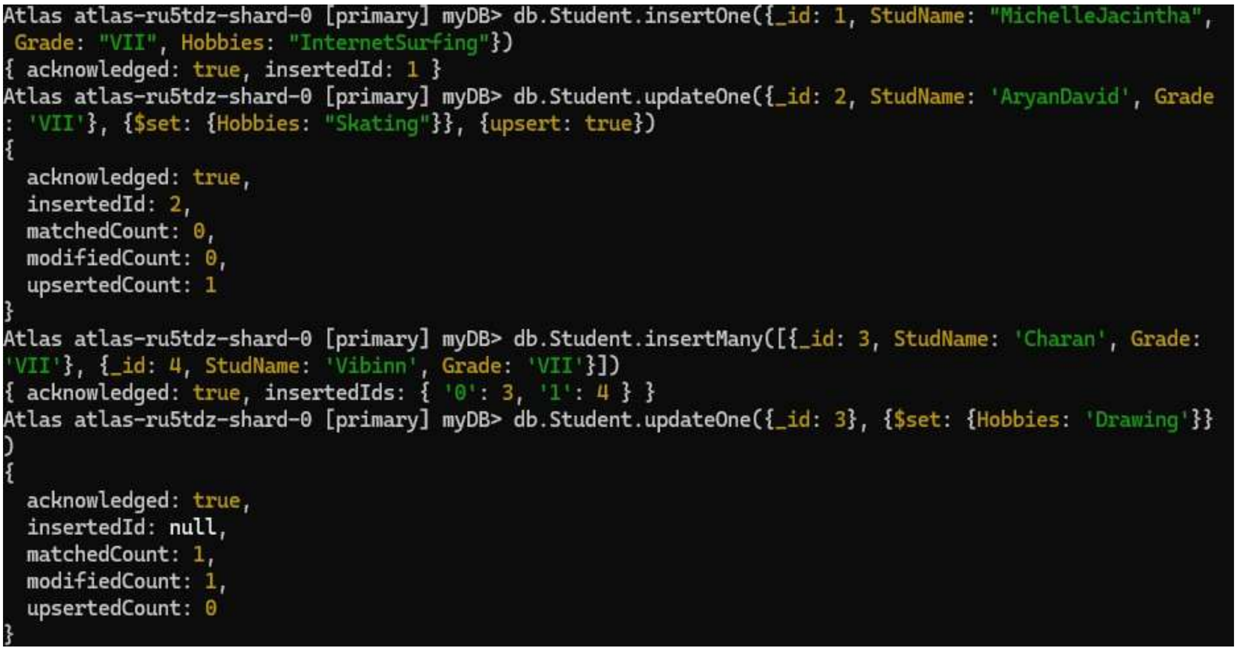
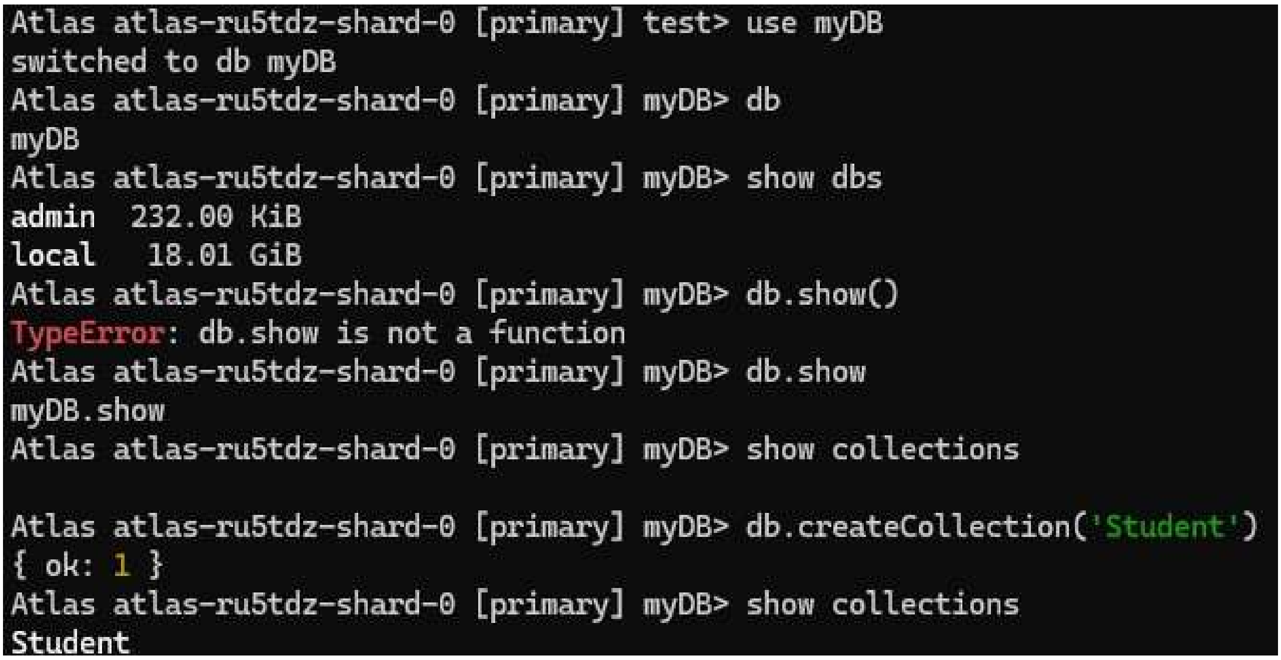
LABORATORY PROGRAM – 1

MongoDB- CRUD Operations Demonstration (Practice and Self Study)

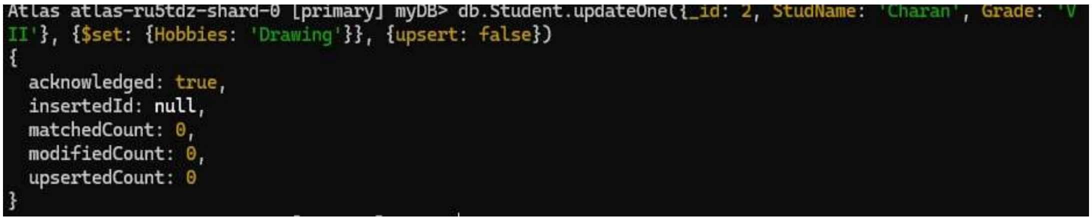
Command with output:



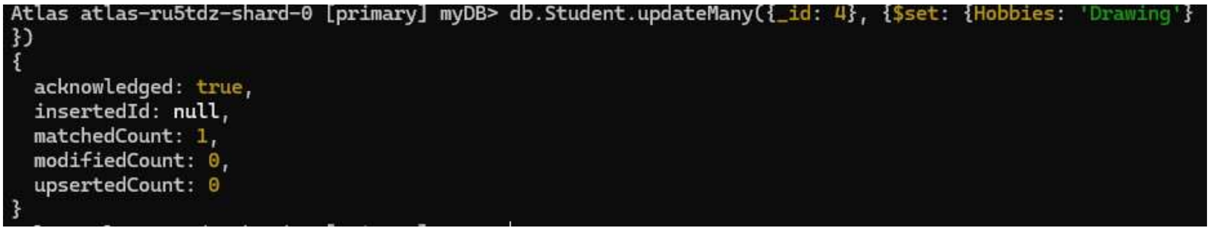
```
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.insertOne({_id: 1, StudName: "MichelleJacintha",
 Grade: "VII", Hobbies: "InternetSurfing"})
{ acknowledged: true, insertedId: 1 }
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.updateOne({_id: 2, StudName: 'AryanDavid', Grade
: 'VII'}, {$set: {Hobbies: "Skating"}}, {upsert: true})
{
  acknowledged: true,
  insertedId: 2,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 1
}
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.insertMany([{_id: 3, StudName: 'Charan', Grade:
'VII'}, {_id: 4, StudName: 'Vibinn', Grade: 'VII'}])
{ acknowledged: true, insertedIds: { '0': 3, '1': 4 } }
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.updateOne({_id: 3}, {$set: {Hobbies: 'Drawing'}}
)
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```



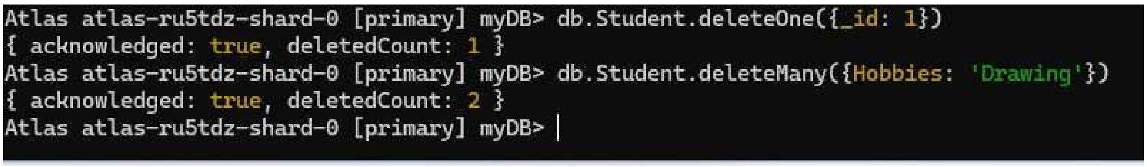
```
Atlas atlas-ru5tdz-shard-0 [primary] test> use myDB
switched to db myDB
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db
myDB
Atlas atlas-ru5tdz-shard-0 [primary] myDB> show dbs
admin   232.00 KiB
local    18.01 GiB
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.show()
TypeError: db.show is not a function
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.show
myDB.show
Atlas atlas-ru5tdz-shard-0 [primary] myDB> show collections

Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.createCollection('Student')
{ ok: 1 }
Atlas atlas-ru5tdz-shard-0 [primary] myDB> show collections
Student
```



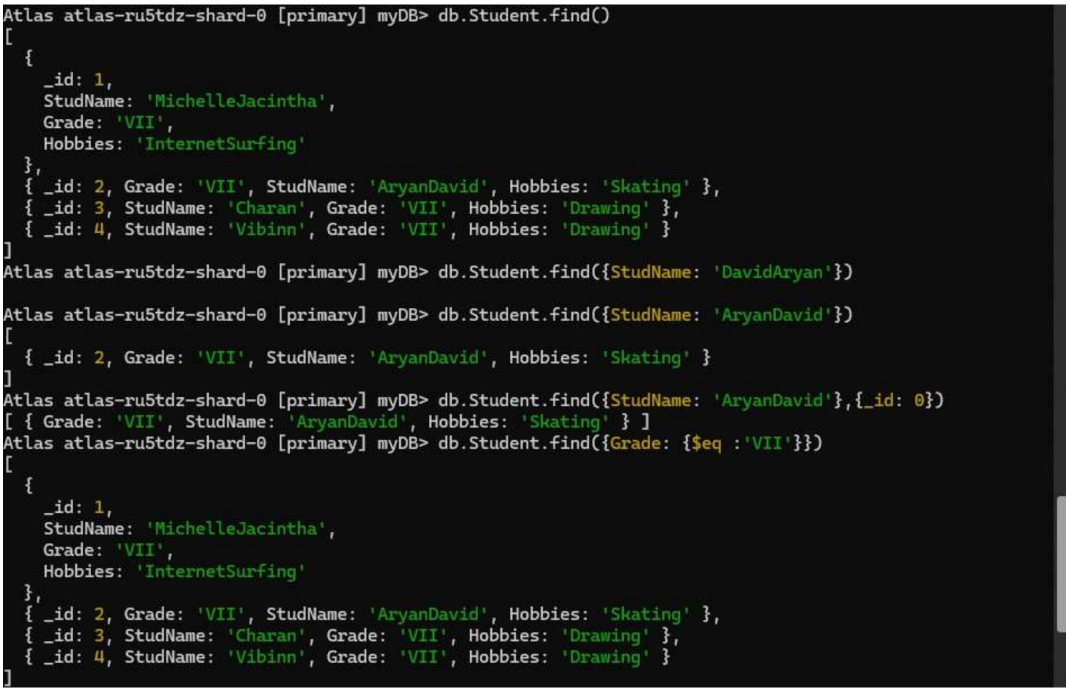
```
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.updateOne({_id: 2, StudName: 'Charan', Grade: 'V
II'}, {$set: {Hobbies: 'Drawing'}}, {upsert: false})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```



```
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.updateMany({_id: 4}, {$set: {Hobbies: 'Drawing'}
})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 0,
  upsertedCount: 0
}
```



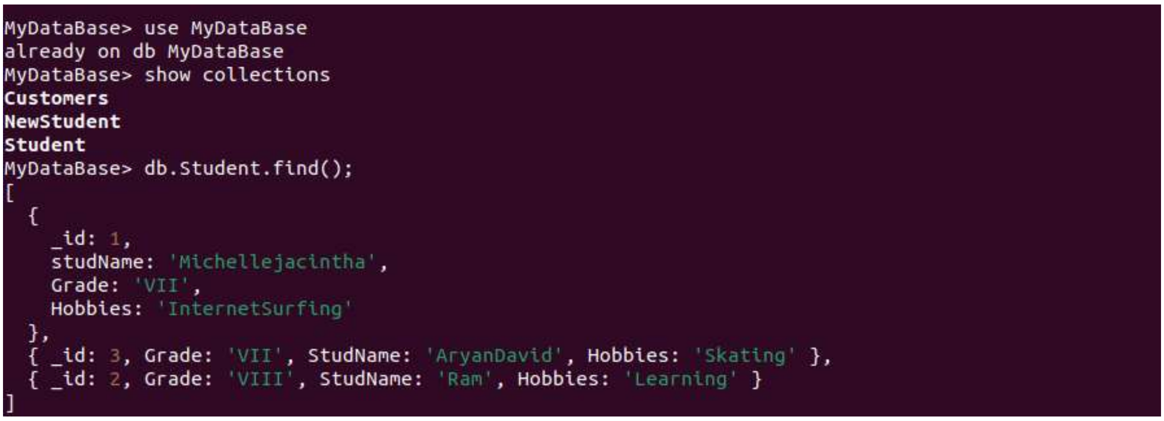
```
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.deleteOne({_id: 1})
{ acknowledged: true, deletedCount: 1 }
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.deleteMany({Hobbies: 'Drawing'})
{ acknowledged: true, deletedCount: 2 }
Atlas atlas-ru5tdz-shard-0 [primary] myDB>
```



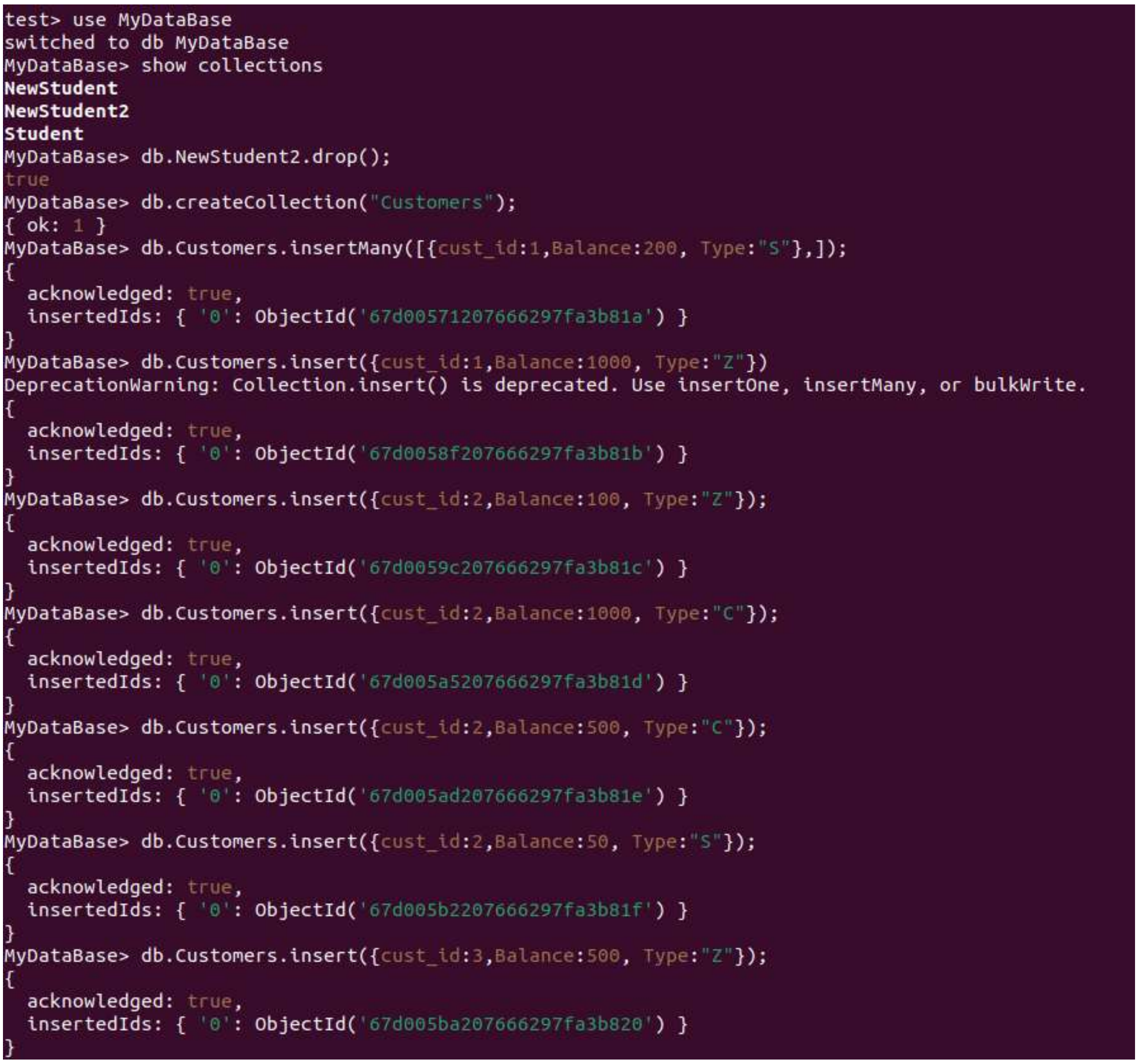
```
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.find()
[
  {
    _id: 1,
    StudName: 'MichelleJacintha',
    Grade: 'VII',
    Hobbies: 'InternetSurfing'
  },
  { _id: 2, Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' },
  { _id: 3, StudName: 'Charan', Grade: 'VII', Hobbies: 'Drawing' },
  { _id: 4, StudName: 'Vibinn', Grade: 'VII', Hobbies: 'Drawing' }
]
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.find({StudName: 'DavidAryan'})

Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.find({StudName: 'AryanDavid'})
[
  { _id: 2, Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' }
]
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.find({StudName: 'AryanDavid'},{_id: 0})
[ { Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' } ]
Atlas atlas-ru5tdz-shard-0 [primary] myDB> db.Student.find({Grade: {$eq :'VII'}})
[
  {
    _id: 1,
    StudName: 'MichelleJacintha',
    Grade: 'VII',
    Hobbies: 'InternetSurfing'
  },
  { _id: 2, Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' },
  { _id: 3, StudName: 'Charan', Grade: 'VII', Hobbies: 'Drawing' },
  { _id: 4, StudName: 'Vibinn', Grade: 'VII', Hobbies: 'Drawing' }
]
```

MongoDB- CRUD Operations Demonstration (Practice and Self Study)

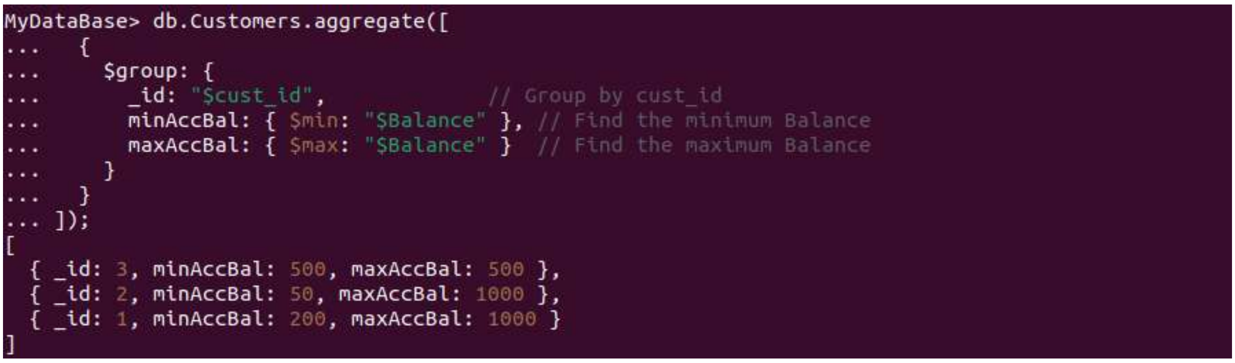
Command with output :



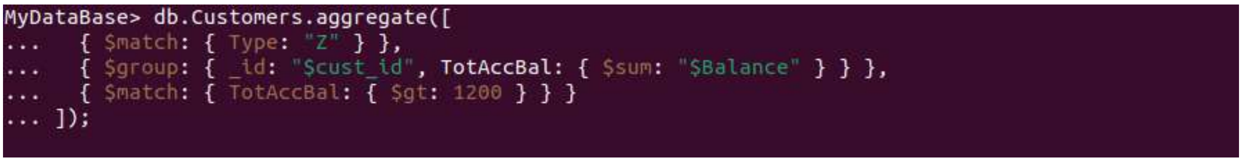
```
MyDataBase> use MyDataBase
already on db MyDataBase
MyDataBase> show collections
Customers
NewStudent
Student
MyDataBase> db.Student.find();
[
  {
    _id: 1,
    studName: 'Michellejacintha',
    Grade: 'VII',
    Hobbies: 'InternetSurfing'
  },
  { _id: 3, Grade: 'VII', StudName: 'AryanDavid', Hobbies: 'Skating' },
  { _id: 2, Grade: 'VIII', StudName: 'Ram', Hobbies: 'Learning' }
]
```



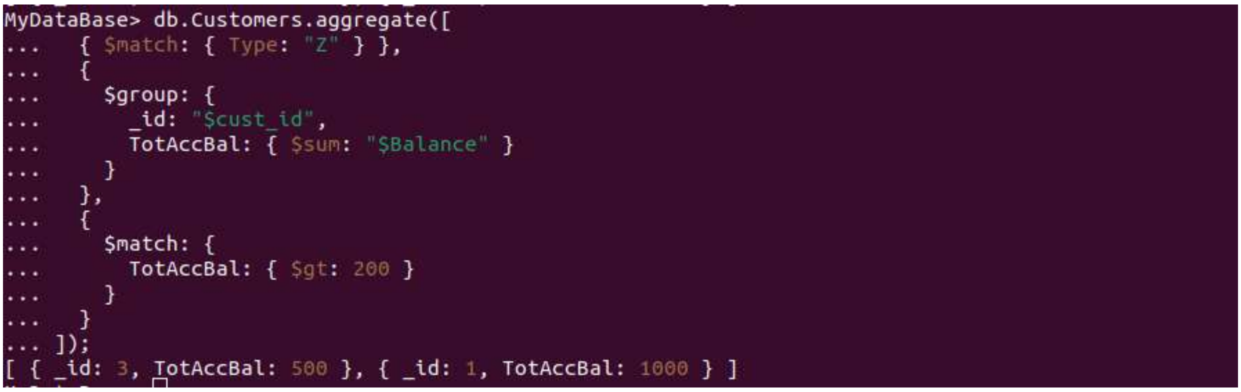
```
test> use MyDataBase
switched to db MyDataBase
MyDataBase> show collections
NewStudent
NewStudent2
Student
MyDataBase> db.NewStudent2.drop();
true
MyDataBase> db.createCollection("Customers");
{ ok: 1 }
MyDataBase> db.Customers.insertMany([{cust_id:1,Balance:200, Type:"S"},]);
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d00571207666297fa3b81a') }
}
MyDataBase> db.Customers.insert({cust_id:1,Balance:1000, Type:"Z"})
DeprecationWarning: Collection.insert() is deprecated. Use insertOne, insertMany, or bulkWrite.
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d0058f207666297fa3b81b') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:100, Type:"Z"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d0059c207666297fa3b81c') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:1000, Type:"C"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005a5207666297fa3b81d') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:500, Type:"C"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005ad207666297fa3b81e') }
}
MyDataBase> db.Customers.insert({cust_id:2,Balance:50, Type:"S"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005b2207666297fa3b81f') }
}
MyDataBase> db.Customers.insert({cust_id:3,Balance:500, Type:"Z"});
{
  acknowledged: true,
  insertedIds: { '0': ObjectId('67d005ba207666297fa3b820') }
}
```



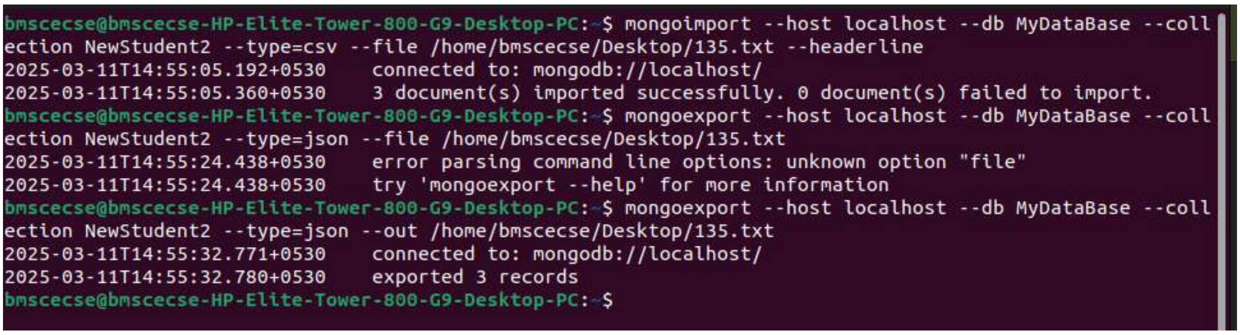
```
MyDataBase> db.Customers.aggregate([
...   {
...     $group: {
...       _id: "$cust_id",             // Group by cust_id
...       minAccBal: { $min: "$Balance" }, // Find the minimum Balance
...       maxAccBal: { $max: "$Balance" }  // Find the maximum Balance
...     }
...   }
... ]);
[
  { _id: 3, minAccBal: 500, maxAccBal: 500 },
  { _id: 2, minAccBal: 50, maxAccBal: 1000 },
  { _id: 1, minAccBal: 200, maxAccBal: 1000 }
]
```



```
MyDataBase> db.Customers.aggregate([
...   { $match: { Type: "Z" } },
...   { $group: { _id: "$cust_id", TotAccBal: { $sum: "$Balance" } } },
...   { $match: { TotAccBal: { $gt: 1200 } } }
... ]);
```



```
MyDataBase> db.Customers.aggregate([
...   { $match: { Type: "Z" } },
...   {
...     $group: {
...       _id: "$cust_id",
...       TotAccBal: { $sum: "$Balance" }
...     }
...   },
...   {
...     $match: {
...       TotAccBal: { $gt: 200 }
...     }
...   }
... ]);
[ { _id: 3, TotAccBal: 500 }, { _id: 1, TotAccBal: 1000 } ]
```



```
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoimport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=csv --file /home/bmscecse/Desktop/135.txt --headerline
2025-03-11T14:55:05.192+0530    connected to: mongodb://localhost/
2025-03-11T14:55:05.360+0530    3 document(s) imported successfully. 0 document(s) failed to import.
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoexport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=json --file /home/bmscecse/Desktop/135.txt
2025-03-11T14:55:24.438+0530    error parsing command line options: unknown option "file"
2025-03-11T14:55:24.438+0530    try 'mongoexport --help' for more information
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$ mongoexport --host localhost --db MyDataBase --coll
ection NewStudent2 --type=json --out /home/bmscecse/Desktop/135.txt
2025-03-11T14:55:32.771+0530    connected to: mongodb://localhost/
2025-03-11T14:55:32.780+0530    exported 3 records
bmscecse@bmscecse-HP-Elite-Tower-800-G9-Desktop-PC:~$
```