

DBMS Assignment B2

1. Select all documents where the Designation field has the value "Programmer" and the value of the salary field is greater than 30000.

```
> db.empdb.find({$and:[{Designation:"Programmer"},{Salary:{$gt:30000}}]}).pretty()
{
  "_id" : ObjectId("5fe1115a0b4d2650a1422cdc"),
  "Empid" : 2,
  "Name" : {
    "Fname" : "Dhruvil",
    "Lname" : "Shah"
  },
  "Company_Name" : "VM ware",
  "Salary" : 65000,
  "Designation" : "Programmer",
  "Age" : 20,
  "Expertise" : [
    "mongoDB",
    "python",
    "scala"
  ],
  "DOB" : ISODate("2000-03-28T00:00:00Z"),
  "Email_id" : "dhruvilshah@gmail.com",
  "Contact" : "2222222222",
  "Address" : {
    "city" : "auragabad",
    "Pincode" : "434323"
  }
}
```

```

}
{
  "_id" : ObjectId("5fe1115b0b4d2650a1422ce1"),
  "Empid" : 7,
  "Name" : {
    "Fname" : "Vikas",
    "Lname" : "Gupta"
  },
  "Company_Name" : "IBM",
  "Salary" : 35000,
  "Designation" : "Programmer",
  "Age" : 30,
  "Expertise" : [
    "mongoDB",
    "Mysql",
    "Cassandra"
  ],
  "DOB" : ISODate("1990-04-22T00:00:00Z"),
  "Email_id" : "vikasgupta@gmail.com",
  "Contact" : "7777777777",
  "Address" : {
    "city" : "indore",
    "Pincode" : "453434"
  }
}

```

2. Creates a new document if no document in the employee collection contains

```

>db.empdb.update({Designation:"Tester",Company_Name:"TCS",Age:20},{Designation:"Tester",
Company_Name:"TCS",Salary:50000,Age:25,Expertise:["JAVA","C#"]},{upsert:true})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

```

3. Selects all documents in the collection where the field age has a value less than 30 or the value of the salary field is greater than 40000.

```
> db.empdb.find({$or:[{Age:{$lt:30}},{Salary:{$gt:40000}}]}).pretty()
```

```
{
  "_id" : ObjectId("5fe1115a0b4d2650a1422cdc"),
  "Empid" : 2,
  "Name" : {
    "Fname" : "Dhruvil",
    "Lname" : "Shah"
  },
  "Company_Name" : "VM ware",
  "Salary" : 65000,
  "Designation" : "Programmer",
  "Age" : 20,
  "Expertise" : [
    "mongoDB",
    "python",
    "scala"
  ],
  "DOB" : ISODate("2000-03-28T00:00:00Z"),
  "Email_id" : "dhruvilshah@gmail.com",
  "Contact" : "2222222222",
  "Address" : {
    "city" : "auragabad",
    "Pincode" : "434323"
  }
}

{
  "_id" : ObjectId("5fe1115a0b4d2650a1422cdd"),
```

```
"Empid" : 3,
"Name" : {
  "Fname" : "Gaurav",
  "Lname" : "Verma"
},
"Company_Name" : "Infosys",
"Salary" : 45000,
"Designation" : "Designer",
"Age" : 20,
"Expertise" : [
  "Mysql",
  "R language",
  "UI/UX"
],
"DOB" : ISODate("2000-03-09T00:00:00Z"),
"Email_id" : "gauravverma@gmail.com",
"Contact" : "3333333333",
"Address" : {
  "city" : "mumbai",
  "Pincode" : "343243"
}
}
{
  "_id" : ObjectId("5fe1115b0b4d2650a1422cdf"),
  "Designation" : "Tester",
  "Company_Name" : "TCS",
  "Salary" : 52000,
  "Age" : 25,
  "Expertise" : [
```

```
        "JAVA",
        "C#"
    ]
}
{
    "_id" : ObjectId("5fe1115b0b4d2650a1422ce0"),
    "Empid" : 6,
    "Name" : {
        "Fname" : "Pooja",
        "Lname" : "Patel"
    },
    "Company_Name" : "GB lab",
    "Salary" : 20000,
    "Designation" : "Tester",
    "Age" : 22,
    "Expertise" : [
        "Cpp",
        "mongoDB",
        "Cloud"
    ],
    "DOB" : ISODate("1998-05-23T00:00:00Z"),
    "Email_id" : "poojapatel@gmail.com",
    "Contact" : "6666666666",
    "Address" : {
        "city" : "banglore",
        "Pincode" : "545343"
    }
}
{
```

```
"_id" : ObjectId("5fe1115b0b4d2650a1422ce2"),
"Empid" : 8,
"Name" : {
  "Fname" : "Gita",
  "Lname" : "Rao"
},
"Company_Name" : "TCS",
"Salary" : 70000,
"Designation" : "Designer",
"Age" : 41,
"Expertise" : [
  "Sqlite",
  "R language",
  "JavaScript"
],
"DOB" : ISODate("1969-05-24T00:00:00Z"),
"Email_id" : "gitarao@gmail.com",
"Contact" : "8888888888",
"Address" : {
  "city" : "Gaya",
  "Pincode" : "654343"
}
}
{
  "_id" : ObjectId("5fe117be0b4d2650a1422ce4"),
  "Empid" : 1,
  "Name" : {
    "Fname" : "Shreyas",
    "Lname" : "Chaudhari"
```

```
    },
    "Company_Name" : "Nvidia",
    "Salary" : 50000,
    "Designation" : "Developer",
    "Age" : 20,
    "Expertise" : [
        "mongoDB",
        "MySQL",
        "Java"
    ],
    "DOB" : ISODate("2000-06-09T00:00:00Z"),
    "Email_id" : "chaudharishreyas21@gmail.com",
    "Contact" : "1111111111",
    "Address" : {
        "city" : "pune",
        "Pincode" : "411001"
    }
}

{
    "_id" : ObjectId("5fe117c30b4d2650a1422ce6"),
    "Empid" : 4,
    "Name" : {
        "Fname" : "Sudesh",
        "Lname" : "Pawar"
    },
    "Company_Name" : "capgemini",
    "Salary" : 60000,
    "Designation" : "Developer",
    "Age" : 21,
```

```

    "Expertise" : [
        "JavaScript",
        "YACC",
        "DSA"
    ],
    "DOB" : ISODate("1999-11-29T00:00:00Z"),
    "Email_id" : "sudeshpawar@gmail.com",
    "Contact" : "4444444444",
    "Address" : {
        "city" : "nagpur",
        "Pincode" : "656444"
    }
}

```

4. Matches all documents where the value of the field Address is an embedded document that contains only the field city with the value "Pune" and the field Pin_code with the value "411001".

```

>
db.empdb.aggregate([{$match:{$and: [{"Address.city":"pune"}, {"Address.Pincode":"411001"}]}}]
).pretty()

{
  "_id" : ObjectId("5fe117be0b4d2650a1422ce4"),
  "Empid" : 1,
  "Name" : {
    "Fname" : "Shreyas",
    "Lname" : "Chaudhari"
  },
  "Company_Name" : "Nvidia",
  "Salary" : 50000,
  "Designation" : "Developer",
  "Age" : 20,

```



```

    "Expertise" : [
        "mongoDB",
        "MySQL",
        "Java"
    ],
    "DOB" : ISODate("2000-06-09T00:00:00Z"),
    "Email_id" : "chaudharishreyas21@gmail.com",
    "Contact" : "1111111111",
    "Address" : {
        "city" : "pune",
        "Pincode" : "411001"
    }
}

```

5. Finds all documents with Company_name: "TCS" and modifies their salary field by 2000.

```

> db.empdb.update({Company_Name:"TCS"},{$inc:{Salary:2000}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

```

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

```

> db.empdb.find({Designation:{$ne:"Developer"}}).pretty()
{
  "_id" : ObjectId("5fe1115a0b4d2650a1422cdc"),
  "Empid" : 2,
  "Name" : {
    "Fname" : "Dhruvil",
    "Lname" : "Shah"
  },
  "Company_Name" : "VM ware",
  "Salary" : 65000,
  "Designation" : "Programmer",
  "Age" : 20,
  "Expertise" : [
    "mongoDB",
    "python",
    "scala"
  ],
  "DOB" : ISODate("2000-03-28T00:00:00Z"),
  "Email_id" : "dhruvilshah@gmail.com",

```

```

    "Contact" : "2222222222",
    "Address" : {
        "city" : "auragabad",
        "Pincode" : "434323"
    }
}
{
    "_id" : ObjectId("5fe1115a0b4d2650a1422cdd"),
    "Empid" : 3,
    "Name" : {
        "Fname" : "Gaurav",
        "Lname" : "Verma"
    },
    "Company_Name" : "Infosys",
    "Salary" : 45000,
    "Designation" : "Designer",
    "Age" : 20,
    "Expertise" : [
        "Mysql",
        "R language",
        "UI/UX"
    ],
    "DOB" : ISODate("2000-03-09T00:00:00Z"),
    "Email_id" : "gauravverma@gmail.com",
    "Contact" : "3333333333",
    "Address" : {
        "city" : "mumbai",
        "Pincode" : "343243"
    }
}
{
    "_id" : ObjectId("5fe1115b0b4d2650a1422cdf"),
    "Designation" : "Tester",
    "Company_Name" : "TCS",
    "Salary" : 52000,
    "Age" : 25,
    "Expertise" : [
        "JAVA",
        "C#"
    ]
}
{
    "_id" : ObjectId("5fe1115b0b4d2650a1422ce0"),
    "Empid" : 6,

```

```
"Name" : {
  "Fname" : "Pooja",
  "Lname" : "Patel"
},
"Company_Name" : "GB lab",
"Salary" : 20000,
"Designation" : "Tester",
"Age" : 22,
"Expertise" : [
  "Cpp",
  "mongoDB",
  "Cloud"
],
"DOB" : ISODate("1998-05-23T00:00:00Z"),
"Email_id" : "poojapatel@gmail.com",
"Contact" : "6666666666",
"Address" : {
  "city" : "banglore",
  "Pincode" : "545343"
}
}
{
  "_id" : ObjectId("5fe1115b0b4d2650a1422ce1"),
  "Empid" : 7,
  "Name" : {
    "Fname" : "Vikas",
    "Lname" : "Gupta"
  },
  "Company_Name" : "IBM",
  "Salary" : 35000,
  "Designation" : "Programmer",
  "Age" : 30,
  "Expertise" : [
    "mongoDB",
    "Mysql",
    "Cassandra"
  ],
  "DOB" : ISODate("1990-04-22T00:00:00Z"),
  "Email_id" : "vikasgupta@gmail.com",
  "Contact" : "7777777777",
  "Address" : {
    "city" : "indore",
    "Pincode" : "453434"
  }
}
```

```

}
{
  "_id" : ObjectId("5fe1115b0b4d2650a1422ce2"),
  "Empid" : 8,
  "Name" : {
    "Fname" : "Gita",
    "Lname" : "Rao"
  },
  "Company_Name" : "TCS",
  "Salary" : 70000,
  "Designation" : "Designer",
  "Age" : 41,
  "Expertise" : [
    "Sqlite",
    "R language",
    "JavaScript"
  ],
  "DOB" : ISODate("1969-05-24T00:00:00Z"),
  "Email_id" : "gitarao@gmail.com",
  "Contact" : "8888888888",
  "Address" : {
    "city" : "Gaya",
    "Pincode" : "654343"
  }
}

```

7. Find _id, Designation, Address and Name from all documents where Company_name is "Infosys".

```

> db.empdb.find({Company_Name:"Infosys"},{_id:1,Designation:1,Address:1,Name:1}).pretty()
{
  "_id" : ObjectId("5fe1115a0b4d2650a1422cdd"),
  "Name" : {
    "Fname" : "Gaurav",
    "Lname" : "Verma"
  },
  "Designation" : "Designer",
  "Address" : {
    "city" : "mumbai",
    "Pincode" : "343243"
  }
}

```

8. Selects all documents in the employee collection where the value of the Designation is either "Developer" or "Tester".

```

> db.empdb.find({$or:[{Designation:"Developer"},{Designation:"Tester"}]}).pretty()
{

```

```

    "_id" : ObjectId("5fe1115b0b4d2650a1422cdf"),
    "Designation" : "Tester",
    "Company_Name" : "TCS",
    "Salary" : 52000,
    "Age" : 25,
    "Expertise" : [
        "JAVA",
        "C#"
    ]
}
{
    "_id" : ObjectId("5fe1115b0b4d2650a1422ce0"),
    "Empid" : 6,
    "Name" : {
        "Fname" : "Pooja",
        "Lname" : "Patel"
    },
    "Company_Name" : "GB lab",
    "Salary" : 20000,
    "Designation" : "Tester",
    "Age" : 22,
    "Expertise" : [
        "Cpp",
        "mongoDB",
        "Cloud"
    ],
    "DOB" : ISODate("1998-05-23T00:00:00Z"),
    "Email_id" : "poojapatel@gmail.com",
    "Contact" : "6666666666",
    "Address" : {
        "city" : "banglore",
        "Pincode" : "545343"
    }
}
{
    "_id" : ObjectId("5fe117be0b4d2650a1422ce4"),
    "Empid" : 1,
    "Name" : {
        "Fname" : "Shreyas",
        "Lname" : "Chaudhari"
    },
    "Company_Name" : "Nvidia",
    "Salary" : 50000,
    "Designation" : "Developer",

```

```

    "Age" : 20,
    "Expertise" : [
        "mongoDB",
        "MySQL",
        "Java"
    ],
    "DOB" : ISODate("2000-06-09T00:00:00Z"),
    "Email_id" : "chaudharishreyas21@gmail.com",
    "Contact" : "1111111111",
    "Address" : {
        "city" : "pune",
        "Pincode" : "411001"
    }
}
{
    "_id" : ObjectId("5fe117c30b4d2650a1422ce6"),
    "Empid" : 4,
    "Name" : {
        "Fname" : "Sudesh",
        "Lname" : "Pawar"
    },
    "Company_Name" : "capgemini",
    "Salary" : 60000,
    "Designation" : "Developer",
    "Age" : 21,
    "Expertise" : [
        "JavaScript",
        "YACC",
        "DSA"
    ],
    "DOB" : ISODate("1999-11-29T00:00:00Z"),
    "Email_id" : "sudeshpawar@gmail.com",
    "Contact" : "4444444444",
    "Address" : {
        "city" : "nagpur",
        "Pincode" : "462001"
    }
}

```

9. Find all document with Exact Match on an Array having Expertise: ['Mongodb','Mysql', 'Cassandra']


```

      > db.empdb.aggregate([{$match:{Expertise:['mongoDB','Mysql','Cassandra']}}]).pretty()
      {
        "_id" : ObjectId("5fe1115b0b4d2650a1422ce1"),
        "Empid" : 7,

```

```

    "Name" : {
        "Fname" : "Vikas",
        "Lname" : "Gupta"
    },
    "Company_Name" : "IBM",
    "Salary" : 35000,
    "Designation" : "Programmer",
    "Age" : 30,
    "Expertise" : [
        "mongoDB",
        "Mysql",
        "Cassandra"
    ],
    "DOB" : ISODate("1990-04-22T00:00:00Z"),
    "Email_id" : "vikasgupta@gmail.com",
    "Contact" : "7777777777",
    "Address" : {
        "city" : "indore",
        "Pincode" : "453434"
    }
}

```

10. Drop Single documents where designation="Developer"

```
> db.empdb.remove({Designation:"Developer"})
```

```
WriteResult({ "nRemoved" : 2 })
```

The screenshot shows an IDE with a MongoDB console window on the left and a Windows PowerShell window on the right. The console window displays the following commands and their results:

```

19 db.empdb.find({$or:({Age:{$lt:30}},{$Salary:{$gt:40000}})})
20
21 db.empdb.aggregate([{$match:{$and:({Address.city:"pune"},{Address.Pincode:"411001"})}}])
22
23 db.empdb.update({Company_Name:"TCS"},{$inc:{$Salary:2000}})
24 //WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
25
26 db.empdb.find({Designation:{$ne:"Developer"}})
27
28 db.empdb.find({Company_Name:"Infosys"},{_id:1,Designation:1,Address:1,Name:1})
29
30 db.empdb.find({$or:({Designation:"Developer"},{Designation:"Tester"})})
31
32 db.empdb.aggregate([{$match:{$Expertise:("mongoDB","Mysql","Cassandra")}}])
33
34 db.empdb.remove({Designation:"Developer"})
35 //WriteResult({ "nRemoved" : 2 })
36

```

The output window shows the results of the commands, including the removal of two documents with the designation "Developer".

```

> use empdb
switched to db empdb
> db.empdb.update({Designation:"Tester",Company_Name:"TCS",Age:20},{Designation:"Tester",Company_Name:"TCS",Salary:50000,
_Age:25,Expertise:["JAVA","C#"]},{upsert:true})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.empdb.update({Company_Name:"TCS"},{$inc:{$Salary:2000}})
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
> db.empdb.remove({Designation:"Developer"})
WriteResult({ "nRemoved" : 2 })
>

```