

## Assignment 2

---

### Input:-

```
show dbs
use book
show collections;
db.createCollection("library");
db.library.insert({"bid":1,"name":"C++"});
db.library.insert({"bid":2,"name":"SEPM","author":"Pressman"});
db.library.insert({"bid":3,"name":"CN","author":"Forouzan","cost":700});
db.library.find().pretty();
db.library.remove({"bid":1});
db.library.count();
db.library.find().pretty();
db.library.insert({"bid":1,"name":"C++"});
db.library.find().pretty();
db.library.find().sort({"bid":1})
db.library.insert({"bid":4,"name":"SPOS","author":"Pearson","cost":500});
db.library.find().pretty();
db.library.find().sort({"bid":1})
db.library.find({$and:[{"name":"CN"}, {"cost":700}]}).pretty()
db.library.insert({"bid":5,"name":"TOC","author":"Addison-Wesley","cost":600});
db.library.insert({"bid":6,"name":"AI","author":"McGraw Hill Education","cost":800});
db.library.find().pretty();
db.library.find({$or:[{"cost":500}, {"cost":800}]}).pretty()
db.library.find({"cost":{$ne:500}})
db.library.find({$nor:[{"cost":500}, {"author":"Forouzan"}]})
db.library.find({"cost":{$not:{$gt:800}}})
db.library.insert({"bid":7,"name":"CC","author":"Wiley Publications","cost":400})
```

```
db.library.find()
```

```
db.library.update({'cost':400},{ $set: {'cost':600}})
```

```
db.library.update({'cost':800},{ $set: {'cost':1200}})
```

```
db.library.find().pretty();
```

## Output:-

```
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.3.1
Microsoft Windows [Version 10.0.22631.4169]
(c) Microsoft Corporation. All rights reserved.

C:\Users\LENOVO>mongosh
Current Mongosh Log ID: 6702d882bf2e03530dc73bf7
Connecting to:      mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.3.1
Using MongoDB:      8.0.0
Using Mongosh:       2.3.1

For mongosh info see: https://www.mongodb.com/docs/mongosh-shell/

-----
The server generated these startup warnings when booting
2024-10-06T12:43:17.126+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

test> show dbs
admin      40.00 KiB
bill      120.00 KiB
book       40.00 KiB
config     40.00 KiB
customer  100.00 KiB
local     40.00 KiB
test> use book
switched to db book
book> show collections;
library
book> db.createCollection("library");
{ ok: 1 }
book> db.library.insert({"bid":1,"name":"C++"});
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('6702d88cbf2e03530dc73bf8') }
}
book> db.library.insert({"bid":2,"name":"SEPM","author":"Pressman"});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('6702d88cbf2e03530dc73bf9') }
}
book> db.library.insert({"bid":3,"name":"CN","author":"Forouzan","cost":700});
```

```
book> db.library.insert({"bid":3,"name":"CN","author":"Forouzan","cost":700});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('6702d88cbf2e03530dc73bf9') }
}
book> db.library.find().pretty();
[
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bfb'),
    bid: 1,
    name: 'C++'
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SQDS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfd'),
    bid: 5,
    name: 'TQC',
    author: 'Addison-Wesley',
    cost: 600
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfe'),
    bid: 6,
    name: 'AI',
    author: 'McGraw Hill Education',
    cost: 1200
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a29a1497d5eec73bff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf8'), "bid": 1, "name": 'C++' },
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'),
  "bid": 2,
  "name": 'SEPM',
  "author": 'Pressman'
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
}
}
book> db.library.remove({"bid":1});
DeprecationWarning: Collection.remove() is deprecated. Use deleteOne, deleteMany, findOneAndDelete, or bulkWrite.
{ acknowledged: true, deletedCount: 2 }
book> db.library.count();
DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.
8
book> db.library.find().pretty();
[
  {
    "_id": ObjectId('670239a19a1497d5eec73bf9'),
    "bid": 2,
    "name": 'SEPM',
    "author": 'Pressman'
  },
  {
    "_id": ObjectId('670239a19a1497d5eec73bfa'),
    "bid": 3,
    "name": 'CN',
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a19a1497d5eec73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfc'),
  "bid": 4,
  "name": 'SPQS',
  "author": 'Pearson',
  "cost": 500
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfd'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 1200
},
{
  "_id": ObjectId('670239a29a1497d5eec73bff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'),
  "bid": 2,
  "name": 'SEPM',
  "author": 'Pressman'
},
}
}
```

```
mongosh mongodb://127.0.0.1:27000
> use library
> db.library.insertOne({bid: 1, name: "C++"});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('6702d88cbf2e03530dc73bfb') }
}
> db.library.find().pretty();
[
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SPDS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfd'),
    bid: 5,
    name: 'TOC',
    author: 'Addison-Wesley',
    cost: 600
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
> use library
> db.library.insertOne({bid: 6, name: "AI", author: "McGraw Hill Education", cost: 1200});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('670239a29a1497d5eec73bfe') }
}
> db.library.insertOne({bid: 7, name: "CC", author: "Wiley Publications", cost: 600});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('670239a29a1497d5eec73bff') }
}
> db.library.find().sort({"bid": 1});
[
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfb'),
    bid: 1,
    name: 'C++'
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SPDS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfd'),
    bid: 5,
    name: 'TOC',
    author: 'Addison-Wesley',
    cost: 600
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfe'),
    bid: 6,
    name: 'AI',
    author: 'McGraw Hill Education',
    cost: 1200
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bff'),
    bid: 7,
    name: 'CC',
    author: 'Wiley Publications',
    cost: 600
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'),
  "bid": 2,
  "name": 'SERM',
  "author": 'Pressman'
},
{
  "_id": ObjectId('670239a19a1497d5eec73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfc'),
  "bid": 4,
  "name": 'SPOS',
  "author": 'Pearson',
  "cost": 500
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfd'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 1200
},
},
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a29a1497d5eec73bff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
},
}
book> db.library.insert({"bid":4,"name":"SPOS","author":"Pearson","cost":500});
{
  acknowledged: true,
  insertedIds: { '_id': ObjectId('6702d88cbf2e03530dc73bfc') }
}
book> db.library.find().pretty();
[
  {
    "_id": ObjectId('670239a19a1497d5eec73bf9'),
    "bid": 2,
    "name": 'SERM',
    "author": 'Pressman'
  },
  {
    "_id": ObjectId('670239a19a1497d5eec73bfa'),
    "bid": 3,
    "name": 'CN',
    "author": 'Forouzan',
    "cost": 700
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfc'),
    "bid": 4,
    "name": 'SPOS',
    "author": 'Pearson',
    "cost": 500
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfd'),
    "bid": 5,
    "name": 'TOC',
    "author": 'Addison-Wesley',
    "cost": 600
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bff'),
    "bid": 7,
    "name": 'CC',
    "author": 'Wiley Publications',
    "cost": 600
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  _id: ObjectId('670239a29a1497d5eec73bfe'),
  bid: 6,
  name: 'AI',
  author: 'McGraw Hill Education',
  cost: 1200
},
{
  _id: ObjectId('670239a29a1497d5eec73bff'),
  bid: 7,
  name: 'CC',
  author: 'Wiley Publications',
  cost: 600
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bf9'),
  bid: 2,
  name: 'SEPM',
  author: 'Pressman'
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfa'),
  bid: 3,
  name: 'CN',
  author: 'Forouzan',
  cost: 700
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfb'), bid: 1, name: 'C++' },
{
  _id: ObjectId('6702d88cbf2e03530dc73bfc'),
  bid: 4,
  name: 'SPQS',
  author: 'Pearson',
  cost: 500
}
}
book> db.library.find().sort({"bid":1})
[
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfb'), bid: 1, name: 'C++' },
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SPQS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfc'),
    bid: 4,
    name: 'SPQS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfe'),
    bid: 6,
    name: 'AI',
    author: 'McGraw Hill Education',
    cost: 1200
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bff'),
    bid: 7,
    name: 'CC',
    author: 'Wiley Publications',
    cost: 600
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
bid: 2,
name: 'SEPM',
author: 'Pressman'
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bf9'),
  bid: 2,
  name: 'SEPM',
  author: 'Pressman'
},
{
  _id: ObjectId('670239a19a1497d5eec73bfa'),
  bid: 3,
  name: 'CN',
  author: 'Forouzan',
  cost: 700
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfa'),
  bid: 3,
  name: 'CN',
  author: 'Forouzan',
  cost: 700
},
{
  _id: ObjectId('670239a29a1497d5eec73bfc'),
  bid: 4,
  name: 'SPQS',
  author: 'Pearson',
  cost: 500
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfc'),
  bid: 4,
  name: 'SPQS',
  author: 'Pearson',
  cost: 500
},
{
  _id: ObjectId('670239a29a1497d5eec73bfe'),
  bid: 6,
  name: 'AI',
  author: 'McGraw Hill Education',
  cost: 1200
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a29a1497d5eec73bfbf'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('670239a29a1497d5eec73bffe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 1200
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
}
]
book> db.library.find({$and:[{"name":"CN"}, {"cost":700}]}).pretty()
[
  {
    "_id": ObjectId('670239a19a1497d5eec73bfa'),
    "bid": 3,
    "name": 'CN',
    "author": 'Forouzan',
    "cost": 700
  },
  {
    "_id": ObjectId('6702d88cbf2e03530dc73bfa'),
    "bid": 3,
    "name": 'CN',
    "author": 'Forouzan',
    "cost": 700
  }
]
book> db.library.insert({"bid":5,"name":"TOC","author":"Addison-Wesley","cost":600});
{
  acknowledged: true,

```

```
mongosh mongodb://127.0.0.1:27000
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702d88cbf2e03530dc73bfbf') }
}
book> db.library.insert({"bid":6,"name":"AI","author":"McGraw Hill Education","cost":800});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702d88cbf2e03530dc73bffe') }
}
book> db.library.find().pretty();
[
  {
    "_id": ObjectId('670239a19a1497d5eec73bfbf'),
    "bid": 2,
    "name": 'SEPM',
    "author": 'Pressman'
  },
  {
    "_id": ObjectId('670239a19a1497d5eec73bfa'),
    "bid": 3,
    "name": 'CN',
    "author": 'Forouzan',
    "cost": 700
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfc'),
    "bid": 4,
    "name": 'SQOS',
    "author": 'Pearson',
    "cost": 500
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfbf'),
    "bid": 5,
    "name": 'TOC',
    "author": 'Addison-Wesley',
    "cost": 600
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bffe'),
    "bid": 6,

```



```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a29a1497d5eec73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 1200
},
{
  "_id": ObjectId('670239a29a1497d5eec73bff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'),
  "bid": 2,
  "name": 'SEPM',
  "author": 'Pressman'
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfb'),
  "bid": 1,
  "name": 'C++'
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfc'),
  "bid": 4,
  "name": 'SPQS',
  "author": 'Pearson',
  "cost": 500
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfd'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 800
}
book> db.library.find({$or:[{"cost":500},{"cost":800}]}).pretty()
{
  "_id": ObjectId('670239a29a1497d5eec73bfc'),
  "bid": 4,
  "name": 'SPQS',
  "author": 'Pearson',
  "cost": 500
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfc'),
  "bid": 4,
  "name": 'SPQS',
  "author": 'Pearson',
  "cost": 500
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 800
}
book> db.library.find({"cost":{"ne:500}})
{
  "_id": ObjectId('670239a19a1497d5eec73bf9'),
  "bid": 2,
  "name": 'SEPM',
  "author": 'Pressman'
},
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('670239a19a1497d5eec73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfd'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('670239a29a1497d5eec73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 1200
},
{
  "_id": ObjectId('670239a29a1497d5eec73bff'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'),
  "bid": 2,
  "name": 'SEPM',
  "author": 'Pressman'
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfa'),
  "bid": 3,
  "name": 'CN',
  "author": 'Forouzan',
  "cost": 700
},
},
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId('6702d88cbf2e03530dc73bf9'), "bid": 1, "name": 'C++' },
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfd'),
  "bid": 5,
  "name": 'TOC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 800
},
}
book> db.library.find({$nor:[{"cost":500}, {"author":"Forouzan"}]})
[
  {
    "_id": ObjectId('670239a19a1497d5eec73bf9'),
    "bid": 2,
    "name": 'SEPM',
    "author": 'Pressman'
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfd'),
    "bid": 5,
    "name": 'TOC',
    "author": 'Addison-Wesley',
    "cost": 600
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bfe'),
    "bid": 6,
    "name": 'AI',
    "author": 'McGraw Hill Education',
    "cost": 1200
  },
  {
    "_id": ObjectId('670239a29a1497d5eec73bff'),
    "bid": 7,
  },
}
```

```
mongosh mongodb://127.0.0.1:27000
> use book
> db.library.insertMany([
  {
    name: 'CC',
    author: 'Wiley Publications',
    cost: 600
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfb'), bid: 1, name: 'C++' },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfd'),
    bid: 5,
    name: 'TOC',
    author: 'Addison-Wesley',
    cost: 600
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfe'),
    bid: 6,
    name: 'AI',
    author: 'McGraw Hill Education',
    cost: 800
  }
])
book> db.library.find({"cost":{"$not":{"$gt:800}}})
[
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
]
```

```
mongosh mongodb://127.0.0.1:27000
> use book
> db.library.insertMany([
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SQOS',
    author: 'Pearson',
    cost: 500
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfd'),
    bid: 5,
    name: 'TOC',
    author: 'Addison-Wesley',
    cost: 600
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bff'),
    bid: 7,
    name: 'CC',
    author: 'Wiley Publications',
    cost: 600
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfb'), bid: 1, name: 'C++' },
  {
    _id: ObjectId('6702d88cbf2e03530dc73bfc'),
    bid: 4,
    name: 'SQOS',
    author: 'Pearson',
    cost: 500
  },
])
```

```
mongosh mongodb://127.0.0.1:27000
{
  _id: ObjectId('6702d88cbf2e03530dc73bf9'),
  bid: 5,
  name: 'TOC',
  author: 'Addison-Wesley',
  cost: 600
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfe'),
  bid: 6,
  name: 'AI',
  author: 'McGraw Hill Education',
  cost: 800
}
}
book> db.library.insert({"bid":7,"name":"CC","author":"Wiley Publications","cost":400})
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702d88dbf2e03530dc73bff') }
}
book> db.library.find()
[
  {
    _id: ObjectId('670239a19a1497d5eec73bf9'),
    bid: 2,
    name: 'SEPM',
    author: 'Pressman'
  },
  {
    _id: ObjectId('670239a19a1497d5eec73bfa'),
    bid: 3,
    name: 'CN',
    author: 'Forouzan',
    cost: 700
  },
  {
    _id: ObjectId('670239a29a1497d5eec73bfc'),
    bid: 4,
    name: 'SPQS',
    author: 'Pearson',
    cost: 500
  }
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  _id: ObjectId('670239a29a1497d5eec73bf9'),
  bid: 5,
  name: 'TOC',
  author: 'Addison-Wesley',
  cost: 600
},
{
  _id: ObjectId('670239a29a1497d5eec73bfe'),
  bid: 6,
  name: 'AI',
  author: 'McGraw Hill Education',
  cost: 1200
},
{
  _id: ObjectId('670239a29a1497d5eec73bff'),
  bid: 7,
  name: 'CC',
  author: 'Wiley Publications',
  cost: 600
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bf9'),
  bid: 2,
  name: 'SEPM',
  author: 'Pressman'
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfa'),
  bid: 3,
  name: 'CN',
  author: 'Forouzan',
  cost: 700
},
{
  _id: ObjectId('6702d88cbf2e03530dc73bfb'), bid: 1, name: 'C++' },
{
  _id: ObjectId('6702d88cbf2e03530dc73bfc'),
  bid: 4,
  name: 'SPQS',
  author: 'Pearson',
  cost: 500
}
```

```
mongosh mongodb://127.0.0.1:27017/
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 5,
  "name": 'TQC',
  "author": 'Addison-Wesley',
  "cost": 600
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 6,
  "name": 'AI',
  "author": 'McGraw Hill Education',
  "cost": 800
},
{
  "_id": ObjectId('6702d88cbf2e03530dc73bfe'),
  "bid": 7,
  "name": 'CC',
  "author": 'Wiley Publications',
  "cost": 400
}
}
book> db.library.update({'cost':400},{set:{'cost':600}})
DeprecationWarning: Collection.update() is deprecated. Use updateOne, updateMany, or bulkWrite.
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
book> db.library.update({'cost':800},{set:{'cost':1200}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
book> db.library.find().pretty();|
```

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## Assignment 3

---

### Input:-

show dbs

use customer

db.cust\_table.insert({Item\_id:1,Cust\_Name:"Ram",Product:"Milk",Amount:40});

db.cust\_table.insert({Item\_id:2,Cust\_Name:"Ram",Product:"Parle\_G",Amount:50});

db.cust\_table.insert({Item\_id:3,Cust\_Name:"Mohan",Product:"Lays Chips",Amount:40});

db.cust\_table.insert({Item\_id:4,Cust\_Name:"Shivam",Product:"Mentos",Amount:10});

db.cust\_table.insert({Item\_id:5,Cust\_Name:"Mohan",Product:"Maggie",Amount:60});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$sum:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$avg:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$min:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$max:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$first:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$last:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$push:"\$Amount"}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$sum:1}}});

db.cust\_table.aggregate({\$group:{\_id:"\$Cust\_Name","total":{\$addToSet:"\$Amount"}}});

db.cust\_table.createIndex({'Item\_id':1})

db.cust\_table.createIndex({'Item\_id':2})

db.cust\_table.createIndex({'Item\_id':4})

db.cust\_table.getIndexes()

db.cust\_table.dropIndex({'Item\_id':4})

db.cust\_table.dropIndex({'Item\_id':1})

db.cust\_table.getIndexes()

db.cust\_table.getIndexes()

## Output:-

```
mongosh mongodb://127.0.0.1:27020
book> use customer
switched to db customer
customer> db.cust_table.insert({Item_id:1,Cust_Name:"Ram",Product:"Milk",Amount:40});
{ acknowledged: true, insertedIds: { '0': ObjectId('6702da9fbf2e03530dc73c00') } }
customer> db.cust_table.insert({Item_id:2,Cust_Name:"Ram",Product:"Parle_G",Amount:50});
{ acknowledged: true, insertedIds: { '0': ObjectId('6702da9fbf2e03530dc73c01') } }
customer> db.cust_table.insert({Item_id:3,Cust_Name:"Mohan",Product:"Lays Chips",Amount:40});
{ acknowledged: true, insertedIds: { '0': ObjectId('6702da9fbf2e03530dc73c02') } }
customer> db.cust_table.insert({Item_id:4,Cust_Name:"Shivam",Product:"Mentos",Amount:10});
{ acknowledged: true, insertedIds: { '0': ObjectId('6702da9fbf2e03530dc73c03') } }
customer> db.cust_table.insert({Item_id:5,Cust_Name:"Mohan",Product:"Maggie",Amount:60});
{ acknowledged: true, insertedIds: { '0': ObjectId('6702da9fbf2e03530dc73c04') } }
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$sum:"$Amount"}}});
[ { _id: 'Mohan', total: 400 },
  { _id: 'Ram', total: 360 },
  { _id: 'Shivam', total: 40 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$avg:"$Amount"}}});
[ { _id: 'Mohan', total: 50 },
  { _id: 'Ram', total: 45 },
  { _id: 'Shivam', total: 10 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$min:"$Amount"}}});
```

```
mongosh mongodb://127.0.0.1:27020
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$min:"$Amount"}}});
[ { _id: 'Mohan', total: 40 },
  { _id: 'Ram', total: 40 },
  { _id: 'Shivam', total: 10 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$max:"$Amount"}}});
[ { _id: 'Mohan', total: 60 },
  { _id: 'Ram', total: 50 },
  { _id: 'Shivam', total: 10 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$first:"$Amount"}}});
[ { _id: 'Mohan', total: 40 },
  { _id: 'Ram', total: 40 },
  { _id: 'Shivam', total: 10 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$last:"$Amount"}}});
[ { _id: 'Mohan', total: 60 },
  { _id: 'Ram', total: 50 },
  { _id: 'Shivam', total: 10 } ]
customer> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$push:"$Amount"}}});
[ { _id: 'Mohan',
  total: [ 40, 60, 40, 60, 40, 60 ] },
  { _id: 'Ram',
  total: [ 40, 50, 40, 50, 40, 50 ] },
  { _id: 'Shivam',
  total: [ 10 ] } ]
```

```
mongosh mongodb://127.0.0.1:27017
> use cust_table
> db.cust_table.insertMany([
  { _id: 'Mohan', total: [ 40, 50, 40, 50 ] },
  { _id: 'Ram', total: [ 40, 50, 40, 50 ] },
  { _id: 'Shivam', total: [ 10, 10, 10, 10 ] }
])
> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$sum:1}}});
[
  { _id: 'Mohan', total: 8 },
  { _id: 'Ram', total: 8 },
  { _id: 'Shivam', total: 4 }
]
> db.cust_table.aggregate({$group:{_id:"$Cust_Name","total":{$addToSet:"$Amount"}}});
[
  { _id: 'Mohan', total: [ 40, 50 ] },
  { _id: 'Ram', total: [ 40, 50 ] },
  { _id: 'Shivam', total: [ 10 ] }
]
> db.cust_table.createIndex({'Item_id':1})
Item_id_1
> db.cust_table.createIndex({'Item_id':2})
Item_id_2
> db.cust_table.createIndex({'Item_id':4})
Item_id_4
> db.cust_table.getIndexes()
[
  { v: 2, key: { _id: 1 }, name: '_id.' },
  { v: 2, key: { Item_id: 2 }, name: 'Item_id_2' },
  { v: 2, key: { Item_id: 1 }, name: 'Item_id_1' },
  { v: 2, key: { Item_id: 4 }, name: 'Item_id_4' }
]
> db.cust_table.dropIndex({'Item_id':4})
{nIndexesWas: 4, ok: 1}
> db.cust_table.dropIndex({'Item_id':1})
{nIndexesWas: 3, ok: 1}
> db.cust_table.getIndexes()
[
  { v: 2, key: { _id: 1 }, name: '_id.' },
  { v: 2, key: { Item_id: 2 }, name: 'Item_id_2' }
]
> db.cust_table.getIndexes()
```



## Assignment 4

---

### Input:-

show dbs

use bill

```
db.pay.insert({Cust_ID:"A123",Product:"Milk",Amount:40,Status:"P"});
```

```
db.pay.insert({Cust_ID:"A123",Product:"Parle_G",Amount:50,Status:"NP"});
```

```
db.pay.insert({Cust_ID:"A123",Product:"Lays Chips",Amount:40,Status:"P"});
```

```
db.pay.insert({Cust_ID:"B123",Product:"Mentos",Amount:10,Status:"P"});
```

```
db.pay.insert({Cust_ID:"B123",Product:"Maggie",Amount:60,Status:"NP"});
```

```
db.pay.find()
```

```
db.pay.mapReduce(function(){emit(this.Cust_ID,this.Amount);},function(key,values){return  
Array.sum(values)}},{query:{"Status":"NP"},out:"Bill_Amount"})
```

```
var mapFunc1=function(){emit(this.Cust_ID,this.Amount);};
```

```
var reduceFunc1=function(keyCustID,valuePrices){return Array.sum(valuePrices);};
```

```
db.pay.mapReduce(mapFunc1,reduceFunc1,{out:"Map"})
```

```
db.Bill_Amount.find()
```

```
db.Map.find()
```

## Output:-

```
mongosh mongodb://127.0.0.1:27017
Using MongoDB: 8.0.0
Using Mongosh: 2.3.1

For mongosh info see: https://www.mongodb.com/docs/mongodb-shell/

-----
The server generated these startup warnings when booting
2024-10-06T12:43:17.126+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
-----

test> show dbs
admin      40.00 KiB
bill       152.00 KiB
book       72.00 KiB
config     96.00 KiB
customer   188.00 KiB
local      48.00 KiB
test> use bill
switched to db bill
bill> db.pay.insert({Cust_ID:"A123",Product:"Milk",Amount:40,Status:"P"});
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702dbe460598bd887c73bf8') }
}
bill> db.pay.insert({Cust_ID:"A123",Product:"Parle_G",Amount:50,Status:"NP"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702dbe460598bd887c73bf9') }
}
bill> db.pay.insert({Cust_ID:"A123",Product:"Lays Chips",Amount:40,Status:"P"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702dbe460598bd887c73bfa') }
}
bill> db.pay.insert({Cust_ID:"B123",Product:"Mentos",Amount:10,Status:"P"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('6702dbe460598bd887c73bfb') }
}
bill> db.pay.insert({Cust_ID:"B123",Product:"Maggie",Amount:60,Status:"NP"});
```

```
mongosh mongodb://127.0.0.1:27017
acknowledged: true,
insertedIds: { '0': ObjectId('6702dbe460598bd887c73bfc') }
}
bill> db.pay.find()
[
  {
    _id: ObjectId('67024c3f9795d2e955c73bf8'),
    Cust_ID: 'A123',
    Product: 'Milk',
    Amount: 40,
    Status: 'P'
  },
  {
    _id: ObjectId('67024c3f9795d2e955c73bf9'),
    Cust_ID: 'A123',
    Product: 'Parle_G',
    Amount: 50,
    Status: 'NP'
  },
  {
    _id: ObjectId('67024c409795d2e955c73bfa'),
    Cust_ID: 'A123',
    Product: 'Lays Chips',
    Amount: 40,
    Status: 'P'
  },
  {
    _id: ObjectId('67024c409795d2e955c73bfb'),
    Cust_ID: 'B123',
    Product: 'Mentos',
    Amount: 10,
    Status: 'P'
  },
  {
    _id: ObjectId('67024c409795d2e955c73bfc'),
    Cust_ID: 'B123',
    Product: 'Maggie',
    Amount: 60,
    Status: 'NP'
  },
]
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId("6702db8abf2e03530dc73c05"),
  "Cust_ID": "A123",
  "Product": "Milk",
  "Amount": 40,
  "Status": "P",
},
{
  "_id": ObjectId("6702db8abf2e03530dc73c06"),
  "Cust_ID": "A123",
  "Product": "Parle_G",
  "Amount": 50,
  "Status": "NP",
},
{
  "_id": ObjectId("6702db8abf2e03530dc73c07"),
  "Cust_ID": "A123",
  "Product": "Lays Chips",
  "Amount": 40,
  "Status": "P",
},
{
  "_id": ObjectId("6702db8abf2e03530dc73c08"),
  "Cust_ID": "B123",
  "Product": "Mentos",
  "Amount": 10,
  "Status": "P",
},
{
  "_id": ObjectId("6702db8abf2e03530dc73c09"),
  "Cust_ID": "B123",
  "Product": "Maggie",
  "Amount": 60,
  "Status": "NP",
},
{
  "_id": ObjectId("6702dba1bf2e03530dc73c0a"),
  "Cust_ID": "A123",
  "Product": "Milk",
  "Amount": 40,
  "Status": "P",
},
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  "_id": ObjectId("6702dba1bf2e03530dc73c0b"),
  "Cust_ID": "A123",
  "Product": "Parle_G",
  "Amount": 50,
  "Status": "NP",
},
{
  "_id": ObjectId("6702dba1bf2e03530dc73c0c"),
  "Cust_ID": "A123",
  "Product": "Lays Chips",
  "Amount": 40,
  "Status": "P",
},
{
  "_id": ObjectId("6702dba1bf2e03530dc73c0d"),
  "Cust_ID": "B123",
  "Product": "Mentos",
  "Amount": 10,
  "Status": "P",
},
{
  "_id": ObjectId("6702dba1bf2e03530dc73c0e"),
  "Cust_ID": "B123",
  "Product": "Maggie",
  "Amount": 60,
  "Status": "NP",
},
{
  "_id": ObjectId("6702dbe460598bd887c73bf8"),
  "Cust_ID": "A123",
  "Product": "Milk",
  "Amount": 40,
  "Status": "P",
},
{
  "_id": ObjectId("6702dbe460598bd887c73bf9"),
  "Cust_ID": "A123",
  "Product": "Parle_G",
  "Amount": 50,
}
```

```
mongosh mongodb://127.0.0.1:27000
{
  Status: 'NP'
},
{
  _id: ObjectId('6702dbe460598bd887c73bfa'),
  Cust_ID: 'A123',
  Product: 'Lays Chips',
  Amount: 40,
  Status: 'P'
},
{
  _id: ObjectId('6702dbe460598bd887c73bfb'),
  Cust_ID: 'B123',
  Product: 'Mentos',
  Amount: 10,
  Status: 'P'
},
{
  _id: ObjectId('6702dbe460598bd887c73bfc'),
  Cust_ID: 'B123',
  Product: 'Maggie',
  Amount: 60,
  Status: 'NP'
}
]
bill> db.pay.mapReduce(function(){emit(this.Cust_ID,this.Amount);},function(key,values){return Array.sum(values)}},{query:{Status:"NP"},out:"Bill_Amount"})
DeprecationWarning: Collection.mapReduce() is deprecated. Use an aggregation instead.
See https://docs.mongodb.com/manual/core/map-reduce for details.
{ result: 'Bill_Amount', ok: 1 }
bill> var mapFunc1=function(){emit(this.Cust_ID,this.Amount);};
bill> var reduceFunc1=function(keyCustID,valuePrices){return Array.sum(valuePrices);};
bill> db.pay.mapReduce(mapFunc1,reduceFunc1,{out:"Map"})
{ result: 'Map', ok: 1 }
bill> db.Bill_Amount.find()
[ { _id: 'A123', value: 200 }, { _id: 'B123', value: 240 } ]
bill> db.Map.find()
[ { _id: 'A123', value: 520 }, { _id: 'B123', value: 280 } ]
bill>
```