

TE IT

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Implement aggregation with customer collection using MongoDB. Customer collection consist of following data

```
> db.customer.find();
```

```
{ "_id" : ObjectId("54265694517b30434f6a2bdc"), "custID" : "A123", "Amount" : 500, "status" :
```

```
"A" }
```

```
{ "_id" : ObjectId("542656eb517b30434f6a2bdd"), "custID" : "A123", "Amount" : 250, "status" :
```

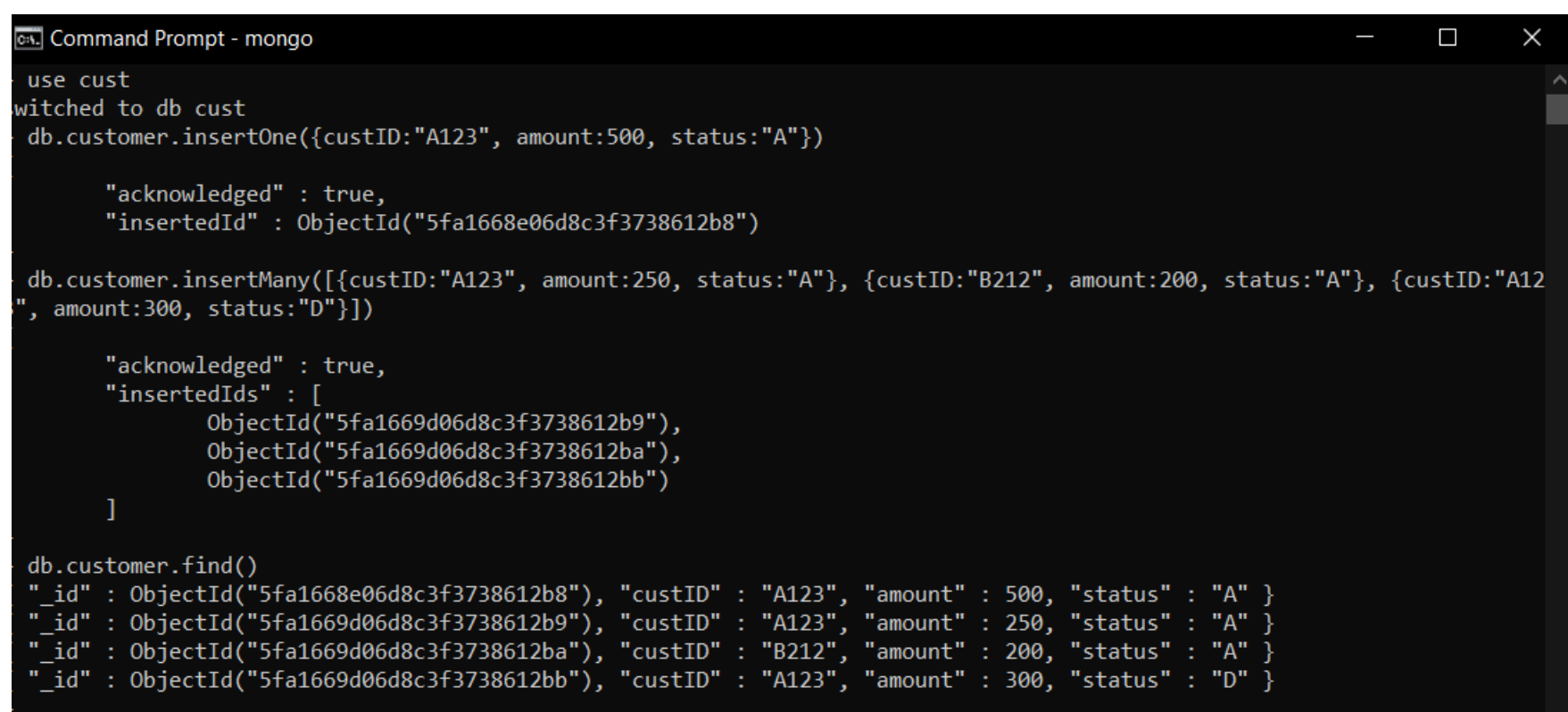
```
"A" }
```

```
{ "_id" : ObjectId("54265726517b30434f6a2bde"), "custID" : "B212", "Amount" : 200, "status" :
```

```
"A" }
```

```
{ "_id" : ObjectId("54265757517b30434f6a2bdf"), "custID" : "A123", "Amount" : 300, "status" :
```

```
"D" }
```



```
Command Prompt - mongo
use cust
switched to db cust
db.customer.insertOne({custID:"A123", amount:500, status:"A"})

  "acknowledged" : true,
  "insertedId" : ObjectId("5fa1668e06d8c3f3738612b8")

db.customer.insertMany([{custID:"A123", amount:250, status:"A"}, {custID:"B212", amount:200, status:"A"}, {custID:"A123", amount:300, status:"D"}])

  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5fa1669d06d8c3f3738612b9"),
    ObjectId("5fa1669d06d8c3f3738612ba"),
    ObjectId("5fa1669d06d8c3f3738612bb")
  ]

db.customer.find()
"_id" : ObjectId("5fa1668e06d8c3f3738612b8"), "custID" : "A123", "amount" : 500, "status" : "A" }
"_id" : ObjectId("5fa1669d06d8c3f3738612b9"), "custID" : "A123", "amount" : 250, "status" : "A" }
"_id" : ObjectId("5fa1669d06d8c3f3738612ba"), "custID" : "B212", "amount" : 200, "status" : "A" }
"_id" : ObjectId("5fa1669d06d8c3f3738612bb"), "custID" : "A123", "amount" : 300, "status" : "D" }
```

Execute following queries on customer collection.

PART-A

a) Find the total amount of each customer.

```
> db.customer.aggregate([{$group:{_id:"$custID", Total_amount:{$sum:"$amount"}}}])
{ "_id" : "B212", "Total_amount" : 200 }
{ "_id" : "A123", "Total_amount" : 1050 }
>
```

b) Find the total amount of each customer whose status is A.

```
> db.customer.aggregate({$match:{status:"A"}}, {$group:{_id:"_id", Total_amount:{$sum:"$amount"}}})
{ "_id" : "_id", "Total_amount" : 950 }
```

c) Find the minimum amount of each customer whose Status is A.

```
{ "_id" : "_id", "Total_amount" : 950 }
> db.customer.aggregate({$match:{status:"A"}}, {$group:{_id:"$custID", Min_amount:{$min:"$amount"}}})
{ "_id" : "B212", "Min_amount" : 200 }
{ "_id" : "A123", "Min_amount" : 250 }
```

d) Find the maximum amount of each customer whose Status is A.

```
{ "_id" : "A123", "Min_amount" : 250 }
> db.customer.aggregate({$match:{status:"A"}}, {$group:{_id:"$custID", Max_amount:{$max:"$amount"}}})
{ "_id" : "B212", "Max_amount" : 200 }
{ "_id" : "A123", "Max_amount" : 500 }
>
```

e) Find the average total amount of each customer whose Status is A.

```
> db.customer.aggregate({$match:{status:"A"}}, {$group:{_id:"$custID", Avg_amount:{$avg:"$amount"}}})
{ "_id" : "B212", "Avg_amount" : 200 }
{ "_id" : "A123", "Avg_amount" : 375 }
```

PART-B

f) Create index on custID.

```
{ "_id" : "A123", "Avg_amount" : 375 }
> db.customer.createIndex({custID:1})
{
  "createdCollectionAutomatically" : false,
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "ok" : 1
}
```

g) Execute getIndexes.

```
> db.customer.getIndexes()
{
  {
    "v" : 2,
    "key" : {
      "_id" : 1
    },
    "name" : "_id_"
  },
  {
    "v" : 2,
    "key" : {
      "custID" : 1
    },
    "name" : "custID_1"
  }
}
```

h) Drop the index created.

```
> db.customer.dropIndexes()
{
  "nIndexesWas" : 2,
  "msg" : "non-_id indexes dropped for collection",
  "ok" : 1
}
```