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**PRACTICAL NO 11**

**Problem Statement** :- Implement aggregation and indexing with suitable example using MongoDB.

**Student Name** :- **Roll\_No** :- 61

**BATCH** :- TEB-3 **Date** :-\_\_/\_\_/\_\_\_\_

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**1. AGGREGATION IN MongoDB :-**

gescoe@gescoe-OptiPlex-3010:~$ mongo

MongoDB shell version: 2.6.9

connecting to: test

QUERY : > use rohit

OUTPUT: switched to db rohit

QUERY > db.stud.find({}).pretty()

Output:

{

"\_id" : ObjectId("59a5257e7e602f6087591051"),

"name" : "alpesh vasni",

"marks" : 65,

"cast" : "OPen",

"address" : "nasik"

}

{

"\_id" : ObjectId("59a526697e602f6087591052"),

"name" : "salman",

"marks" : 55,

"cast" : "OPen",

"address" : "nasik"

}

{

"\_id" : ObjectId("59a5268f7e602f6087591053"),

"name" : "rathod",

"marks" : 49,

"cast" : "obc",

"address" : "jalaon"

}

***1] SUM :***

QUERY : > db.STUD.aggregate([{$group:{\_id:'$cast',sum:{$sum:1}}}])

OUTPUT: { "\_id" : "OPen", "sum" : 2 }

{ "\_id" : "obc", "sum" : 1 }

QUERY : >

db.STUD.aggregate([{$group:{\_id:'$address',sum:{$sum:

'$marks'}}}])

OUTPUT: { "\_id" : "nasik", "sum" : 120 }

{ "\_id" : "jalgaon", "sum" : 49 }

***2]AVERAGE :***

QUERY : >

db.STUD.aggregate([{$group:{\_id:'$address',avg:{$avg:'$marks'}}}])

OUTPUT: { "\_id" : "nasik", "avg" : 120 }

{ "\_id" : "jalgaon", "avg" : 49 }

***3] MINIMUM :***

QUERY : > db.STUD.aggregate([{$group:{\_id:'$ address ',min:{$min:'$marks'}}}])

OUTPUT: { "\_id" : "nasik", "min" : 55 }

{ "\_id" : "jalgaon", "sum" : 49 }

***4] MAXIMUM :***

QUERY : > db.STUD.aggregate([{$group:{\_id:'$ address ',max:{$max:'$marks'}}}])

OUTPUT: { "\_id" : "second", "max" : 65}

{ "\_id" : "first", "max" : 49 }

**2.INDEXING in MongoDB :-**

QUERY : > use Rohit

OUTPUT:switched to db Rohit

QUERY : > db.stud.insert({name:"alpesh",rollno:65,cast:"OPen","marks":89})

OUTPUT: WriteResult({ "nInserted" : 1 })

QUERY : >

db.stud.insert({name:"salman",rollno:55,cast:"OPen","marks" : 59})

OUTPUT: WriteResult({ "nInserted" : 1 })

QUERY : >

db.stud.insert({name:"rahod",rollno:549,cast:"sc","marks": 79})

OUTPUT: WriteResult({ "nInserted" : 1 })

> db.stud.find({}).pretty()

{

"\_id" : ObjectId("59a670597e649dd10308520d"),

"name" : "alpesh",

"roll" : 65,

"cast" : "open",

"marks" : 89

}

{

"\_id" : ObjectId("59a670937e649dd10308520e"),

"name" : "salman",

"roll" : 55,

"cast" : "open",

"marks" : 59

}

{

"\_id" : ObjectId("59a670b87e649dd10308520f"),

"name" : "rathod",

"roll" : 549,

"cast" : "sc",

"marks" : 79

}

***2.1.CREATE INDEX :***

QUERY : > db.stud.createIndex({roll:1})

Output:

{

"createdCollectionAutomatically" : false,

"numIndexesBefore" : 1,

"numIndexesAfter" : 2,

"ok" : 1

}

QUERY ***:*** > db.stud.find({}).pretty()

Output:

{

"\_id" : ObjectId("59a670597e649dd10308520d"),

"name" : "alpesh",

"roll" : 65,

"cast" : "open",

"marks" : 89

}

{

"\_id" : ObjectId("59a670937e649dd10308520e"),

"name" : "salman",

"roll" : 55,

"cast" : "open",

"marks" : 59

}

{

"\_id" : ObjectId("59a670b87e649dd10308520f"),

"name" : "rathod",

"roll" : 49,

"cast" : "sc",

"marks" : 79

}

***2.2.SHOW INDEX :***

QUERY : > db.stud.getIndexes()

OUTPUT:

[ {

"v" : 1,

"key" : {

"\_id" : 1

},

"name" : "\_id\_",

"ns" : "rohit.stud"

},

{

"v" : 1,

"key" : {

" roll”:1

},

"name" : "code\_1",

"ns" : " rohit.stud "

}

]

***2.3.DROP INDEX :***

QUERY : > db.STUD.dropIndex({rollno:1})

OUTPUT: { "nIndexesWas" : 3, "ok" : 1 }

QUERY : > db.STUD.getIndexes()

OUTPUT:

[

{

"v" : 1,

"key" : {

"\_id" : 1

},

"name" : "\_id\_",

"ns" : "rohit.stud"

}

]