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NAME : Neelam Pramod More

ROLLNO:35046

CLASS:TE IT A

BATCH :D

SUBJECT:ADBMSL

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ASSIGNMENT NO:1

PROBLEM STATEMENT

1. Create a database with suitable example using MongoDB and implement

Inserting and saving document (batch insert, insert validation)

Removing document

Updating document (document replacement, using modifiers, up inserts, updating multiple documents, returning updated documents)

Execute at least 10 queries on any suitable MongoDB database that demonstrates following:

Find and find One (specific values)

Query criteria (Query conditionals, OR queries, \$not, Conditional semantics) iii.

Type-specific queries (Null, Regular expression, Querying arrays) iv. \$ where queries

v. Cursors (Limit, skip, sort, advanced query options)

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1. Use Database

```
test> use College; switched to db College
```

```
-----  
-  
--
```

2. Create Collection

```
College> db.createCollection("instructor");
```

```
{ ok: 1 }
```

```
-----  
-  
-----  
-
```

3. INSERTION

```
>  
db.Instructor.insert({id:1,name:{fname:'Neelam',lname:'More'},address:{city:'Pune',state:'Maharashtra'},status:'A',salary:90000,dept:'IT',phone:[1234567890,0987654321]});  
db.Instructor.insert({id:1,name:{fname:'Neelam',lname:'More'},address:{city:'Pune',state:'Maharashtra'},status:'A',salary:90000,dept:'IT',phone:[1234567890,0987654321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>  
db.Instructor.insert({id:2,name:{fname:'Yashada',lname:'Funde'},address:{city:'Nagar',state:'Maharashtra'},status:'A',salary:90000,dept:'IT',phone:[1234567890,0987654321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>  
db.Instructor.insert({id:2,name:{fname:'Sakshi',lname:'Dhekane'},address:{city:'Pune',state:'Maharashtra'},status:'A',salary:80000,dept:'AIDS',phone:[1234567890,0987654321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>  
db.Instructor.insert({id:2,name:{fname:'Bhavesh',lname:'Shelke'},address:{city:'Amravati',state:'Maharashtra'},status:'A',salary:90000,dept:'IT',phone:[1234567890,0987654321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>
db.Instructor.insert({id:2,name:{fname:'Vipul',lname:'Chavan'},address:{city:'Mumbai',
state:'Maharashtra'},status:'A',salary:60000,dept:'IT',phone:[1234567890,09876543
21]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>
db.Instructor.insert({id:6,name:{fname:'Vedant',lname:'Swami'},address:{city:'Nashik',
state:'Maharashtra'},status:'A',salary:70000,dept:'IT',phone:[1234567890,09876543
21]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>
db.Instructor.insert({id:7,name:{fname:'yash',lname:'Shinde'},address:{city:'Kaspatha
r',state:'Maharashtra'},status:'A',salary:30000,dept:'CS',phone:[1234567890,098765
4321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>
db.Instructor.insert({id:7,name:{fname:'Vansh',lname:'Patil'},address:{city:'Kholapur',
state:'Maharashtra'},status:'NA',salary:30000,dept:'CS',phone:[1234567890,098765
4321]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
>
db.Instructor.insert({id:9,name:{fname:'Amar',lname:'Patil'},address:{city:'Satara',stat
e:'Maharashtra'},status:'NA',salary:30000,dept:'CS',phone:[1234567890,098765432
1]});
```

```
WriteResult({ "nInserted" : 1 })
```

```
-----
-
```

```
-----
-
```

4. QUERIES:

A .FIND and FIND ONE

1.Find Details of all instructor

```
College> db.instructor.find().pretty();
```

```
[
```

```
{
  _id: ObjectId("65104698b538d3bc80f0bb3d"),
  id: 1,
  Name: { fname: 'ram', lname: 'lakhan' },
  address: { city: 'pune', state: 'mh' },
  salary: 50000,
  status: 'approved',
  department: 'cs',
  phone: [ 9876567899, 9999856143 ]
},
{
  _id: ObjectId("6510475bb538d3bc80f0bb3e"),
  id: 2,
  Name: { fname: 'amit', lname: 'shah' },
  address: { city: 'mumbai', state: 'mh' },
  salary: 70000,
  status: 'approved',
  department: 'it',
  phone: [ 9876227899, 9543112621 ]
},
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
```

```
    phone: [ 9876298900, 9543110001 ]
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phone: [ 9888298965, 9542210001 ]
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    Name: { fname: 'pawan', lname: 'more' },
    address: { city: 'vashi', state: 'mh' },
    salary: 85000,
    status: 'notapproved',
    department: 'it',
    phone: [ 9548810001, 9548876321 ]
  },
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron', lname: 'jain' },
    address: { city: 'chennai', state: 'tn' },
    salary: 55000,
```

```
status: 'approved',
department: 'electrical',
phone: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phone: [ 9877423155, 9852144462 ]
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
  phone: [ 7709423155, 8034144462 ]
},
{
  _id: ObjectId("65104a83b538d3bc80f0bb45"),
  id: 9,
  Name: { fname: 'jatin', lname: 'rathod' },
```

```
address: { city: 'pune', state: 'mh' },
salary: 40000,
status: 'notapproved',
department: 'ec',
phone: [ 88700489155, 881221002 ]
}
```

-

2.Find the detail of instructor whose fname is aman

```
> db.instructor.find({"name.fname":"aman"}).pretty();
{
  "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
  "id" : 8,
  "name" : {
    "fname" : "aman",
    "lname" : "patel"
  },
  "address" : {
    "city" : "nagpur",
    "state" : "mh"
  },
  "salary" : 80000,
  "department" : "it",
  "status" : "notapproved",
  "phone" : [
    77700489,
    8843210001
  ]
}
```

```
}
```

```
-
```

3. To display it using pretty.

```
College> db.instructor.find().pretty();
```

```
[
```

```
{
```

```
  _id: ObjectId("65104698b538d3bc80f0bb3d"),
```

```
  id: 1,
```

```
  Name: { fname: 'ram', lname: 'lakhan' },
```

```
  address: { city: 'pune', state: 'mh' },
```

```
  salary: 50000,
```

```
  status: 'approved',
```

```
  department: 'cs',
```

```
  phone: [ 9876567899, 9999856143 ]
```

```
},
```

```
{
```

```
  _id: ObjectId("6510475bb538d3bc80f0bb3e"),
```

```
  id: 2,
```

```
  Name: { fname: 'amit', lname: 'shah' },
```

```
  address: { city: 'mumbai', state: 'mh' },
```

```
  salary: 70000,
```

```
  status: 'approved',
```

```
  department: 'it',
```

```
  phone: [ 9876227899, 9543112621 ]
```

```
},
```

```
{
```

```
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
```

```
  id: 3,
```



```
Name: { fname: 'kunal', lname: 'kumar' },
address: { city: 'nashik', state: 'mh' },
salary: 65000,
status: 'approved',
department: 'it',
phone: [ 9876298900, 9543110001 ]
},
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul', lname: 'khan' },
  address: { city: 'indore', state: 'mp' },
  salary: 70000,
  status: 'notapproved',
  department: 'mech',
  phone: [ 9888298965, 9542210001 ]
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'it',
  phone: [ 9548810001, 9548876321 ]
},
{
```

```
_id: ObjectId("6510493eb538d3bc80f0bb42"),
id: 6,
Name: { fname: 'aaron', lname: 'jain' },
address: { city: 'chennai', state: 'tn' },
salary: 55000,
status: 'approved',
department: 'electrical',
phone: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phone: [ 9877423155, 9852144462 ]
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
  phone: [ 7709423155, 8034144462 ]
}
```

```
},  
{  
  _id: ObjectId("65104a83b538d3bc80f0bb45"),  
  id: 9,  
  Name: { fname: 'jatin', lname: 'rathod' },  
  address: { city: 'pune', state: 'mh' },  
  salary: 40000,  
  status: 'notapproved',  
  department: 'ec',  
  phone: [ 88700489155, 881221002 ]  
}
```

4. Find details of instructor who live in maharashtra

```
> db.instructor.find({"address.state":"mh"}).pretty();  
{  
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),  
  "id" : 1,  
  "name" : {  
    "fname" : "ram",  
    "lname" : "lakhan"  
  },  
  "address" : {  
    "city" : "pune",  
    "state" : "mh"  
  },  
}
```

```
"salary" : 50000,
"phone" : [
    9876567899,
    9543215621,
    9999856143
]
}
{
  "_id" : ObjectId("64d3797a9c6dd4c53c992254"),
  "id" : 2,
  "name" : {
    "fname" : "amit",
    "lname" : "shah"
  },
  "address" : {
    "city" : "mumbai",
    "state" : "mh"
  },
  "salary" : 70000,
  "department" : "it",
  "status" : "approved",
  "phone" : [
    9876227899,
    9543112621,
    9994446143
  ]
}
```

```
"_id" : ObjectId("64d379fd9c6dd4c53c992255"),
"id" : 3,
"name" : {
  "fname" : "kunal",
  "lname" : "kumar"
},
"address" : {
  "city" : "nashik",
  "state" : "mh"
},
"salary" : 65000,
"department" : "it",
"status" : "approved",
"phone" : [
  98762989,
  9543110001,
  9999946143
]
}
{
  "_id" : ObjectId("64d37aa99c6dd4c53c992257"),
  "id" : 5,
  "name" : {
    "fname" : "pawan",
    "lname" : "more"
  },
  "address" : {
    "city" : "vashi",
```

```
        "state" : "mh"
    },
    "salary" : 85000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98772989,
        9548810001
    ]
}
{
    "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
    "id" : 8,
    "name" : {
        "fname" : "aman",
        "lname" : "patel"
    },
    "address" : {
        "city" : "nagpur",
        "state" : "mh"
    },
    "salary" : 80000,
    "department" : "it",
    "status" : "notapproved",
    "phone" : [
        77700489,
        8843210001
    ]
}
```

```

}
{
  "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
  "id" : 9,
  "name" : {
    "fname" : "jatin",
    "lname" : "rathod"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 40000,
  "department" : "ec",
  "status" : "notapproved",
  "phone" : [
    88700489,
    8812210001
  ]
}

```

5. Display details of Employee whose last name "patil"

```
College> db.instructor.find({"Name.lname":"patil"}).pretty();
```

```

[
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },

```

```
address: { city: 'banglore', state: 'karnataka' },
salary: 65000,
status: 'approved',
department: 'civil',
phonenumber: [ 9877423155, 9852144462 ],
did: 7
}
]
```

6. Find out details of instructor whose salary is equal to 50000

```
College> db.instructor.find({salary:50000}).pretty();
```

```
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
    did: 1
  }
]
```

7. Find out details of instructor whose status is Approved.


```
College> db.instructor.find({status:"approved"}).pretty();
```

```
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
    did: 1
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ]
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal', lname: 'kumar' },
```

```
address: { city: 'nashik', state: 'mh' },
salary: 65000,
status: 'approved',
department: 'it',
phonenumber: [ 9876298900, 9543110001 ],
did: 3
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7
}
```

]

8. Find out details of instructor who are living in pune.

College> db.instructor.find({"address.city":"pune"}).pretty();

[

{

 _id: ObjectId("65104698b538d3bc80f0bb3d"),

 id: 1,

 Name: { fname: 'ram', lname: 'lakhan' },

 address: { city: 'pune', state: 'mh' },

 salary: 50000,

 status: 'approved',

 department: 'cs',

 email: 'abcd@gmail.com',

 phonenum: [9876567899, 9999856143, 7332212334],

 did: 1

}

]

9. Details of instructor whose fname is "kunal".

College> db.instructor.find({"Name.fname":"kunal"}).pretty();

[

{

 _id: ObjectId("651047d4b538d3bc80f0bb3f"),

 id: 3,

 Name: { fname: 'kunal', lname: 'kumar' },

 address: { city: 'nashik', state: 'mh' },

```
salary: 65000,  
status: 'approved',  
department: 'it',  
phonenumber: [ 9876298900, 9543110001 ],  
did: 3  
}
```

10. Details of instructor Living in "Maharashtra"

```
> db.instructor.find({"address.state":"mh"}).pretty();  
{  
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),  
  "id" : 1,  
  "name" : {  
    "fname" : "ram",  
    "lname" : "lakhan"  
  },  
  "address" : {  
    "city" : "pune",  
    "state" : "mh"  
  },  
  "salary" : 50000,  
  "phone" : [  
    9876567899,  
    9543215621,  
    9999856143  
  ]  
}
```

```
{
```

```
"_id" : ObjectId("64d3797a9c6dd4c53c992254"),
"id" : 2,
"name" : {
  "fname" : "amit",
  "lname" : "shah"
},
"address" : {
  "city" : "mumbai",
  "state" : "mh"
},
"salary" : 70000,
"department" : "it",
"status" : "approved",
"phone" : [
  9876227899,
  9543112621,
  9994446143
]
}
{
```

```
"_id" : ObjectId("64d379fd9c6dd4c53c992255"),
"id" : 3,
"name" : {
  "fname" : "kunal",
  "lname" : "kumar"
},
"address" : {
  "city" : "nashik",
```

```
        "state" : "mh"
    },
    "salary" : 65000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98762989,
        9543110001,
        9999946143
    ]
}
{
    "_id" : ObjectId("64d37aa99c6dd4c53c992257"),
    "id" : 5,
    "name" : {
        "fname" : "pawan",
        "lname" : "more"
    },
    "address" : {
        "city" : "vashi",
        "state" : "mh"
    },
    "salary" : 85000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98772989,
        9548810001
    ]
}
```

```
]
}
{
  "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
  "id" : 8,
  "name" : {
    "fname" : "aman",
    "lname" : "patel"
  },
  "address" : {
    "city" : "nagpur",
    "state" : "mh"
  },
  "salary" : 80000,
  "department" : "it",
  "status" : "notapproved",
  "phone" : [
    77700489,
    8843210001
  ]
}
```

```
{
  "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
  "id" : 9,
  "name" : {
    "fname" : "jatin",
    "lname" : "rathod"
  },
}
```

```
"address" : {
  "city" : "pune",
  "state" : "mh"
},
"salary" : 40000,
"department" : "ec",
"status" : "notapproved",
"phone" : [
  88700489,
  8812210001
]
}
```

B. QUERY CRITERIA:

B.1] QUERY CONDITIONS

(\$gt,\$lt,\$gte,\$lte)

11. Find out details of instructor whose Salary is greater than 50000

```
College> db.instructor.find({salary:{>50000}}).pretty();
```

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
```



```
    phonenumber: [ 9876227899, 9543112621, 8885212334 ]
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal', lname: 'kumar' },
    address: { city: 'nashik', state: 'mh' },
    salary: 65000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876298900, 9543110001 ],
    did: 3
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
    email: null
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    Name: { fname: 'pawan', lname: 'more' },
```

```
address: { city: 'vashi', state: 'mh' },
salary: 85000,
status: 'notapproved',
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7
},
{
```

```
_id: ObjectId("65104a2cb538d3bc80f0bb44"),
id: 8,
Name: { fname: 'aman', lname: 'patel' },
address: { city: 'nagpur', state: 'mh' },
salary: 80000,
status: 'notapproved',
department: 'it',
phonenumber: [ 7709423155, 8034144462 ]
}
]
```

12. Find out details of instructor whose Salary is less than 55000

```
College> db.instructor.find({salary:{$lt:55000}}).pretty();
```

```
[
{
  _id: ObjectId("65104698b538d3bc80f0bb3d"),
  id: 1,
  Name: { fname: 'ram', lname: 'lakhan' },
  address: { city: 'pune', state: 'mh' },
  salary: 50000,
  status: 'approved',
  department: 'cs',
  email: 'abcd@gmail.com',
  phonenumber: [ 9876567899, 9999856143, 7332212334 ],
  did: 1
}
]
```

13. .Find out details of instructor whose Salary is greater than 65000.

College> db.instructor.find({salary:{\$gt:65000}}).pretty();

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ]
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
    email: null
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
```

```

    Name: { fname: 'pawan', lname: 'more' },
    address: { city: 'vashi', state: 'mh' },
    salary: 85000,
    status: 'notapproved',
    department: 'aids',
    phonenumber: [ 9548810001, 9548876321 ]
  },
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155, 8034144462 ]
  }
]

```

14. Find out details of instructor whose Salary is greater than 40000 and less than 60000

```

College> db.instructor.find({salary:{$gt:40000,$lt:60000}}).pretty();
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },

```

```
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
    did: 1
  },
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron', lname: 'jain' },
    address: { city: 'chennai', state: 'tn' },
    salary: 55000,
    status: 'approved',
    department: 'electrical',
    phonenumber: [ 9877448955, 9857542162 ]
  }
]
```

Give count of instructor of it Department

```
College> db.instructor.find({department:"it"}).count();
```

3

Give count of instructor of it Department where salary is not equal to 50000

```
College> db.instructor.find({department:"it",{salary:{$ne:50000}}).count();
```

3

REMOVE A DOCUMENT

Delete records where salary is less than 50000

```
> db.instructor.remove({salary:{$lt:50000}});
```

```
WriteResult({ "nRemoved" : 1 })
```

5.UPDATE

18. Update department of instructor to aids where salary greater than 80000

College>

```
db.instructor.update({salary:{$gt:80000}},{$set:{department:"aids"}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

College> db.instructor.find({salary:{\$gt:80000}}).pretty();

```
[
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    Name: { fname: 'pawan', lname: 'more' },
    address: { city: 'vashi', state: 'mh' },
    salary: 85000,
    status: 'notapproved',
    department: 'aids',
    phone: [ 9548810001, 9548876321 ]
  }
]
```

```
}
```

19. Give increment of RS10000 to instructor where status = "approved"

```
College> db.instructor.update({status:"approved"},{$inc:{Salary:10000}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 4,
  modifiedCount: 4,
  upsertedCount: 0
}
```

```
College> db.instructor.find().pretty();
```

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ],
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal', lname: 'kumar' },
    address: { city: 'nashik', state: 'mh' },
  }
]
```



```
salary: 65000,
status: 'approved',
department: 'it',
phonenumber: [ 9876298900, 9543110001 ],
did: 3,
},
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul', lname: 'khan' },
  address: { city: 'indore', state: 'mp' },
  salary: 70000,
  status: 'notapproved',
  department: 'mech',
  phonenumber: [ 9888298965, 9542210001 ],
  email: null
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
},
{
```

```
_id: ObjectId("6510493eb538d3bc80f0bb42"),
id: 6,
Name: { fname: 'aaron', lname: 'jain' },
address: { city: 'chennai', state: 'tn' },
salary: 55000,
status: 'approved',
department: 'electrical',
phonenumber: [ 9877448955, 9857542162 ],
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7,
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
```

```
    phonenumber: [ 7709423155, 8034144462 ]
  }
]
```

B.2]OR QUERIES(\$or,\$in,\$nin)

and

B.3]CONDITIONAL SEMANTICS(\$and,\$or,\$nor)*

20. Find the details of instructor with the condition either salary less than 50000 or Department is "it" or "ec".

```
> db.instructor.find({$or:[{salary:{$gt:50000}},{department:{$in:["it","ec"]}}]}).pretty();
{
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),
  "id" : 1,
  "name" : {
    "fname" : "ram",
    "lname" : "lakhan"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 50000,
  "phone" : [
    9876567899,
    9543215621,
    9999856143
  ],
```

```
    "department" : "it"
  }
  {
    "_id" : ObjectId("64d3797a9c6dd4c53c992254"),
    "id" : 2,
    "name" : {
      "fname" : "amit",
      "lname" : "shah"
    },
    "address" : {
      "city" : "mumbai",
      "state" : "mh"
    },
    "salary" : 70000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
      9876227899,
      9543112621,
      9994446143
    ]
  }
  {
    "_id" : ObjectId("64d379fd9c6dd4c53c992255"),
    "id" : 3,
    "name" : {
      "fname" : "kunal",
      "lname" : "kumar"
```

```
    },
    "address" : {
        "city" : "nashik",
        "state" : "mh"
    },
    "salary" : 65000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98762989,
        9543110001,
        9999946143
    ]
}
{
    "_id" : ObjectId("64d37a499c6dd4c53c992256"),
    "id" : 4,
    "name" : {
        "fname" : "rahul",
        "lname" : "khan"
    },
    "address" : {
        "city" : "indore",
        "state" : "mp"
    },
    "salary" : 70000,
    "department" : "it",
    "status" : "notapproved",
```

```
"phone" : [
    98882989,
    9542210001,
    9966646143
]
}
{
  "_id" : ObjectId("64d37aa99c6dd4c53c992257"),
  "id" : 5,
  "name" : {
    "fname" : "pawan",
    "lname" : "more"
  },
  "address" : {
    "city" : "vashi",
    "state" : "mh"
  },
  "salary" : 85000,
  "department" : "it",
  "status" : "approved",
  "phone" : [
    98772989,
    9548810001
  ]
}
{
  "_id" : ObjectId("64d37b069c6dd4c53c992258"),
  "id" : 6,
```

```
"name" : {
    "fname" : "aaron",
    "lname" : "jain"
},
"address" : {
    "city" : "chennai",
    "state" : "tn"
},
"salary" : 55000,
"department" : "electrical",
"status" : "approved",
"phone" : [
    98774489,
    9542210001
]
}
{
    "_id" : ObjectId("64d37b6f9c6dd4c53c992259"),
    "id" : 7,
    "name" : {
        "fname" : "shubhra",
        "lname" : "patil"
    },
    "address" : {
        "city" : "banglore",
        "state" : "kerala"
    },
    "salary" : 65000,
```

```
"department" : "it",
"status" : "approved",
"phone" : [
    98700489,
    8842210001
]
}
{
    "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
    "id" : 8,
    "name" : {
        "fname" : "aman",
        "lname" : "patel"
    },
    "address" : {
        "city" : "nagpur",
        "state" : "mh"
    },
    "salary" : 80000,
    "department" : "it",
    "status" : "notapproved",
    "phone" : [
        77700489,
        8843210001
    ]
}
{
    "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
```



```

    "id" : 9,
    "name" : {
      "fname" : "jatin",
      "lname" : "rathod"
    },
    "address" : {
      "city" : "pune",
      "state" : "mh"
    },
    "salary" : 40000,
    "department" : "ec",
    "status" : "notapproved",
    "phone" : [
      88700489,
      8812210001
    ]
  }
{
  "_id" : ObjectId("64e9a7824b0ba47f3d7be4ae"),
  "id" : 11,
  "department" : "it"
}

```

21. Find the details of instructor where salary greater than 50000 and Department is "it".

```

College> db.instructor.find({$and:[{salary:{$gt:50000}},{department:"it"}]}).pretty();
[
  {

```

```
_id: ObjectId("6510475bb538d3bc80f0bb3e"),
id: 2,
Name: { fname: 'amit', lname: 'shah' },
address: { city: 'mumbai', state: 'mh' },
salary: 70000,
status: 'approved',
department: 'it',
phonenumber: [ 9876227899, 9543112621, 8885212334 ],
Salary: 10000
},
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
  phonenumber: [ 9876298900, 9543110001 ],
  did: 3,
  Salary: 10000
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
```

```
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155, 8034144462 ]
  }
]
```

22. Display instructor ID along with Department

```
College> db.instructor.find({}, {id:1, department:1}).pretty();
```

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    department: 'it'
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    department: 'it'
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    department: 'mech'
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    department: 'aids'
  }
]
```

```

},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  department: 'electrical'
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  department: 'civil'
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  department: 'it'
}
]

```

23. Find details of instructor where salary is neither less than 40000 nor Department is "it".

```
College> db.instructor.find({$nor:[{salary:{$lt:40000}},{department:"it"}]}).pretty();
```

```

[
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
  }
]

```

```
department: 'mech',
phonenumber: [ 9888298965, 9542210001 ],
email: null
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ],
  Salary: 10000
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
```

```
Name: { fname: 'shubhra', lname: 'patil' },
address: { city: 'bangalore', state: 'karnataka' },
salary: 65000,
status: 'approved',
department: 'civil',
phonenumber: [ 9877423155, 9852144462 ],
did: 7,
Salary: 10000
}
]
```

24. Find details of instructor with ID 1,2,3.

```
College> db.instructor.find({id:{$in:[1,2,3]}}).pretty();
```

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ],
    Salary: 10000
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
```

```
Name: { fname: 'kunal', lname: 'kumar' },
address: { city: 'nashik', state: 'mh' },
salary: 65000,
status: 'approved',
department: 'it',
phonenumber: [ 9876298900, 9543110001 ],
did: 3,
Salary: 10000
}
]
```

25. Find details of instructor except 1,2,3 and display other.

```
College> db.instructor.find({id:{$nin:[1,2,3]}}).pretty();
```

```
[
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
    email: null
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
```

```
Name: { fname: 'pawan', lname: 'more' },
address: { city: 'vashi', state: 'mh' },
salary: 85000,
status: 'notapproved',
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ],
  Salary: 10000
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7,
```



```
Salary: 10000
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
  phonenumber: [ 7709423155, 8034144462 ]
}
]
```

26. Display instructor id, fname, Department along with salary.

```
College> db.instructor.find({}, {id:1, department:1, "Name.fname":1, Salary:1}).pretty();
```

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit' },
    department: 'it',
    Salary: 10000
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal' },
```

```
    department: 'it',
    Salary: 10000
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul' },
    department: 'mech'
  },
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    Name: { fname: 'pawan' },
    department: 'aids'
  },
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron' },
    department: 'electrical',
    Salary: 10000
  },
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra' },
    department: 'civil',
    Salary: 10000
  }
```

```
},  
{  
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),  
  id: 8,  
  Name: { fname: 'aman' },  
  department: 'it'  
}  
]
```

27. Find instructor ID, fname, Department where salary greater than 50000.

College>

```
db.instructor.find({salary:{$gt:50000}},{id:1,department:1,"Name.fname":1,salary:1}).  
pretty()
```

```
[  
  {  
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),  
    id: 2,  
    Name: { fname: 'amit' },  
    salary: 70000,  
    department: 'it'  
  },  
  {  
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),  
    id: 3,  
    Name: { fname: 'kunal' },  
    salary: 65000,  
    department: 'it'  
  },  
]
```

```
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul' },
  salary: 70000,
  department: 'mech'
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan' },
  salary: 85000,
  department: 'aids'
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron' },
  salary: 55000,
  department: 'electrical'
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra' },
  salary: 65000,
  department: 'civil'
},
```

```
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman' },
  salary: 80000,
  department: 'it'
}
]
```

28. Add new attribute in the existing collection.

```
College> db.instructor.update({id:1},{set:{email:"abcd@gmail.com"}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
College> db.instructor.find({email:"abcd@gmail.com"}).pretty();
```

```
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
  }
]
```

```
department: 'cs',
phone: [ 9876567899, 9999856143 ],
email: 'abcd@gmail.com'
}
]
```

B.4]\$not

29. Find details of instructor where salary not greater than 60000.

```
College> db.instructor.find({salary:{$not:{$gt:60000}}}).pretty();
```

```
[
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ],
}
]
```

C.UPSERT

30.To change name of attribute

```
College> db.instructor.updateMany({},{$rename:{"phone":"phonenumber"}});
{
```

```
    acknowledged: true,
    insertedId: null,
    matchedCount: 8,
    modifiedCount: 8,
    upsertedCount: 0
  }
College> db.instructor.find().pretty();
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143 ]
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621 ]
  }
]
```

```
},  
{  
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),  
  id: 3,  
  Name: { fname: 'kunal', lname: 'kumar' },  
  address: { city: 'nashik', state: 'mh' },  
  salary: 65000,  
  status: 'approved',  
  department: 'it',  
  phonenumber: [ 9876298900, 9543110001 ]  
},  
{  
  _id: ObjectId("65104855b538d3bc80f0bb40"),  
  id: 4,  
  Name: { fname: 'rahul', lname: 'khan' },  
  address: { city: 'indore', state: 'mp' },  
  salary: 70000,  
  status: 'notapproved',  
  department: 'mech',  
  phonenumber: [ 9888298965, 9542210001 ]  
},  
{  
  _id: ObjectId("651048b1b538d3bc80f0bb41"),  
  id: 5,  
  Name: { fname: 'pawan', lname: 'more' },  
  address: { city: 'vashi', state: 'mh' },  
  salary: 85000,  
  status: 'notapproved',
```



```
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ]
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
```

```
    salary: 80000,  
    status: 'notapproved',  
    department: 'it',  
    phonenumber: [ 7709423155, 8034144462 ]  
  }  
]
```

31. To set Department “aiml” for ID 7 of an instructor

```
College> db.instructor.update({id:7},{set:{department:"aiml"}},{upsert:true});
```

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

```
College> db.instructor.find().pretty();
```

```
[  
  {  
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),  
    id: 2,  
    Name: { fname: 'amit', lname: 'shah' },  
    address: { city: 'mumbai', state: 'mh' },  
    salary: 70000,  
    status: 'approved',  
    department: 'it',  
    phonenumber: [ 9876227899, 9543112621, 8885212334 ],  
    Salary: 10000
```

```
},
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
  phonenumber: [ 9876298900, 9543110001 ],
  did: 3,
  Salary: 10000
},
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul', lname: 'khan' },
  address: { city: 'indore', state: 'mp' },
  salary: 70000,
  status: 'notapproved',
  department: 'mech',
  phonenumber: [ 9888298965, 9542210001 ],
  email: null
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
```

```
address: { city: 'vashi', state: 'mh' },
salary: 85000,
status: 'notapproved',
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ],
  Salary: 10000
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'aiml',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7,
  Salary: 10000
}
```

```

},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
  phonenumber: [ 7709423155, 8034144462 ]
}
]

```

D.USING ALL QUERY CRITERIA'S

32.Find details of instructor having salary greater than 50000 and working in the department 'it' and 'ec'

```

>
db.instructor.find({$and:[{salary:{$gt:50000}},{department:{$in:["it","ec"]}]}).pretty();
{
  "_id" : ObjectId("64d3797a9c6dd4c53c992254"),
  "id" : 2,
  "name" : {
    "fname" : "amit",
    "lname" : "shah"
  },
  "address" : {

```

```
        "city" : "mumbai",
        "state" : "mh"
    },
    "salary" : 70000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        9876227899,
        9543112621,
        9994446143
    ]
}
{
    "_id" : ObjectId("64d379fd9c6dd4c53c992255"),
    "id" : 3,
    "name" : {
        "fname" : "kunal",
        "lname" : "kumar"
    },
    "address" : {
        "city" : "nashik",
        "state" : "mh"
    },
    "salary" : 65000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98762989,
```

```
        9543110001,
        9999946143
    ]
}
{
    "_id" : ObjectId("64d37a499c6dd4c53c992256"),
    "id" : 4,
    "name" : {
        "fname" : "rahul",
        "lname" : "khan"
    },
    "address" : {
        "city" : "indore",
        "state" : "mp"
    },
    "salary" : 70000,
    "department" : "it",
    "status" : "notapproved",
    "phone" : [
        98882989,
        9542210001,
        9966646143
    ]
}
{
    "_id" : ObjectId("64d37aa99c6dd4c53c992257"),
    "id" : 5,
    "name" : {
```

```
        "fname" : "pawan",
        "lname" : "more"
    },
    "address" : {
        "city" : "vashi",
        "state" : "mh"
    },
    "salary" : 85000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98772989,
        9548810001
    ]
}
{
    "_id" : ObjectId("64d37b6f9c6dd4c53c992259"),
    "id" : 7,
    "name" : {
        "fname" : "shubhra",
        "lname" : "patil"
    },
    "address" : {
        "city" : "banglore",
        "state" : "kerala"
    },
    "salary" : 65000,
    "department" : "it",
```



```

    "status" : "approved",
    "phone" : [
        98700489,
        8842210001
    ]
}
{
    "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
    "id" : 8,
    "name" : {
        "fname" : "aman",
        "lname" : "patel"
    },
    "address" : {
        "city" : "nagpur",
        "state" : "mh"
    },
    "salary" : 80000,
    "department" : "it",
    "status" : "notapproved",
    "phone" : [
        77700489,
        8843210001
    ]
}

```

34. Find details of instructor either having salary greater than 50000 or working in the department 'it' and 'ec'

```
> db.instructor.find({$or:[{salary:{$gt:50000}},{department:{$in:["it","ec"]}}]}).pretty();
{
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),
  "id" : 1,
  "name" : {
    "fname" : "ram",
    "lname" : "lakhan"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 50000,
  "phone" : [
    9876567899,
    9543215621,
    9999856143
  ],
  "department" : "it"
}
{
  "_id" : ObjectId("64d3797a9c6dd4c53c992254"),
  "id" : 2,
  "name" : {
    "fname" : "amit",
    "lname" : "shah"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 50000,
  "phone" : [
    9876567899,
    9543215621,
    9999856143
  ],
  "department" : "ec"
}
```

```
"address" : {
    "city" : "mumbai",
    "state" : "mh"
},
"salary" : 70000,
"department" : "it",
"status" : "approved",
"phone" : [
    9876227899,
    9543112621,
    9994446143
]
}
{
    "_id" : ObjectId("64d379fd9c6dd4c53c992255"),
    "id" : 3,
    "name" : {
        "fname" : "kunal",
        "lname" : "kumar"
    },
    "address" : {
        "city" : "nashik",
        "state" : "mh"
    },
    "salary" : 65000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
```

```
        98762989,
        9543110001,
        9999946143
    ]
}
{
    "_id" : ObjectId("64d37a499c6dd4c53c992256"),
    "id" : 4,
    "name" : {
        "fname" : "rahul",
        "lname" : "khan"
    },
    "address" : {
        "city" : "indore",
        "state" : "mp"
    },
    "salary" : 70000,
    "department" : "it",
    "status" : "notapproved",
    "phone" : [
        98882989,
        9542210001,
        9966646143
    ]
}
{
    "_id" : ObjectId("64d37aa99c6dd4c53c992257"),
    "id" : 5,
```

```
"name" : {
    "fname" : "pawan",
    "lname" : "more"
},
"address" : {
    "city" : "vashi",
    "state" : "mh"
},
"salary" : 85000,
"department" : "it",
"status" : "approved",
"phone" : [
    98772989,
    9548810001
]
}
{
    "_id" : ObjectId("64d37b069c6dd4c53c992258"),
    "id" : 6,
    "name" : {
        "fname" : "aaron",
        "lname" : "jain"
    },
    "address" : {
        "city" : "chennai",
        "state" : "tn"
    },
    "salary" : 55000,
```

```
"department" : "electrical",
"status" : "approved",
"phone" : [
    98774489,
    9542210001
]
}
{
    "_id" : ObjectId("64d37b6f9c6dd4c53c992259"),
    "id" : 7,
    "name" : {
        "fname" : "shubhra",
        "lname" : "patil"
    },
    "address" : {
        "city" : "banglore",
        "state" : "kerala"
    },
    "salary" : 65000,
    "department" : "it",
    "status" : "approved",
    "phone" : [
        98700489,
        8842210001
    ]
}
{
    "_id" : ObjectId("64d37c229c6dd4c53c99225a"),
```

```
"id" : 8,
"name" : {
    "fname" : "aman",
    "lname" : "patel"
},
"address" : {
    "city" : "nagpur",
    "state" : "mh"
},
"salary" : 80000,
"department" : "it",
"status" : "notapproved",
"phone" : [
    77700489,
    8843210001
]
}
{
    "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
    "id" : 9,
    "name" : {
        "fname" : "jatin",
        "lname" : "rathod"
    },
    "address" : {
        "city" : "pune",
        "state" : "mh"
    },
}
```

```

    "salary" : 40000,
    "department" : "ec",
    "status" : "notapproved",
    "phone" : [
        88700489,
        8812210001
    ]
}
{
    "_id" : ObjectId("64e9a7824b0ba47f3d7be4ae"),
    "id" : 11,
    "department" : "it"
}

```

-

35.Find details of instructor having status 'approved' and department not equal to 'it'

```

> db.instructor.find({$and:[{status:"approved"},{department:{$ne:"it"}}]}).pretty();
{
    "_id" : ObjectId("64d37b069c6dd4c53c992258"),
    "id" : 6,
    "name" : {
        "fname" : "aaron",
        "lname" : "jain"
    },
    "address" : {
        "city" : "chennai",
        "state" : "tn"
    }
}

```



```

    },
    "salary" : 55000,
    "department" : "electrical",
    "status" : "approved",
    "phone" : [
        98774489,
        9542210001
    ]
}

```

36. Find detail of instructor having salary not greater than 60000

```

> db.instructor.find({salary:{$not:{$gt:60000}}}).pretty();
{
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),
  "id" : 1,
  "name" : {
    "fname" : "ram",
    "lname" : "lakhan"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 50000,
  "phone" : [
    9876567899,
    9543215621,

```

9999856143

```
]
}
{
  "_id" : ObjectId("64d37b069c6dd4c53c992258"),
  "id" : 6,
  "name" : {
    "fname" : "aaron",
    "lname" : "jain"
  },
  "address" : {
    "city" : "chennai",
    "state" : "tn"
  },
  "salary" : 55000,
  "department" : "electrical",
  "status" : "approved",
  "phone" : [
    98774489,
    9542210001
  ]
}
{
  "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
  "id" : 9,
  "name" : {
    "fname" : "jatin",
    "lname" : "rathod"
```

```

    },
    "address" : {
        "city" : "pune",
        "state" : "mh"
    },
    "salary" : 40000,
    "department" : "ec",
    "status" : "notapproved",
    "phone" : [
        88700489,
        8812210001
    ]
}

```

37. Find details of instructor having salary not greater than 50000

```

> db.instructor.find({salary:{$not:{$gt:50000}}}).pretty();
{
  "_id" : ObjectId("64d378f49c6dd4c53c992253"),
  "id" : 1,
  "name" : {
    "fname" : "ram",
    "lname" : "lakhan"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
}

```

```
"salary" : 50000,
"phone" : [
    9876567899,
    9543215621,
    9999856143
]
}
{
  "_id" : ObjectId("64d37c629c6dd4c53c99225b"),
  "id" : 9,
  "name" : {
    "fname" : "jatin",
    "lname" : "rathod"
  },
  "address" : {
    "city" : "pune",
    "state" : "mh"
  },
  "salary" : 40000,
  "department" : "ec",
  "status" : "notapproved",
  "phone" : [
    88700489,
    8812210001
  ]
}
```

-

E.\$where Queries

38.Find details of instructor where id and did are same

```
College> db.instructor.update({id:1},{set:{did:1}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
College> db.instructor.update({id:3},{set:{did:3}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
College> db.instructor.update({id:7},{set:{did:7}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
College> db.instructor.find({$where:function(){return(this.id==this.did)}}).pretty();
```

```
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143 ],
    did: 1
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal', lname: 'kumar' },
    address: { city: 'nashik', state: 'mh' },
    salary: 65000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876298900, 9543110001 ],
    did: 3
  },
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },
```

```
address: { city: 'banglore', state: 'karnataka' },
salary: 65000,
status: 'approved',
department: 'civil',
phonenumber: [ 9877423155, 9852144462 ],
did: 7
}
]
F.CURSORS(limit,skip,sort,advanced query options)
```

39.Print the first name of the instructor using cursor

```
College> var cursor=db.instructor.find()
```

```
College> cursor.forEach(function(x){print(x.Name.fname);})
```

ram

amit

kunal

rahul

pawan

aaron

shubhra

aman

40.Print the last name of the instructor using cursor

```
College> var cursor=db.instructor.find()
```

```
College> cursor.forEach(function(x){print(x.Name.lname);})
```

lakhan

shah

kumar

khan

more

jain

patil

patel

41.Print the city name of the instructor using cursor

```
College> var cursor=db.instructor.find()
```

```
College> cursor.forEach(function(x){print(x.address.city);})
```

pune

mumbai

nashik

indore

vashi

chennai

banglore

nagpur

42.Find the instructor whose id is greater than 4 using cursor

```
College> var cur=db.instructor.find({'id':{'$gt:4}})
```



```
College> while(cur.hasNext()){print(cur.next());}
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
}
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
}
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
```

```
status: 'approved',
department: 'civil',
phonenumber: [ 9877423155, 9852144462 ],
did: 7College> var cur=db.instructor.find({id:{$gt:4}})
```

```
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
  Name: { fname: 'aman', lname: 'patel' },
  address: { city: 'nagpur', state: 'mh' },
  salary: 80000,
  status: 'notapproved',
  department: 'it',
  phonenumber: [ 7709423155, 8034144462 ]
}
```

43.Find the instructor whose id is less than 4 using cursor

```
College> var cur=db.instructor.find({id:{$lt:4}})

College> while(cur.hasNext()){print(cur.next());}

{
  _id: ObjectId("65104698b538d3bc80f0bb3d"),
  id: 1,
  Name: { fname: 'ram', lname: 'lakhan' },
  address: { city: 'pune', state: 'mh' },
  salary: 50000,
```

```
status: 'approved',
department: 'cs',
email: 'abcd@gmail.com',
phonenumber: [ 9876567899, 9999856143 ],
did: 1
}
{
  _id: ObjectId("6510475bb538d3bc80f0bb3e"),
  id: 2,
  Name: { fname: 'amit', lname: 'shah' },
  address: { city: 'mumbai', state: 'mh' },
  salary: 70000,
  status: 'approved',
  department: 'it',
  phonenumber: [ 9876227899, 9543112621 ]
}
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
  phonenumber: [ 9876298900, 9543110001 ],
  did: 3
}
```

44. Find the instructor whose salary is less than 60000 using cursor

```
College> var cur=db.instructor.find({salary:{$lt:60000}})
```

```
College> while(cur.hasNext()){print(cur.next());}
```

```
{
```

```
  _id: ObjectId("65104698b538d3bc80f0bb3d"),
```

```
  id: 1,
```

```
  Name: { fname: 'ram', lname: 'lakhan' },
```

```
  address: { city: 'pune', state: 'mh' },
```

```
  salary: 50000,
```

```
  status: 'approved',
```

```
  department: 'cs',
```

```
  email: 'abcd@gmail.com',
```

```
  phonenumber: [ 9876567899, 9999856143, 7332212334 ],
```

```
  did: 1
```

```
}
```

```
{
```

```
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
```

```
  id: 6,
```

```
  Name: { fname: 'aaron', lname: 'jain' },
```

```
  address: { city: 'chennai', state: 'tn' },
```

```
  salary: 55000,
```

```
  status: 'approved',
```

```
  department: 'electrical',
```

```
  phonenumber: [ 9877448955, 9857542162 ]
```

```
}
```

CURSORS

45.Display first five documents of the collection

```
College> db.instructor.find().limit(5).pretty();

[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143 ],
    did: 1
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621 ]
  }
]
```

```
},  
{  
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),  
  id: 3,  
  Name: { fname: 'kunal', lname: 'kumar' },  
  address: { city: 'nashik', state: 'mh' },  
  salary: 65000,  
  status: 'approved',  
  department: 'it',  
  phonenumber: [ 9876298900, 9543110001 ],  
  did: 3  
},  
{  
  _id: ObjectId("65104855b538d3bc80f0bb40"),  
  id: 4,  
  Name: { fname: 'rahul', lname: 'khan' },  
  address: { city: 'indore', state: 'mp' },  
  salary: 70000,  
  status: 'notapproved',  
  department: 'mech',  
  phonenumber: [ 9888298965, 9542210001 ]  
},  
{  
  _id: ObjectId("651048b1b538d3bc80f0bb41"),  
  id: 5,  
  Name: { fname: 'pawan', lname: 'more' },  
  address: { city: 'vashi', state: 'mh' },  
  salary: 85000,
```

```
status: 'notapproved',
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
}
]
```

46.Display the documents by skipping first five documents

```
College> db.instructor.find().skip(5).pretty();
[
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron', lname: 'jain' },
    address: { city: 'chennai', state: 'tn' },
    salary: 55000,
    status: 'approved',
    department: 'electrical',
    phonenumber: [ 9877448955, 9857542162 ]
  },
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },
    address: { city: 'bangalore', state: 'karnataka' },
    salary: 65000,
    status: 'approved',
    department: 'civil',
```

```
    phonenumber: [ 9877423155, 9852144462 ],
    did: 7
  },
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155, 8034144462 ]
  }
]
```

47.Display documents in ascending order

```
College> db.instructor.find().sort({id:1}).pretty();
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
```



```
    phonenumber: [ 9876567899, 9999856143 ],
    did: 1
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621 ]
  },
  {
    _id: ObjectId("651047d4b538d3bc80f0bb3f"),
    id: 3,
    Name: { fname: 'kunal', lname: 'kumar' },
    address: { city: 'nashik', state: 'mh' },
    salary: 65000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876298900, 9543110001 ],
    did: 3
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
```

```
address: { city: 'indore', state: 'mp' },
salary: 70000,
status: 'notapproved',
department: 'mech',
phonenumber: [ 9888298965, 9542210001 ]
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
```

```

    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },
    address: { city: 'bangalore', state: 'karnataka' },
    salary: 65000,
    status: 'approved',
    department: 'civil',
    phonenumber: [ 9877423155, 9852144462 ],
    did: 7
  },
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155, 8034144462 ]
  }
]

```

48.Display documents in descending order

```

College> db.instructor.find().sort({id:-1}).pretty();
[
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,

```

```
Name: { fname: 'aman', lname: 'patel' },
address: { city: 'nagpur', state: 'mh' },
salary: 80000,
status: 'notapproved',
department: 'it',
phonenumber: [ 7709423155, 8034144462 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
```

```
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul', lname: 'khan' },
  address: { city: 'indore', state: 'mp' },
  salary: 70000,
  status: 'notapproved',
  department: 'mech',
  phonenumber: [ 9888298965, 9542210001 ]
},
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
```

```
    phonenumber: [ 9876298900, 9543110001 ],
    did: 3
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621 ]
  },
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143 ],
    did: 1
  }
]
```

G.TYPE SPECIFIC QUERIES

a.Null

49.Adding null value.

```
College> db.instructor.update({id:4},{set:{email:null}},{multi:true});
```

```
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
College> db.instructor.find({id:4}).pretty();
```

```
[
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
    email: null
  }
]
```

```
]
```

```
- b.$push
```

50.Using push add new phonenumber

College>

```
db.instructor.update({id:2},{ $push:{onenumber:8885212334}},{multi:true});
```

```
{
```

```
  acknowledged: true,
```

```
  insertedId: null,
```

```
  matchedCount: 1,
```

```
  modifiedCount: 1,
```

```
  upsertedCount: 0
```

```
}
```

College> db.instructor.find({id:2}).pretty();

```
[
```

```
{
```

```
  _id: ObjectId("6510475bb538d3bc80f0bb3e"),
```

```
  id: 2,
```

```
  Name: { fname: 'amit', lname: 'shah' },
```

```
  address: { city: 'mumbai', state: 'mh' },
```

```
  salary: 70000,
```

```
  status: 'approved',
```

```
  department: 'it',
```

```
  ononenumber: [ 9876227899, 9543112621, 8885212334 ]
```

```
}
```

```
]
```

H.REGULAR EXPRESSIONS a.like

51.Display details of instructor where department has substring "e"

```
College> db.instructor.find({department:/e/i}).pretty();
```

```
[
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
    email: null
  },
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron', lname: 'jain' },
    address: { city: 'chennai', state: 'tn' },
    salary: 55000,
    status: 'approved',
    department: 'electrical',
    phonenumber: [ 9877448955, 9857542162 ]
  }
]
```

52.Display details of instructor where city has substring "m"

College> db.instructor.find({"address.city":/m/i}).pretty();

```
[
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ]
  }
]
```

53.Display details of instructor where department has substring "al" and "il"

College> db.instructor.find({department:{\$in:[/al/,/il/]} }).pretty();

```
[
  {
    _id: ObjectId("6510493eb538d3bc80f0bb42"),
    id: 6,
    Name: { fname: 'aaron', lname: 'jain' },
    address: { city: 'chennai', state: 'tn' },
  }
]
```

```

    salary: 55000,
    status: 'approved',
    department: 'electrical',
    phonenumber: [ 9877448955, 9857542162 ]
  },
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },
    address: { city: 'banglore', state: 'karnataka' },
    salary: 65000,
    status: 'approved',
    department: 'civil',
    phonenumber: [ 9877423155, 9852144462 ],
    did: 7
  }
]

```

54. display details of instructor where department starts with "c" and ends with "l"

```

College> db.instructor.find({department:{$in:[/c*.l/]} }).pretty();
[
  {
    _id: ObjectId("651049c4b538d3bc80f0bb43"),
    id: 7,
    Name: { fname: 'shubhra', lname: 'patil' },
    address: { city: 'banglore', state: 'karnataka' },

```

```
    salary: 65000,
    status: 'approved',
    department: 'civil',
    phonenumber: [ 9877423155, 9852144462 ],
    did: 7
  }
]
```

55.Display details of instructor where department does not have substring "it"

```
College> db.instructor.find({department:{$nin:[/it/]} }).pretty();
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
    did: 1
  },
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
```

```
Name: { fname: 'rahul', lname: 'khan' },
address: { city: 'indore', state: 'mp' },
salary: 70000,
status: 'notapproved',
department: 'mech',
phonenumber: [ 9888298965, 9542210001 ],
email: null
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
  status: 'notapproved',
  department: 'aids',
  phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
```

```
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'banglore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7
}
]
```


56.Display details of instructor where city has substring "p"

```
College> db.instructor.find({"address.city":/p/i}).pretty();
```

```
[
  {
    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
```

```
    did: 1
  },
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155, 8034144462 ]
  }
]
```

57. Display details of instructor where department starts with "m" and ends with "h"

```
College> db.instructor.find({department:{$in:[/M*.h/]} }).pretty();
```

```
[
  {
    _id: ObjectId("65104855b538d3bc80f0bb40"),
    id: 4,
    Name: { fname: 'rahul', lname: 'khan' },
    address: { city: 'indore', state: 'mp' },
    salary: 70000,
    status: 'notapproved',
    department: 'mech',
    phonenumber: [ 9888298965, 9542210001 ],
```

```
    email: null
  }
]
```

58. display the details of instructor whose name starts with "p"

```
College> db.instructor.find({"Name.fname":/p/i}).pretty();
```

```
[
  {
    _id: ObjectId("651048b1b538d3bc80f0bb41"),
    id: 5,
    Name: { fname: 'pawan', lname: 'more' },
    address: { city: 'vashi', state: 'mh' },
    salary: 85000,
    status: 'notapproved',
    department: 'aids',
    phonenumber: [ 9548810001, 9548876321 ]
  }
]
```

b.\$size

59. Find details of instructor whose phonenumber size is 3

```
College> db.instructor.find({phonenumber:{$size:3}}).pretty();
```

```
[
  {
```



```

    _id: ObjectId("65104698b538d3bc80f0bb3d"),
    id: 1,
    Name: { fname: 'ram', lname: 'lakhan' },
    address: { city: 'pune', state: 'mh' },
    salary: 50000,
    status: 'approved',
    department: 'cs',
    email: 'abcd@gmail.com',
    phonenumber: [ 9876567899, 9999856143, 7332212334 ],
    did: 1
  },
  {
    _id: ObjectId("6510475bb538d3bc80f0bb3e"),
    id: 2,
    Name: { fname: 'amit', lname: 'shah' },
    address: { city: 'mumbai', state: 'mh' },
    salary: 70000,
    status: 'approved',
    department: 'it',
    phonenumber: [ 9876227899, 9543112621, 8885212334 ]
  }
]

```

60. Find details of instructor whose phonenumber size is 2

```

College> db.instructor.find({phonenumber:{$size:2}}).pretty();
[

```

```
{
  _id: ObjectId("651047d4b538d3bc80f0bb3f"),
  id: 3,
  Name: { fname: 'kunal', lname: 'kumar' },
  address: { city: 'nashik', state: 'mh' },
  salary: 65000,
  status: 'approved',
  department: 'it',
  phonenumber: [ 9876298900, 9543110001 ],
  did: 3
},
{
  _id: ObjectId("65104855b538d3bc80f0bb40"),
  id: 4,
  Name: { fname: 'rahul', lname: 'khan' },
  address: { city: 'indore', state: 'mp' },
  salary: 70000,
  status: 'notapproved',
  department: 'mech',
  phonenumber: [ 9888298965, 9542210001 ],
  email: null
},
{
  _id: ObjectId("651048b1b538d3bc80f0bb41"),
  id: 5,
  Name: { fname: 'pawan', lname: 'more' },
  address: { city: 'vashi', state: 'mh' },
  salary: 85000,
```

```
status: 'notapproved',
department: 'aids',
phonenumber: [ 9548810001, 9548876321 ]
},
{
  _id: ObjectId("6510493eb538d3bc80f0bb42"),
  id: 6,
  Name: { fname: 'aaron', lname: 'jain' },
  address: { city: 'chennai', state: 'tn' },
  salary: 55000,
  status: 'approved',
  department: 'electrical',
  phonenumber: [ 9877448955, 9857542162 ]
},
{
  _id: ObjectId("651049c4b538d3bc80f0bb43"),
  id: 7,
  Name: { fname: 'shubhra', lname: 'patil' },
  address: { city: 'bangalore', state: 'karnataka' },
  salary: 65000,
  status: 'approved',
  department: 'civil',
  phonenumber: [ 9877423155, 9852144462 ],
  did: 7
},
{
  _id: ObjectId("65104a2cb538d3bc80f0bb44"),
  id: 8,
```

```
Name: { fname: 'aman', lname: 'patel' },
address: { city: 'nagpur', state: 'mh' },
salary: 80000,
status: 'notapproved',
department: 'it',
phonenumber: [ 7709423155, 8034144462 ]
}
]
```

c.\$slice

61. Use slice(1) to display phonenumber of instructor id 8

```
College> db.instructor.find({id:8},{phonenumber:{$slice:1}}).pretty();
```

```
[
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumber: [ 7709423155 ]
  }
]
```

62. Use slice(2) to display phonenumber of instructor id 8

```
College> db.instructor.find({id:8},{phonenumbers:$slice:2}).pretty();
```

```
[
  {
    _id: ObjectId("65104a2cb538d3bc80f0bb44"),
    id: 8,
    Name: { fname: 'aman', lname: 'patel' },
    address: { city: 'nagpur', state: 'mh' },
    salary: 80000,
    status: 'notapproved',
    department: 'it',
    phonenumbers: [ 7709423155, 8034144462 ]
  }
]
```