ASSIGNMENT 2 AGGREGATE AND INDEXING

> use assi2aggindex

switched to db assi2aggindex

> db.ass2.insert({'roll':1,'name':"stud1","subject":"oop","marks":90});

WriteResult({ "nInserted" : 1 })

> db.ass2.insert({'roll':2,'name':"stud2","subject":"toc","marks":57});

WriteResult({ "nInserted" : 1 })

> db.ass2.insert({'roll':3,'name':"stud3","subject":"cpp","marks":67});

WriteResult({ "nInserted" : 1 })

> db.ass2.insert({'roll':4,'name':"stud4","subject":"cns","marks":77});

WriteResult({ "nInserted" : 1 })

> db.ass2.insert({'roll':5,'name':"stud5","subject":"dbms","marks":97});

WriteResult({ "nInserted" : 1 })

> db.ass2.insert({'roll':6,'name':"stud6","subject":"spos","marks":87});

WriteResult({ "nInserted" : 1 })

> db.ass2.find();

{ "_id" : ObjectId("619143551b160fe44cd517aa"), "roll" : 1, "name" : "stud1", "subject" : "oop", "marks" : 90 }

{ "_id" : ObjectId("619143681b160fe44cd517ab"), "roll" : 2, "name" : "stud2", "subject" : "toc", "marks" : 57 }

{ "_id" : ObjectId("6191437f1b160fe44cd517ac"), "roll" : 3, "name" : "stud3", "subject" : "cpp", "marks" : 67 }

{ "_id" : ObjectId("6191438e1b160fe44cd517ad"), "roll" : 4, "name" : "stud4", "subject" : "cns", "marks" : 77 }

{ "_id" : ObjectId("6191439e1b160fe44cd517ae"), "roll" : 5, "name" : "stud5", "subject" : "dbms", "marks" : 97 }

{ "_id" : ObjectId("619143b01b160fe44cd517af"), "roll" : 6, "name" : "stud6", "subject" : "spos", "marks" : 87 }

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> db.ass2.createIndex({name:1})
{
    "numIndexesBefore" : 1,
    "numIndexesAfter" : 2,
    "createdCollectionAutomatically" : false,
    "ok" : 1
}
> db.ass2.getIndexes();
[
    {
        "v" : 2,
        "key" : {
            "_id" : 1
        },
        "name" : "_id_"
    },
    {
        "v" : 2,
        "key" : {
            "name" : 1
        },
        "name" : "name_1"
    }
]
>
>
> db.ass2.find().sort({name:1});
{ "_id" : ObjectId("619143551b160fe44cd517aa"), "roll" : 1, "name" : "stud1", "subject" : "oop",
"marks" : 90 }
{ "_id" : ObjectId("619143681b160fe44cd517ab"), "roll" : 2, "name" : "stud2", "subject" : "toc",
"marks" : 57 }
```

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{ "_id" : ObjectId("6191437f1b160fe44cd517ac"), "roll" : 3, "name" : "stud3", "subject" : "cpp",
"marks" : 67 }

{ "_id" : ObjectId("6191438e1b160fe44cd517ad"), "roll" : 4, "name" : "stud4", "subject" : "cns",
"marks" : 77 }

{ "_id" : ObjectId("6191439e1b160fe44cd517ae"), "roll" : 5, "name" : "stud5", "subject" : "dbms",
"marks" : 97 }

{ "_id" : ObjectId("619143b01b160fe44cd517af"), "roll" : 6, "name" : "stud6", "subject" : "spos",
"marks" : 87 }

>

>

> db.ass2.find().sort({name:-1});

{ "_id" : ObjectId("619143b01b160fe44cd517af"), "roll" : 6, "name" : "stud6", "subject" : "spos",
"marks" : 87 }

{ "_id" : ObjectId("6191439e1b160fe44cd517ae"), "roll" : 5, "name" : "stud5", "subject" : "dbms",
"marks" : 97 }

{ "_id" : ObjectId("6191438e1b160fe44cd517ad"), "roll" : 4, "name" : "stud4", "subject" : "cns",
"marks" : 77 }

{ "_id" : ObjectId("6191437f1b160fe44cd517ac"), "roll" : 3, "name" : "stud3", "subject" : "cpp",
"marks" : 67 }

{ "_id" : ObjectId("619143681b160fe44cd517ab"), "roll" : 2, "name" : "stud2", "subject" : "toc",
"marks" : 57 }

{ "_id" : ObjectId("619143551b160fe44cd517aa"), "roll" : 1, "name" : "stud1", "subject" : "oop",
"marks" : 90 }

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> db.ass3.find(name:"stud6");

uncaught exception: SyntaxError: missing ) after argument list :

@(shell):1:17

> db.ass2.find(name:"stud6");

uncaught exception: SyntaxError: missing ) after argument list :

@(shell):1:17

> db.ass2.find({name:"stud6"});

{ "_id" : ObjectId("619143b01b160fe44cd517af"), "roll" : 6, "name" : "stud6", "subject" : "spos",
"marks" : 87 }

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> db.ass2.ensureIndex({roll:1},{unique:true});

uncaught exception: TypeError: db.ass2.ensureIndex is not a function :

@(shell):1:1

> db.ass2.createIndex({roll:1},{unique:true});

{

    "numIndexesBefore" : 2,

    "numIndexesAfter" : 3,

    "createdCollectionAutomatically" : false,

    "ok" : 1

}

>

> db.ass2.insert({'roll':6,'name':"stud6","subject":"spos","marks":37});

WriteResult({

    "nInserted" : 0,

    "writeError" : {

        "code" : 11000,

        "errmsg" : "E11000 duplicate key error collection: assi2aggindex.ass2 index: roll_1 dup key:
{ roll: 6.0 }"

    }

})

>

>

>

> db.ass2.find();

{ "_id" : ObjectId("619143551b160fe44cd517aa"), "roll" : 1, "name" : "stud1", "subject" : "oop",
"marks" : 90 }

{ "_id" : ObjectId("619143681b160fe44cd517ab"), "roll" : 2, "name" : "stud2", "subject" : "toc",
"marks" : 57 }

{ "_id" : ObjectId("6191437f1b160fe44cd517ac"), "roll" : 3, "name" : "stud3", "subject" : "cpp",
"marks" : 67 }
```

{ "_id" : ObjectId("6191438e1b160fe44cd517ad"), "roll" : 4, "name" : "stud4", "subject" : "cns", "marks" : 77 }

{ "_id" : ObjectId("6191439e1b160fe44cd517ae"), "roll" : 5, "name" : "stud5", "subject" : "dbms", "marks" : 97 }

{ "_id" : ObjectId("619143b01b160fe44cd517af"), "roll" : 6, "name" : "stud6", "subject" : "spos", "marks" : 87 }

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$min:'$marks'}}}]);

{ "_id" : "dbms", "marks" : 97 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$max:'$marks'}}}]);

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "dbms", "marks" : 97 }

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> db.ass2.insert({'roll':8,'name':"stud5","subject":"dbms","marks":50});

WriteResult({ "nInserted" : 1 })

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$max:'$marks'}}}]);

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "dbms", "marks" : 97 }

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$avg:'$marks'}}}]);

{ "_id" : "dbms", "marks" : 73.5 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$first:'$marks'}}}]);

{ "_id" : "dbms", "marks" : 97 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

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> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$last:'$marks'}}}]);

{ "_id" : "dbms", "marks" : 50 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

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>

> db.ass2.aggregate([{$group:{_id:"$subject",marks:{$sum:'$marks'}}}]);

{ "_id" : "dbms", "marks" : 147 }

{ "_id" : "oop", "marks" : 90 }

{ "_id" : "cns", "marks" : 77 }

{ "_id" : "spos", "marks" : 87 }

{ "_id" : "toc", "marks" : 57 }

{ "_id" : "cpp", "marks" : 67 }

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> db.ass2.aggregate([{$group:{_id:"$subject",count:{$sum:1}}}]);

{ "_id" : "dbms", "count" : 2 }

{ "_id" : "cns", "count" : 1 }

{ "_id" : "oop", "count" : 1 }

{ "_id" : "spos", "count" : 1 }

{ "_id" : "toc", "count" : 1 }

{ "_id" : "cpp", "count" : 1 }

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> db.ass2.aggregate([{$match:{subject:'cns'}},$group:{_id:"$subject",count:{$sum:1}}}]);

uncaught exception: SyntaxError: missing ] after element list :

@(shell):1:50

> db.ass2.aggregate([{$match:{subject:'cns'}},{$group:{_id:"$subject",count:{$sum:1}}}]);

{ "_id" : "cns", "count" : 1 }

>

>

> db.ass2.aggregate([{$match:{subject:'dbms'}},{$group:{_id:"$subject",count:{$sum:1}}}]);

{ "_id" : "dbms", "count" : 2 }

>

>

>

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```