjectId("5fa2565cb06734c11a2474a3"), "name" : "Anil", "salary" : { "basic" : 40000, "TA" : 1000, "DA" : 1000, "HRA" : 2000 } }
>
>
>
>
> _
```