

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: "TCS", 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: 'Gundet' },
  Company_name: 'SNASA',
  Salary: 80000,
  Designation: 'Architect',
  Age: 33,
  Expertise: [ 'Cloud', 'Microservices' ],
  DOB: '1990-01-01',
  Email_id: 'aditya.gundet@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 "TCS" 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 ---