DBMS – Assignment-B1 – Softcopy

Creation

```
use empDB
```
switched to db empDB
```
db.createCollection("Employee")
```
{ ok: 1 }

Inserting data

```
db.Employee.insertMany([
    {
        Empid: 1,
        Name: { FName: "Ayush", LName: "Kalaskar" },
        Company_name: "Oscorp",
        Salary: 50000,
        Designation: "Programmer",
        Age: 28,
        Expertise: ["Java", "Spring", "MongoDB"],
        DOB: "1995-04-15",
        Email_id: "ayush.kalaskar@oscorp.com",
        Contact: "9876543210",
        Address: [{ PAddr: "123, Street A, Pune", LAddr: "Maharashtra" }]
    },
    {
        Empid: 2,
        Name: { FName: "Himanshu", LName: "Patil" },
        Company_name: "Hammer Industries",
        Salary: 60000,
        Designation: "Developer",
        Age: 30,
        Expertise: ["JavaScript", "React", "Node.js"],
        DOB: "1993-06-25",
        Email_id: "himanshu.patil@hammerindustries.com",
        Contact: "9876543211",
        Address: [{ PAddr: "234, Street B, Bangalore", LAddr: "Karnataka"
}]
    },
    {
        Empid: 3,
        Name: { FName: "Mehul", LName: "Patil" },
        Company_name: "Lex Corp.",
        Salary: 45000,
```

```
        Designation: "Tester",
        Age: 29,
        Expertise: ["Selenium", "Python"],
        DOB: "1994-08-12",
        Email_id: "mehul.patil@lexcorp.org",
        Contact: "9876543212",
        Address: [{ PAddr: "345, Street C, Hyderabad", LAddr: "Telangana"
}]
    },
    {
        Empid: 4,
        Name: { FName: "Tanmay", LName: "Machkar" },
        Company_name: "Wayne Industries",
        Salary: 70000,
        Designation: "Project Manager",
        Age: 35,
        Expertise: ["Agile", "Scrum"],
        DOB: "1988-02-20",
        Email_id: "tanmay.machkar@batmobile.com",
        Contact: "9876543213",
        Address: [{ PAddr: "456, Street D, Chennai", LAddr: "Tamil
Nadu" }]
    },
    {
        Empid: 5,
        Name: { FName: "Rajendra", LName: "Patil" },
        Company_name: "Stark Industries",
        Salary: 32000,
        Designation: "Programmer",
        Age: 27,
        Expertise: ["Java", "Angular"],
        DOB: "1996-03-30",
        Email_id: "rajendra.patil@starkindustries.com",
        Contact: "9876543214",
        Address: [{ PAddr: "567, Street E, Delhi", LAddr: "Delhi" }]
    },
    {
        Empid: 6,
        Name: { FName: "Rajesh", LName: "Patil" },
        Company_name: "Roxonn",
        Salary: 50000,
        Designation: "Designer",
        Age: 32,
```

```
            Expertise: ["Photoshop", "Illustrator"],
            DOB: "1991-11-11",
            Email_id: "rajesh.patil@roxonn.com",
            Contact: "9876543215",
            Address: [{ PAddr: "678, Street F, Kolkata", LAddr: "West Bengal"
}]
    },
    {
            Empid: 7,
            Name: { FName: "Prashant", LName: "Kalaskar" },
            Company_name: "Y-Space",
            Salary: 45000,
            Designation: "Tester",
            Age: 26,
            Expertise: ["Selenium", "Java"],
            DOB: "1997-07-07",
            Email_id: "prashant.kalaskar@y-space.com",
            Contact: "9876543216",
            Address: [{ PAddr: "789, Street G, Pune", LAddr: "Maharashtra" }]
    },
    {
            Empid: 8,
            Name: { FName: "Aditya", LName: "Gundeti" },
            Company_name: "SNASA",
            Salary: 80000,
            Designation: "Architect",
            Age: 33,
            Expertise: ["Cloud", "Microservices"],
            DOB: "1990-01-01",
            Email_id: "aditya.gundeti@snasa.org",
            Contact: "9876543217",
            Address: [{ PAddr: "890, Street H, Noida", LAddr: "Uttar Pradesh"
}]
    },
    {
            Empid: 9,
            Name: { FName: "Manoj", LName: "Patil" },
            Company_name: "MEPA",
            Salary: 40000,
            Designation: "Developer",
            Age: 31,
            Expertise: ["C#", ".NET"],
            DOB: "1992-05-05",
```

```
        Email_id: "manoj.patil@mepa.com",
        Contact: "9876543218",
        Address: [{ PAddr: "901, Street I, Jaipur", LAddr: "Rajasthan" }]
    },
    {
        Empid: 10,
        Name: { FName: "Afan", LName: "Shaikh" },
        Company_name: "Vought",
        Salary: 39000,
        Designation: "HR",
        Age: 29,
        Expertise: ["Recruitment", "Employee Relations"],
        DOB: "1994-09-09",
        Email_id: "afan.shaikh@vought.com",
        Contact: "9876543219",
        Address: [{ PAddr: "1234, Street J, Ahmedabad", LAddr:
"Gujarat" }]
    }
])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('671118cb722906af4efe6911'),
    '1': ObjectId('671118cb722906af4efe6912'),
    '2': ObjectId('671118cb722906af4efe6913'),
    '3': ObjectId('671118cb722906af4efe6914'),
    '4': ObjectId('671118cb722906af4efe6915'),
    '5': ObjectId('671118cb722906af4efe6916'),
    '6': ObjectId('671118cb722906af4efe6917'),
    '7': ObjectId('671118cb722906af4efe6918'),
    '8': ObjectId('671118cb722906af4efe6919'),
    '9': ObjectId('671118cb722906af4efe691a')
  }
}
```

Queries

1. Select all documents where Designation is "Programmer" and Salary > 30000:

db.Employee.find({ Designation: "Programmer", Salary: { $gt: 30000 } })

```
[
  {
    _id: ObjectId('671118cb722906af4efe6911'),
    Empid: 1,
    Name: { FName: 'Ayush', LName: 'Kalaskar' },
```

```
    Company_name: 'Oscorp',
    Salary: 50000,
    Designation: 'Programmer',
    Age: 28,
    Expertise: [ 'Java', 'Spring', 'MongoDB' ],
    DOB: '1995-04-15',
    Email_id: 'ayush.kalaskar@oscorp.com',
    Contact: '9876543210',
    Address: [ { PAddr: '123, Street A, Pune', LAddr: 'Maharashtra' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6915'),
    Empid: 5,
    Name: { FName: 'Rajendra', LName: 'Patil' },
    Company_name: 'Stark Industries',
    Salary: 32000,
    Designation: 'Programmer',
    Age: 27,
    Expertise: [ 'Java', 'Angular' ],
    DOB: '1996-03-30',
    Email_id: 'rajendra.patil@starkindustries.com',
    Contact: '9876543214',
    Address: [ { PAddr: '567, Street E, Delhi', LAddr: 'Delhi' } ]
  }
]
```

2. Create a new document if no document contains `{Designation: "Tester", Company_name: "Y-Space", Age: 25}`:

```
db.Employee.update(

    { Designation: "Tester", Company_name: "Y-Space", Age: 25 },

    { $setOnInsert: { Empid: 11, Name: { FName: "Anil", LName:
"Salvi" }, Salary: 30000, DOB: "1998-01-01", Email_id: "anil.salvi@y-
space.com", Contact: "9876543220", Address: [{ PAddr: "123 Street",
LAddr: "Mumbai" }] } },

    { upsert: true }

)
{
  acknowledged: true,
  insertedId: ObjectId('6711195c7b947b9ca67f6f0b'),
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 1
```

}

3. Select all documents where Age < 30 or Salary > 40000:

db.Employee.find({ $or: [{ Age: { $lt: 30 } }, { Salary: { $gt: 40000 } }] })

```
[
  {
    _id: ObjectId('671118cb722906af4efe6911'),
    Empid: 1,
    Name: { FName: 'Ayush', LName: 'Kalaskar' },
    Company_name: 'Oscorp',
    Salary: 50000,
    Designation: 'Programmer',
    Age: 28,
    Expertise: [ 'Java', 'Spring', 'MongoDB' ],
    DOB: '1995-04-15',
    Email_id: 'ayush.kalaskar@oscorp.com',
    Contact: '9876543210',
    Address: [ { PAddr: '123, Street A, Pune', LAddr: 'Maharashtra' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6912'),
    Empid: 2,
    Name: { FName: 'Himanshu', LName: 'Patil' },
    Company_name: 'Hammer Industries',
    Salary: 60000,
    Designation: 'Developer',
    Age: 30,
    Expertise: [ 'JavaScript', 'React', 'Node.js' ],
    DOB: '1993-06-25',
    Email_id: 'himanshu.patil@hammerindustries.com',
    Contact: '9876543211',
    Address: [ { PAddr: '234, Street B, Bangalore', LAddr:
'Karnataka' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6913'),
    Empid: 3,
    Name: { FName: 'Mehul', LName: 'Patil' },
    Company_name: 'Lex Corp.',
    Salary: 45000,
    Designation: 'Tester',
```

```
    Age: 29,
    Expertise: [ 'Selenium', 'Python' ],
    DOB: '1994-08-12',
    Email_id: 'mehul.patil@lexcorp.org',
    Contact: '9876543212',
    Address: [ { PAddr: '345, Street C, Hyderabad', LAddr:
'Telangana' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6914'),
    Empid: 4,
    Name: { FName: 'Tanmay', LName: 'Machkar' },
    Company_name: 'Wayne Industries',
    Salary: 70000,
    Designation: 'Project Manager',
    Age: 35,
    Expertise: [ 'Agile', 'Scrum' ],
    DOB: '1988-02-20',
    Email_id: 'tanmay.machkar@batmobile.com',
    Contact: '9876543213',
    Address: [ { PAddr: '456, Street D, Chennai', LAddr: 'Tamil Nadu' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6915'),
    Empid: 5,
    Name: { FName: 'Rajendra', LName: 'Patil' },
    Company_name: 'Stark Industries',
    Salary: 32000,
    Designation: 'Programmer',
    Age: 27,
    Expertise: [ 'Java', 'Angular' ],
    DOB: '1996-03-30',
    Email_id: 'rajendra.patil@starkindustries.com',
    Contact: '9876543214',
    Address: [ { PAddr: '567, Street E, Delhi', LAddr: 'Delhi' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6916'),
    Empid: 6,
    Name: { FName: 'Rajesh', LName: 'Patil' },
    Company_name: 'Roxonn',
    Salary: 50000,
    Designation: 'Designer',
```

```
    Age: 32,
    Expertise: [ 'Photoshop', 'Illustrator' ],
    DOB: '1991-11-11',
    Email_id: 'rajesh.patil@roxonn.com',
    Contact: '9876543215',
    Address: [ { PAddr: '678, Street F, Kolkata', LAddr: 'West
Bengal' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6917'),
    Empid: 7,
    Name: { FName: 'Prashant', LName: 'Kalaskar' },
    Company_name: 'Y-Space',
    Salary: 45000,
    Designation: 'Tester',
    Age: 26,
    Expertise: [ 'Selenium', 'Java' ],
    DOB: '1997-07-07',
    Email_id: 'prashant.kalaskar@y-space.com',
    Contact: '9876543216',
    Address: [ { PAddr: '789, Street G, Pune', LAddr: 'Maharashtra' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6918'),
    Empid: 8,
    Name: { FName: 'Aditya', LName: 'Gundeti' },
    Company_name: 'SNASA',
    Salary: 80000,
    Designation: 'Architect',
    Age: 33,
    Expertise: [ 'Cloud', 'Microservices' ],
    DOB: '1990-01-01',
    Email_id: 'aditya.gundeti@snasa.org',
    Contact: '9876543217',
    Address: [ { PAddr: '890, Street H, Noida', LAddr: 'Uttar
Pradesh' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe691a'),
    Empid: 10,
    Name: { FName: 'Afan', LName: 'Shaikh' },
    Company_name: 'Vought',
    Salary: 39000,
```

```
    Designation: 'HR',
    Age: 29,
    Expertise: [ 'Recruitment', 'Employee Relations' ],
    DOB: '1994-09-09',
    Email_id: 'afan.shaikh@vought.com',
    Contact: '9876543219',
    Address: [ { PAddr: '1234, Street J, Ahmedabad', LAddr: 'Gujarat' } ]
  },
  {
    _id: ObjectId('6711195c7b947b9ca67f6f0b'),
    Company_name: 'Y-Space',
    Designation: 'Tester',
    Age: 25,
    Address: [ { PAddr: '123 Street', LAddr: 'Mumbai' } ],
    Contact: '9876543220',
    DOB: '1998-01-01',
    Email_id: 'anil.salvi@y-space.com',
    Empid: 11,
    Name: { FName: 'Anil', LName: 'Salvi' },
    Salary: 30000
  }
]
```

4. Match documents where Address contains city "Pune" and Pin_code "411001":

db.Employee.find({ Address: { $elemMatch: { city: "Pune", Pin_code: "411001" } } })

None

5. Find all documents with Company_name "Oscorp" and modify their salary by 2000:

db.Employee.updateMany(

    { Company_name: "Oscorp" },

    { $inc: { Salary: 2000 } }

)

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

6. Find documents where Designation is not equal to "Developer":

db.Employee.find({ Designation: { $ne: "Developer" } })

```
[
  {
    _id: ObjectId('671118cb722906af4efe6914'),
    Name: { FName: 'Tanmay', LName: 'Machkar' },
    Designation: 'Project Manager',
    Address: [ { PAddr: '456, Street D, Chennai', LAddr: 'Tamil Nadu' } ]
  }
]
```

7. Find _id, Designation, Address, and Name where Company_name is "Infosys":

db.Employee.find(

*   { Company_name: "Wayne Industries" },*

*   { _id: 1, Designation: 1, Address: 1, Name: 1 }*

)

```
[
  {
    _id: ObjectId('671118cb722906af4efe6914'),
    Name: { FName: 'Tanmay', LName: 'Machkar' },
    Designation: 'Project Manager',
    Address: [ { PAddr: '456, Street D, Chennai', LAddr: 'Tamil Nadu' } ]
  }
]
```

8. Select all documents where Designation is either "Developer" or "Tester":

db.Employee.find({ Designation: { $in: ["Developer", "Tester"] } })

```
[
  {
    _id: ObjectId('671118cb722906af4efe6912'),
    Empid: 2,
    Name: { FName: 'Himanshu', LName: 'Patil' },
    Company_name: 'Hammer Industries',
    Salary: 60000,
    Designation: 'Developer',
    Age: 30,
    Expertise: [ 'JavaScript', 'React', 'Node.js' ],
    DOB: '1993-06-25',
    Email_id: 'himanshu.patil@hammerindustries.com',
    Contact: '9876543211',
    Address: [ { PAddr: '234, Street B, Bangalore', LAddr:
'Karnataka' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6913'),
```

```
    Empid: 3,
    Name: { FName: 'Mehul', LName: 'Patil' },
    Company_name: 'Lex Corp.',
    Salary: 45000,
    Designation: 'Tester',
    Age: 29,
    Expertise: [ 'Selenium', 'Python' ],
    DOB: '1994-08-12',
    Email_id: 'mehul.patil@lexcorp.org',
    Contact: '9876543212',
    Address: [ { PAddr: '345, Street C, Hyderabad', LAddr:
'Telangana' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6917'),
    Empid: 7,
    Name: { FName: 'Prashant', LName: 'Kalaskar' },
    Company_name: 'Y-Space',
    Salary: 45000,
    Designation: 'Tester',
    Age: 26,
    Expertise: [ 'Selenium', 'Java' ],
    DOB: '1997-07-07',
    Email_id: 'prashant.kalaskar@y-space.com',
    Contact: '9876543216',
    Address: [ { PAddr: '789, Street G, Pune', LAddr: 'Maharashtra' } ]
  },
  {
    _id: ObjectId('671118cb722906af4efe6919'),
    Empid: 9,
    Name: { FName: 'Manoj', LName: 'Patil' },
    Company_name: 'MEPA',
    Salary: 40000,
    Designation: 'Developer',
    Age: 31,
    Expertise: [ 'C#', '.NET' ],
    DOB: '1992-05-05',
    Email_id: 'manoj.patil@mepa.com',
    Contact: '9876543218',
    Address: [ { PAddr: '901, Street I, Jaipur', LAddr: 'Rajasthan' } ]
  },
  {
    _id: ObjectId('6711195c7b947b9ca67f6f0b'),
```

```
    Company_name: 'Y-Space',
    Designation: 'Tester',
    Age: 25,
    Address: [ { PAddr: '123 Street', LAddr: 'Mumbai' } ],
    Contact: '9876543220',
    DOB: '1998-01-01',
    Email_id: 'anil.salvi@y-space.com',
    Empid: 11,
    Name: { FName: 'Anil', LName: 'Salvi' },
    Salary: 30000
  }
]
```

9. Find all documents with exact match on Expertise array:

db.Employee.find({ Expertise: { $all: ["Cloud", "Microservices"] } })

```
[
  {
    _id: ObjectId('671118cb722906af4efe6918'),
    Empid: 8,
    Name: { FName: 'Aditya', LName: 'Gundeti' },
    Company_name: 'SNASA',
    Salary: 80000,
    Designation: 'Architect',
    Age: 33,
    Expertise: [ 'Cloud', 'Microservices' ],
    DOB: '1990-01-01',
    Email_id: 'aditya.gundeti@snasa.org',
    Contact: '9876543217',
    Address: [ { PAddr: '890, Street H, Noida', LAddr: 'Uttar
Pradesh' } ]
  }
]
```

10. Drop single documents where Designation is "Developer":

db.Employee.deleteMany({ Designation: "Developer" })

{ acknowledged: true, deletedCount: 2 }

--- END OF DOCUMENT ---