

DBT Assignment-4

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SEM: 5 , SECTION: F

MongoDB(Document Database)

show dbs command shows all available databases.

Command **use DBT_A4** to create new database called DBT_A4.

Command **show collections** to see all collections.

INSERT:

If the collection does not currently exist, insert operations will create the collection.

db.collection.insertOne() : Inserts single document into a collection

db.collection.insertMany() : Inserts multiple documents into the collection

Here I have created and inserted documents to the collection named **inventory**.

```
Select ashwin@DESKTOP-GGPKIMD: ~
> show dbs
admin    0.000GB
local    0.000GB
> use DBT_A4
switched to db DBT_A4
> show collections
> db.inventory.insertOne(
...   { item: "canvas", qty: 100, tags: ["cotton"], size: { h: 28, w: 35.5, uom: "cm" } }
... )
{
  "acknowledged" : true,
  "insertedId" : ObjectId("5fae28ca607095b014b154ad")
}
> show collections
inventory
> db.inventory.insertMany([
...   { item: "journal", qty: 25, tags: ["blank", "red"], size: { h: 14, w: 21, uom: "cm" } },
...   { item: "mat", qty: 85, tags: ["gray"], size: { h: 27.9, w: 35.5, uom: "cm" } },
...   { item: "mousepad", qty: 25, tags: ["gel", "blue"], size: { h: 19, w: 22.85, uom: "cm" } }
... ])
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5fae28f3607095b014b154ae"),
    ObjectId("5fae28f3607095b014b154af"),
    ObjectId("5fae28f3607095b014b154b0")
  ]
}
> show collections
inventory
> db.inventory.find( { item: "canvas" } )
{ "_id" : ObjectId("5fae28ca607095b014b154ad"), "item" : "canvas", "qty" : 100, "tags" : [ "cotton" ], "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" } }
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae28ca607095b014b154ad"), "item" : "canvas", "qty" : 100, "tags" : [ "cotton" ], "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154ae"), "item" : "journal", "qty" : 25, "tags" : [ "blank", "red" ], "size" : { "h" : 14, "w" : 21, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154af"), "item" : "mat", "qty" : 85, "tags" : [ "gray" ], "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154b0"), "item" : "mousepad", "qty" : 25, "tags" : [ "gel", "blue" ], "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" } }
> db.inventory.find().count()
4
> typeof db.inventory.insert
function
> show dbs
DBT_A4 0.000GB
admin  0.000GB
config 0.000GB
local  0.000GB
>
```

db.inventory.find({ item: "canvas" }) : To retrieve the document where item="canvas"

db.inventory.find({}) : To retrieve all the documents in a collection. It is similar to **select * from inventory** in SQL

Queries:

db.inventory.find({ item: "mat" }) : To retrieve the document where item="mat"

db.inventory.find({ item: { \$in: ["mat", "mousepad"] } }) : To retrieve the document from collection if item is in "mat" or "mousepad". Similar to **SELECT * FROM inventory WHERE item in ("mat", "mousepad")**

db.inventory.find({ item: "mat", qty: { \$lt: 25 } }) : Similar to **SELECT * FROM inventory WHERE item="mat" AND qty < 25**

db.inventory.find({ \$or: [{ item: "mat" }, { qty: { \$lt: 30 } }] }) : Similar to **SELECT * FROM inventory WHERE item = "mat" OR qty < 30**

```
ashwin@DESKTOP-GGPKIMD: ~
> db.inventory.find( { item: "mat" } )
{ "_id" : ObjectId("5fae28f3607095b014b154af"), "item" : "mat", "qty" : 85, "tags" : [ "gray" ], "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" } }
> db.inventory.find( { item: { $in: [ "mat", "mousepad" ] } } )
{ "_id" : ObjectId("5fae28f3607095b014b154af"), "item" : "mat", "qty" : 85, "tags" : [ "gray" ], "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154b0"), "item" : "mousepad", "qty" : 25, "tags" : [ "gel", "blue" ], "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" } }
>
> db.inventory.find( { item: "mat", qty: { $lt: 25 } } )
> db.inventory.find( { item: "mat", qty: { $lt: 85 } } )
> db.inventory.find( { item: "mat", qty: 85 } )
{ "_id" : ObjectId("5fae28f3607095b014b154af"), "item" : "mat", "qty" : 85, "tags" : [ "gray" ], "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" } }
>
> db.inventory.find( { $or: [ { item: "mat" }, { qty: { $lt: 30 } } ] } )
{ "_id" : ObjectId("5fae28f3607095b014b154ae"), "item" : "journal", "qty" : 25, "tags" : [ "blank", "red" ], "size" : { "h" : 14, "w" : 21, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154af"), "item" : "mat", "qty" : 85, "tags" : [ "gray" ], "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" } }
{ "_id" : ObjectId("5fae28f3607095b014b154b0"), "item" : "mousepad", "qty" : 25, "tags" : [ "gel", "blue" ], "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" } }
>
```

UPDATE:

db.collection.updateOne() : Updates a single document.

I deleted all documents and inserted some new documents into the collection inventory.

And then using updateOne() method on the inventory collection to update the *first* document where item equals "paper":-

```
Select ashwin@DESKTOP-GGPKIMD: ~
> db.inventory.find( { } )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "qty" : 100, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }
>
>
> db.inventory.updateOne(
...   { item: "paper" },
...   {
...     $set: { "size.uom": "cm", status: "P" },
...     $currentDate: { lastModified: true }
...   }
... )
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }
> db.inventory.find( { } )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "qty" : 100, "size" : { "h" : 8.5, "w" : 11, "uom" : "cm" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:34:36.438Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }
```

We can see the change after the update and last modified timestamp. I have highlighted it.

db.collection.updateMany() : To update multiple documents.

Using this method on the inventory collection to update all documents where qty is less than 50:-

```
ashwin@DESKTOP-GGPKIMD: ~
> db.inventory.updateMany(
...   { "qty": { $lt: 50 } },
...   {
...     $set: { "size.uom": "in", status: "P" },
...     $currentDate: { lastModified: true }
...   }
... )
{ "acknowledged" : true, "matchedCount" : 3, "modifiedCount" : 3 }

> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "qty" : 100, "size" : { "h" : 8.5, "w" : 11, "uom" : "cm" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:34:36.438Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }
```

We can see 3 more documents getting updated.

Update by Replacing a document:

To replace the entire content of a document except for the `_id` field, pass an entirely new document as the second argument to **db.collection.replaceOne()**

To replace the *first* document from the inventory collection where item="paper" :-

```
Select ashwin@DESKTOP-GGPKIMD: ~
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "qty" : 100, "size" : { "h" : 8.5, "w" : 11, "uom" : "cm" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:34:36.438Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }

> db.inventory.replaceOne(
...   { item: "paper" },
...   { item: "paper", instock: [ { warehouse: "A", qty: 60 }, { warehouse: "B", qty: 40 } ] }
... )
{ "acknowledged" : true, "matchedCount" : 1, "modifiedCount" : 1 }

> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "instock" : [ { "warehouse" : "A", "qty" : 60 }, { "warehouse" : "B", "qty" : 40 } ] }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }
```

We can see that the *first* document from the inventory collection where item="paper" gets replaced by a new document.

DELETE:

db.collection.deleteOne() : To delete at most a single document from collection that matches a specified filter (even though multiple documents may match the specified filter)

To delete the *first* document where status is "D" :-

```
ashwin@DESKTOP-GGPKIMD: ~
>
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "instock" : [ { "warehouse" : "A", "qty" : 60 }, { "warehouse" : "B", "qty" : 40 } ] }
{ "_id" : ObjectId("5fae36c9607095b014b154c1"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }

>
> db.inventory.deleteOne( { status: "D" } )
{ "acknowledged" : true, "deletedCount" : 1 }

>
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "instock" : [ { "warehouse" : "A", "qty" : 60 }, { "warehouse" : "B", "qty" : 40 } ] }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }

>
> db.inventory.find().count()
9
```

db.collection.deleteMany() : To delete all documents from collection that match a deletion criteria.

To delete all documents from the inventory collection where the status field equals "A":-

```
ashwin@DESKTOP-GGPKIMD: ~
>
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bb"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bd"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "instock" : [ { "warehouse" : "A", "qty" : 60 }, { "warehouse" : "B", "qty" : 40 } ] }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154c3"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae36c9607095b014b154c4"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }

>
> db.inventory.find().count()
9

>
> db.inventory.deleteMany({ status: "A" })
{ "acknowledged" : true, "deletedCount" : 4 }

>
> db.inventory.find().count()
5

>
> db.inventory.find( {} )
{ "_id" : ObjectId("5fae36c9607095b014b154bc"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154be"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }
{ "_id" : ObjectId("5fae36c9607095b014b154bf"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae36c9607095b014b154c0"), "item" : "paper", "instock" : [ { "warehouse" : "A", "qty" : 60 }, { "warehouse" : "B", "qty" : 40 } ] }
{ "_id" : ObjectId("5fae36c9607095b014b154c2"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "in" }, "status" : "P", "lastModified" : ISODate("2020-11-13T07:38:29.272Z") }

>
> db.inventory.deleteMany({})
{ "acknowledged" : true, "deletedCount" : 5 }

>
> db.inventory.find().count()
0

>
> db.inventory.find( {} )
```

To delete all documents from a collection, pass an empty filter document {} to the db.collection.deleteMany() method.

db.inventory.deleteMany({}) : deletes all documents from inventory collection. Document count will be 0 after this.

Deletion using remove() :

db.inventory.remove({ qty : { \$gt : 50 } }) : removes all documents from collection inventory where qty is greater than 50 :-

```

ashwin@DESKTOP-GGPKIM: ~
$ db.inventory.find( { } )
{ "_id" : ObjectId("5fae3b87607095b014b154c5"), "item" : "canvas", "qty" : 100, "size" : { "h" : 28, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154c6"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154c7"), "item" : "mat", "qty" : 85, "size" : { "h" : 27.9, "w" : 35.5, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154c8"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" }, "status" : "P" }
{ "_id" : ObjectId("5fae3b87607095b014b154c9"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae3b87607095b014b154ca"), "item" : "paper", "qty" : 100, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "D" }
{ "_id" : ObjectId("5fae3b87607095b014b154cb"), "item" : "planner", "qty" : 75, "size" : { "h" : 22.85, "w" : 30, "uom" : "cm" }, "status" : "D" }
{ "_id" : ObjectId("5fae3b87607095b014b154cc"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154cd"), "item" : "sketchbook", "qty" : 80, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154ce"), "item" : "sketch pad", "qty" : 95, "size" : { "h" : 22.85, "w" : 30.5, "uom" : "cm" }, "status" : "A" }

$ db.inventory.find().count()
10

$ db.inventory.remove( { qty: { $gt: 50 } } )
WriteResult({ "nRemoved" : 6 })

$ db.inventory.find( { } )
{ "_id" : ObjectId("5fae3b87607095b014b154c6"), "item" : "journal", "qty" : 25, "size" : { "h" : 14, "w" : 21, "uom" : "cm" }, "status" : "A" }
{ "_id" : ObjectId("5fae3b87607095b014b154c8"), "item" : "mousepad", "qty" : 25, "size" : { "h" : 19, "w" : 22.85, "uom" : "cm" }, "status" : "P" }
{ "_id" : ObjectId("5fae3b87607095b014b154c9"), "item" : "notebook", "qty" : 50, "size" : { "h" : 8.5, "w" : 11, "uom" : "in" }, "status" : "P" }
{ "_id" : ObjectId("5fae3b87607095b014b154cc"), "item" : "postcard", "qty" : 45, "size" : { "h" : 10, "w" : 15.25, "uom" : "cm" }, "status" : "A" }

$ db.inventory.find().count()
4

```

Now I create a new collection called **orders** and insert some documents into it:-

```
ashwin@DESKTOP-GGPKIMD:~  
db.orders.insertMany([{"cust_id":"A123", amount:500, status:"A"}, {"cust_id":"A123", amount:250, status:"A"}, {"cust_id":"B212", amount:200, status:"A"}, {"cust_id":"A123", amount:300, status:"D"}]);  
{  
  "acknowledged" : true,  
  "insertedIds" : [  
    ObjectId("5fae3f34607095b014b154d9"),  
    ObjectId("5fae3f34607095b014b154da"),  
    ObjectId("5fae3f34607095b014b154db"),  
    ObjectId("5fae3f34607095b014b154dc")  
  ]  
}  
>  
>  
>  
db.orders.find( {} )  
{  
  "_id" : ObjectId("5fae3f34607095b014b154d9"), "cust_id" : "A123", "amount" : 500, "status" : "A" }  
  "_id" : ObjectId("5fae3f34607095b014b154da"), "cust_id" : "A123", "amount" : 250, "status" : "A" }  
  "_id" : ObjectId("5fae3f34607095b014b154db"), "cust_id" : "B212", "amount" : 200, "status" : "A" }  
  "_id" : ObjectId("5fae3f34607095b014b154dc"), "cust_id" : "A123", "amount" : 300, "status" : "D" }  
}  
>  
>  
>  
show collections  
inventory  
orders  
■
```

Using this collection orders let us see Aggregation commands.

AGGREGATION:

Aggregation commands are ,

aggregate : Performs aggregation tasks such as group using the aggregation framework.

mapReduce : Performs map-reduce aggregation for large data sets.

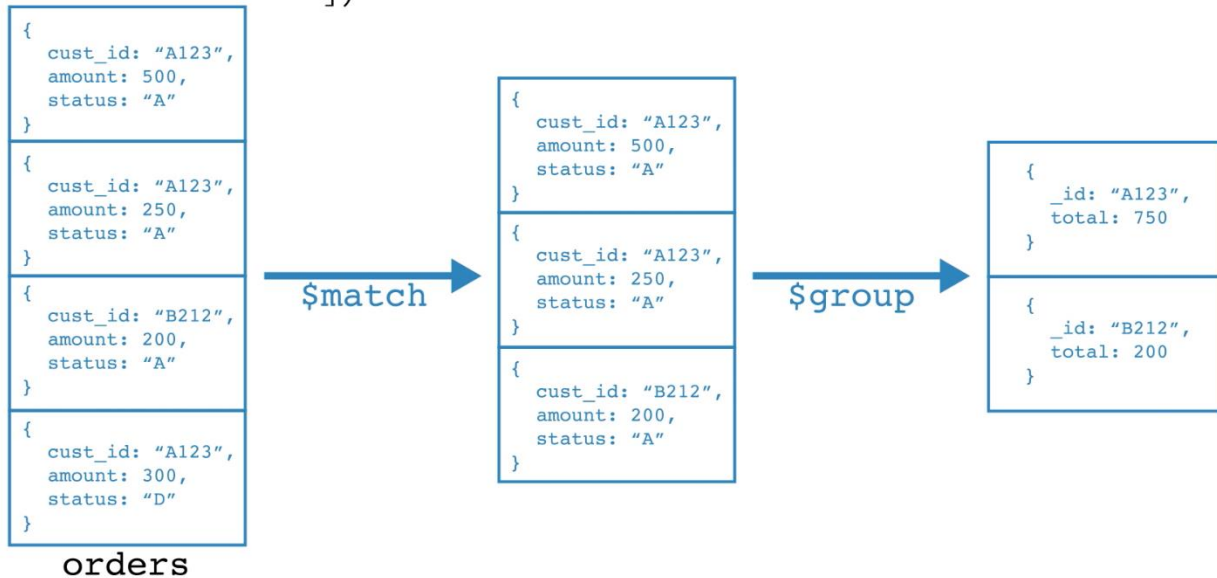
distinct : Displays the distinct values found for a specified key in a collection or a view.

count : Counts the number of documents in a collection or a view.

aggregate

Collection

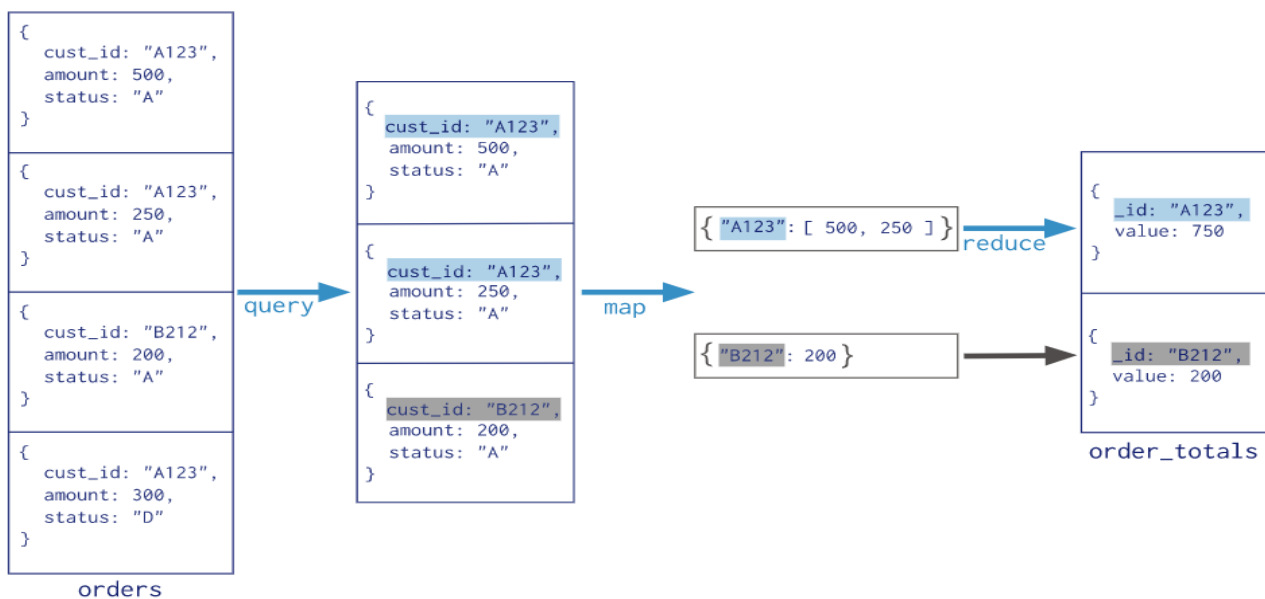
```
db.orders.aggregate( [  
  $match stage → { $match: { status: "A" } },  
  $group stage → { $group: { _id: "$cust_id", total: { $sum: "$amount" } } }  
)
```



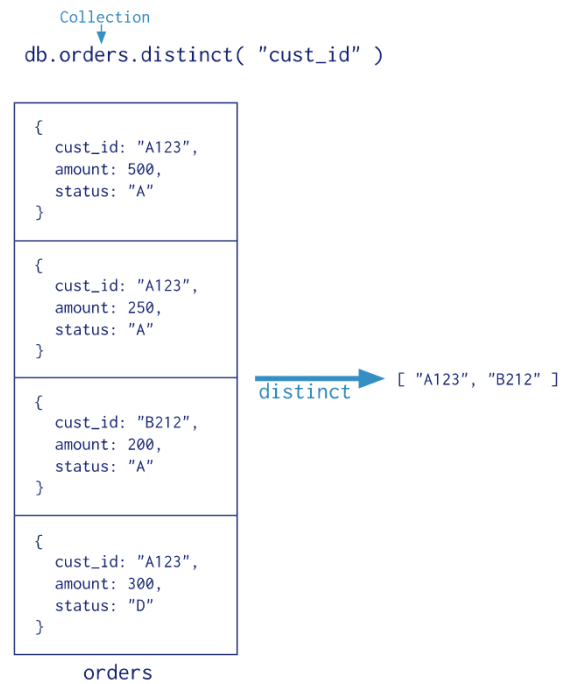
mapReduce

Collection

```
db.orders.mapReduce(  
  map → function() { emit( this.cust_id, this.amount ); },  
  reduce → function(key, values) { return Array.sum( values ); },  
  query → { status: "A" },  
  output → "order_totals"  
)
```



distinct



Commands executing these aggregation on orders collection:-

```
ashwin@DESKTOP-GGPKIMD: ~  
>  
>  
>  
> db.orders.aggregate([ { $match: { status: "A" } }, { $group: { _id: "$cust_id", total: { $sum: "$amount" } } } ])  
{ "_id" : "B212", "total" : 200 }  
{ "_id" : "A123", "total" : 750 }  
>  
>  
>  
> db.orders.distinct("cust_id")  
[ "A123", "B212" ]  
>  
>  
>  
> db.orders.mapReduce( function() {emit(this.cust_id, this.amount);}, function(key, values) {return Array.sum(values)}), { query: {status: "A"}, out: "order_totals" }  
{  
  "result" : "order_totals",  
  "timeMillis" : 1511,  
  "counts" : {  
    "input" : 3,  
    "emit" : 3,  
    "reduce" : 1,  
    "output" : 2  
  },  
  "ok" : 1  
}  
>  
>  
> db.order_totals.find( {} )  
{ "_id" : "A123", "value" : 750 }  
{ "_id" : "B212", "value" : 200 }  
>
```

Thank you