**Practical 10:**

**Aggregation operations:**

Microsoft Windows [Version 10.0.26100.6725]

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C:\New folder\mongosh-2.5.8-win32-x64\mongosh-2.5.8-win32-x64\bin>mongosh

Current Mongosh Log ID: 68e67905c7102eb792cebea3

Connecting to: mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000&appName=mongosh+2.5.8

Using MongoDB: 8.2.0

Using Mongosh: 2.5.8

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

To help improve our products, anonymous usage data is collected and sent to MongoDB periodically (https://www.mongodb.com/legal/privacy-policy).

You can opt-out by running the disableTelemetry() command.

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The server generated these startup warnings when booting

2025-10-02T22:11:29.217+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted

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test> show dbs;

admin 40.00 KiB

config 72.00 KiB

demo 68.00 KiB

local 64.00 KiB

test 108.00 KiB

test> use bank;

switched to db bank

bank> db.createCollection('customer');

{ ok: 1 }

bank> db.customer.insertOne({\_id:101,cname:'Prabhu',bname:'BOB',branch:'solapur',bal:70000});

{ acknowledged: true, insertedId: 101 }

bank> db.customer.insertOne({\_id:102,cname:'Aditya',bname:'SBI',branch:'solapur',bal:90000});

{ acknowledged: true, insertedId: 102 }

bank> db.customer.insertOne({\_id:103,cname:'Kishor',bname:'BOI',branch:'Amravati',bal:100000});

{ acknowledged: true, insertedId: 103 }

bank> db.customer.insertOne({\_id:104,cname:'Pranav',bname:'Axis',branch:'Pune',bal:2000});

{ acknowledged: true, insertedId: 104 }

bank> db.customer.insertOne({\_id:105,cname:'Tejas',bname:'BOB',branch:'Pune',bal:1000});

{ acknowledged: true, insertedId: 105 }

bank> db.customer.count();

DeprecationWarning: Collection.count() is deprecated. Use countDocuments or estimatedDocumentCount.

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bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$sum:'$bal'}}}]);

[ { \_id: null, total\_bal: 273000 } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$max:'$bal'}}}]);

[ { \_id: null, total\_bal: 100000 } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$min:'$bal'}}}]);

[ { \_id: null, total\_bal: 1000 } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$avg:'$bal'}}}]);

[ { \_id: null, total\_bal: 54600 } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$push:'$bal'}}}]);

[ { \_id: null, total\_bal: [ 70000, 90000, 100000, 2000, 1000 ] } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$addToSet:'$bal'}}}]);

[ { \_id: null, total\_bal: [ 100000, 70000, 90000, 1000, 2000 ] } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$first:'$bal'}}}]);

[ { \_id: null, total\_bal: 70000 } ]

bank> db.customer.aggregate([{$group:{\_id:null,total\_bal:{$last:'$bal'}}}]);

[ { \_id: null, total\_bal: 1000 } ]

bank> db.customer.find().sort({name:1});

[

{

\_id: 101,

cname: 'Prabhu',

bname: 'BOB',

branch: 'solapur',

bal: 70000

},

{

\_id: 102,

cname: 'Aditya',

bname: 'SBI',

branch: 'solapur',

bal: 90000

},

{

\_id: 103,

cname: 'Kishor',

bname: 'BOI',

branch: 'Amravati',

bal: 100000

},

{ \_id: 104, cname: 'Pranav', bname: 'Axis', branch: 'Pune', bal: 2000 },

{

\_id: 105,

cname: 'Tejas',

bname: 'BOB',

branch: 'Pune',

bal: 1000

}

]

bank> db.customer.createIndex({customer\_id:1});

customer\_id\_1

bank> db.customer.createIndex({c\_name:1});

c\_name\_1

bank> db.customer.createIndex({branch:1});

branch\_1

bank> db.customer.createIndex({b\_name:1});

b\_name\_1

bank> db.customer.createIndex({bal:1});

bal\_1

bank> db.customer.getIndexes();

[

{ v: 2, key: { \_id: 1 }, name: '\_id\_' },

{ v: 2, key: { customer\_id: 1 }, name: 'customer\_id\_1' },

{ v: 2, key: { c\_name: 1 }, name: 'c\_name\_1' },

{ v: 2, key: { branch: 1 }, name: 'branch\_1' },

{ v: 2, key: { b\_name: 1 }, name: 'b\_name\_1' },

{ v: 2, key: { bal: 1 }, name: 'bal\_1' }

]

bank>