**Practical 2(B)**

Microsoft Windows [Version 10.0.26100.6584]

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C:\Program Files\MongoDB\Server\8.2\bin>mongosh

Current Mongosh Log ID: 68e714badaf00d9089cebea3

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/

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The server generated these startup warnings when booting

2025-09-25T11:02:58.384+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 databases;

admin 40.00 KiB

config 96.00 KiB

cricket 164.00 KiB

demo1 72.00 KiB

local 64.00 KiB

test> use demo1;

switched to db demo1

demo1> db.createCollection('emp');

{ ok: 1 }

demo1> db.emp.insertOne({empid:201, ename:'Virat', salary:60000, dept:'IT'});

{

acknowledged: true,

insertedId: ObjectId('68e71578daf00d9089cebea4')

}

demo1> db.emp.insertOne({empid:202, ename:'Akaay', salary:70000, dept:'AIDS'});

{

acknowledged: true,

insertedId: ObjectId('68e71586daf00d9089cebea5')

}

demo1> db.emp.insertOne({empid:203, ename:'Vamika', salary:80000, dept:'CS'});

{

acknowledged: true,

insertedId: ObjectId('68e71590daf00d9089cebea6')

}

demo1> db.emp.insertOne({empid:204, ename:'Anushka', salary:90000, dept:'IT'});

{

acknowledged: true,

insertedId: ObjectId('68e7159fdaf00d9089cebea7')

}

demo1> db.emp.aggregate([{$group:{\_id:null,total\_salary:{$sum:'$salary'}}}]);

[ { \_id: null, total\_salary: 780000 } ]

demo1> db.emp.aggregate([{$group:{\_id:null,min\_salary:{$min:'$salary'}}}]);

[ { \_id: null, min\_salary: 60000 } ]

demo1> db.emp.aggregate([{$group:{\_id:null,max\_salary:{$max:'$salary'}}}]);

[ { \_id: null, max\_salary: 90000 } ]

demo1> db.emp.aggregate([{$group:{\_id:null,avg\_salary:{$avg:'$salary'}}}]);

[ { \_id: null, avg\_salary: 70909.09090909091 } ]

demo1> db.emp.aggregate([{$group:{\_id:null,salary\_list:{$push:'$salary'}}}]);

[

{

\_id: null,

salary\_list: [

60000, 60000, 70000,

80000, 60000, 70000,

80000, 60000, 70000,

80000, 90000

]

}

]

demo1> db.emp.aggregate([{$group:{\_id:null,unique\_salaries:{$addToSet:'$salary'}}}]);

[ { \_id: null, unique\_salaries: [ 90000, 70000, 60000, 80000 ] } ]

demo1> db.emp.aggregate([{$group:{\_id:null,first\_salary:{$first:'$salary'}}}]);

[ { \_id: null, first\_salary: 60000 } ]

demo1> db.emp.aggregate([{$group:{\_id:null,last\_salary:{$last:'$salary'}}}]);

[ { \_id: null, last\_salary: 90000 } ]

demo1> db.emp.find().sort({ename:1});

[

{

\_id: ObjectId('68e71578daf00d9089cebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e71586daf00d9089cebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e71590daf00d9089cebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e7159fdaf00d9089cebea7'),

empid: 204,

ename: 'Anushka',

salary: 90000,

dept: 'IT'

},

{

\_id: ObjectId('68e634775cf16eafeecebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e635983705300c5acebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e71239960a5ad93ccebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e635c53705300c5acebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e71257960a5ad93ccebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'IT'

},

{

\_id: ObjectId('68e636143705300c5acebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e71281960a5ad93ccebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

}

]

demo1> db.emp.find().sort({ename:-1});

[

{

\_id: ObjectId('68e636143705300c5acebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e71281960a5ad93ccebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e635c53705300c5acebea5'),

empid: 202,

ename: 'Akaay’,

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e71257960a5ad93ccebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'IT'

},

{

\_id: ObjectId('68e634775cf16eafeecebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e635983705300c5acebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e71239960a5ad93ccebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e7159fdaf00d9089cebea7'),

empid: 204,

ename: 'Anushka',

salary: 90000,

dept: 'IT'

},

{

\_id: ObjectId('68e71590daf00d9089cebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e71586daf00d9089cebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e71578daf00d9089cebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

}

]

demo1> db.emp.find().sort({salary:-1});

[

{

\_id: ObjectId('68e7159fdaf00d9089cebea7'),

empid: 204,

ename: 'Anushka',

salary: 90000,

dept: 'IT'

},

{

\_id: ObjectId('68e636143705300c5acebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e71281960a5ad93ccebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e71590daf00d9089cebea6'),

empid: 203,

ename: 'Vamika',

salary: 80000,

dept: 'CS'

},

{

\_id: ObjectId('68e635c53705300c5acebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e71257960a5ad93ccebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'IT'

},

{

\_id: ObjectId('68e71586daf00d9089cebea5'),

empid: 202,

ename: 'Akaay',

salary: 70000,

dept: 'AIDS'

},

{

\_id: ObjectId('68e634775cf16eafeecebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e635983705300c5acebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e71239960a5ad93ccebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

},

{

\_id: ObjectId('68e71578daf00d9089cebea4'),

empid: 201,

ename: 'Virat',

salary: 60000,

dept: 'IT'

}

]

demo1> db.emp.createIndex({empid:1});

empid\_1

demo1> db.emp.createIndex({ename:1});

ename\_1

demo1> db.emp.createIndex({salary:1});

salary\_1

demo1> db.emp.createIndex({dept:1});

dept\_1

demo1> db.emp.getIndexes();

[

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

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

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

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

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

]

demo1>