

Aggregation - Pipeline

1. Example of \$group

```
>db.mybookstore.aggregate({$group:{_id:"$author",total_availability:{$sum:"$available"},total_bookings:{$sum:"$bookings"}}})
```

```
{ "_id" : "kitten lens", "total_availability" : 159, "total_bookings" : 175 }
{ "_id" : "lay shore", "total_availability" : 99, "total_bookings" : 44 }
{ "_id" : "dev shinde", "total_availability" : 92, "total_bookings" : 71 }
{ "_id" : "george haligs", "total_availability" : 25, "total_bookings" : 7 }
{ "_id" : "steve markison", "total_availability" : 32, "total_bookings" : 10 }
```

2. Example of \$project and Airthmetic Operators

```
>db.mybookstore.aggregate({$group:{_id:"$author",total_availability:{$sum:"$available"},total_bookings:{$sum:"$bookings"}}},{ $project:{_id:0,author:"$_id",availability:{$subtract:["$total_availability","$total_bookings"]}}})
```

```
{ "author" : "kitten lens", "availability" : -16 }
{ "author" : "lay shore", "availability" : 55 }
{ "author" : "dev shinde", "availability" : 21 }
{ "author" : "george haligs", "availability" : 18 }
{ "author" : "steve markison", "availability" : 22 }
```

3. Example of \$match and Equality Operators

```
>db.mybookstore.aggregate({$group:{_id:"$author",total_availability:{$sum:"$available"},total_bookings:{$sum:"$bookings"}}},{ $project:{_id:0,author:"$_id",availability:{$subtract:["$total_availability","$total_bookings"]}}},{ $match:{availability:{$gte:20}}})
```

```
{ "author" : "lay shore", "availability" : 55 }
{ "author" : "dev shinde", "availability" : 21 }
{ "author" : "steve markison", "availability" : 22 }
```

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4. Example of \$addToSet

```
>db.mybookstore.aggregate({$group:{_id:"$store",books:{$addToSet:"$title"}}}).pretty()
```

```
{
  "_id" : "royal book stores",
  "books" : [
    "day in",
    "day out 3",
    "day out",
    "day out 2",
    "Home Alone 3",
    "Home Alone 2",
    "Home Alone"
  ]
}
{ "_id" : "sameer bandhu", "books" : [ "Haveli" ] }
{ "_id" : "raman book gallery", "books" : [ "Haunted House" ] }
{ "_id" : "cine book office", "books" : [ "spy kids 2", "spy kids" ] }
{ "_id" : "laxman book depot", "books" : [ "Humpty Dumpty" ] }
```

5. Example of \$push

```
>db.mybookstore.aggregate({$group:{_id:"$store",books:{$push:"$title"}}}).pretty()
```

```
{
  "_id" : "royal book stores",
  "books" : [
    "Home Alone",
    "Home Alone 2",
    "Home Alone 3",
    "day out",
    "day out 2",
    "day out 3",
    "day in"
  ]
}
{ "_id" : "sameer bandhu", "books" : [ "Haveli" ] }
{ "_id" : "raman book gallery", "books" : [ "Haunted House" ] }
{ "_id" : "cine book office", "books" : [ "spy kids", "spy kids 2" ] }
{ "_id" : "laxman book depot", "books" : [ "Humpty Dumpty" ] }
```

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6. Example of \$sort

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store",book:"$title"},availability:{$sum:"$available"}}},{ $sort:{availability:1}})
```

```
{ "_id" : { "seller" : "cine book office", "book" : "spy kids 2" },
  "availability" : 3 }
{ "_id" : { "seller" : "royal book stores", "book" : "Home Alone 3" },
  "availability" : 5 }
{ "_id" : { "seller" : "royal book stores", "book" : "day in" },
  "availability" : 9 }
{ "_id" : { "seller" : "royal book stores", "book" : "Home Alone 2" },
  "availability" : 12 }
{ "_id" : { "seller" : "cine book office", "book" : "spy kids" },
  "availability" : 14 }
{ "_id" : { "seller" : "royal book stores", "book" : "day out 3" },
  "availability" : 22 }
{ "_id" : { "seller" : "raman book gallery", "book" : "Haunted House" },
  "availability" : 22 }
{ "_id" : { "seller" : "laxman book depot", "book" : "Humpty Dumpty" },
  "availability" : 32 }
{ "_id" : { "seller" : "royal book stores", "book" : "day out" },
  "availability" : 36 }
{ "_id" : { "seller" : "sameer bandhu", "book" : "Haveli" },
  "availability" : 78 }
{ "_id" : { "seller" : "royal book stores", "book" : "day out 2" },
  "availability" : 87 }
{ "_id" : { "seller" : "royal book stores", "book" : "Home Alone" },
  "availability" : 87 }
```

7. Example of \$first

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store",book:"$title"},availability:{$sum:"$available"}}},{ $sort:{availability:1}},{$group:{_id:"$_id.seller",least_available:{$first:"$_id.book"}}})
```

```
{ "_id" : "sameer bandhu", "least_available" : "Haveli" }
{ "_id" : "raman book gallery", "least_available" : "Haunted House" }
{ "_id" : "royal book stores", "least_available" : "Home Alone 3" }
{ "_id" : "laxman book depot", "least_available" : "Humpty Dumpty" }
{ "_id" : "cine book office", "least_available" : "spy kids 2" }
```

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8. Example of \$last

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store",book:"$title"},availability:{$sum:"$available"}}},{sort:{availability:1}},{group:{_id:"$_id.seller",most_available:{$last:"$_id.book"}}})
```

```
{ "_id" : "sameer bandhu", "most_available" : "Haveli" }
{ "_id" : "raman book gallery", "most_available" : "Haunted House" }
{ "_id" : "royal book stores", "most_available" : "Home Alone" }
{ "_id" : "laxman book depot", "most_available" : "Humpty Dumpty" }
{ "_id" : "cine book office", "most_available" : "spy kids" }
```

9. Example of \$max

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store",book:"$title"},availability:{$sum:"$available"}}},{sort:{availability:1}},{group:{_id:"$_id.seller",max_availability:{$max:"$availability"}}})
```

```
{ "_id" : "sameer bandhu", "max_availability" : 78 }
{ "_id" : "raman book gallery", "max_availability" : 22 }
{ "_id" : "royal book stores", "max_availability" : 87 }
{ "_id" : "laxman book depot", "max_availability" : 32 }
{ "_id" : "cine book office", "max_availability" : 14 }
```

10. Example of \$min

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store",book:"$title"},availability:{$sum:"$available"}}},{sort:{availability:1}},{group:{_id:"$_id.seller",min_availability:{$min:"$availability"}}})
```

```
{ "_id" : "sameer bandhu", "min_availability" : 78 }
{ "_id" : "raman book gallery", "min_availability" : 22 }
{ "_id" : "royal book stores", "min_availability" : 5 }
{ "_id" : "laxman book depot", "min_availability" : 32 }
{ "_id" : "cine book office", "min_availability" : 3 }
```

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11. Example of \$sum

```
>db.mybookstore.aggregate({$group:{_id:{seller:"$store"},stock:{$sum:"$available"}}})
```

```
{ "_id" : { "seller" : "royal book stores" }, "stock" : 258 }
{ "_id" : { "seller" : "sameer bandhu" }, "stock" : 78 }
{ "_id" : { "seller" : "raman book gallery" }, "stock" : 22 }
{ "_id" : { "seller" : "cine book office" }, "stock" : 17 }
{ "_id" : { "seller" : "laxman book depot" }, "stock" : 32 }
```

12. Example of String Operators

```
>db.mybookstore.aggregate({$group:{_id:"$store"}},{ $project:{_id:{ $toUpper:"$ _id" }}}).pretty()
```

```
{ "_id" : "ROYAL BOOK STORES" }
{ "_id" : "SAMEER BANDHU" }
{ "_id" : "RAMAN BOOK GALLERY" }
{ "_id" : "CINE BOOK OFFICE" }
{ "_id" : "LAXMAN BOOK DEPOT" }
```

13. Example of \$limit

```
>db.mybookstore.aggregate({$group:{_id:"$store"}},{ $limit:2 }).pretty()
```

```
{ "_id" : "royal book stores" }
{ "_id" : "sameer bandhu" }
```

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14. Example of \$skip

```
> db.mybookstore.aggregate({$group:{_id:"$store"}},{ $skip:2}).pretty()
```

```
{ "_id" : "raman book gallery" }
{ "_id" : "cine book office" }
{ "_id" : "laxman book depot" }
```

15. Example of \$unwind

```
>db.mybookstore.aggregate({$project:{title:1,category:1,author:1}},{ $unwind:"$category"},{$limit:5}).pretty()
```

```
{
  "_id" : 1,
  "title" : "Humpty Dumpty",
  "category" : "comic",
  "author" : "steve markison"
}
{
  "_id" : 1,
  "title" : "Humpty Dumpty",
  "category" : "kids",
  "author" : "steve markison"
}
{
  "_id" : 1,
  "title" : "Humpty Dumpty",
  "category" : "laughter",
  "author" : "steve markison"
}
{
  "_id" : 2,
  "title" : "Haunted House",
  "category" : "thriller",
  "author" : "george haligs"
}
{
  "_id" : 2,
  "title" : "Haunted House",
  "category" : "horror",
  "author" : "george haligs"
}
```

16. Example of \$out

```
>db.mybookstore.aggregate({$project:{_id:0,title:1,category:1,author:1}},{$unwind:"$category"},{$limit:5},{$out:"cats"}).pretty()
```

```
> db.cats.find().pretty()
```

```
{
  "_id" : ObjectId("53bf49b68ac4e138b9989677"),
  "title" : "Humpty Dumpty",
  "category" : "comic",
  "author" : "steve markison"
}
{
  "_id" : ObjectId("53bf49b68ac4e138b9989678"),
  "title" : "Humpty Dumpty",
  "category" : "kids",
  "author" : "steve markison"
}
{
  "_id" : ObjectId("53bf49b68ac4e138b9989679"),
  "title" : "Humpty Dumpty",
  "category" : "laughter",
  "author" : "steve markison"
}
{
  "_id" : ObjectId("53bf49b68ac4e138b998967a"),
  "title" : "Haunted House",
  "category" : "thriller",
  "author" : "george haligs"
}
{
  "_id" : ObjectId("53bf49b68ac4e138b998967b"),
  "title" : "Haunted House",
  "category" : "horror",
  "author" : "george haligs"
}
```