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```
db.sales.insertMany([{"_id":1,
"product":"laptop","category":"Electronics","price":60000,"quantity":3},
{"_id":2, "product":"mobile","category":"Electronics","price":20000,"quantity":6},
{"_id":3, "product":"Cupboard","category":"Furniture","price":80000,"quantity":5},
{"_id":4, "product":"table","category":"Furniture","price":50000,"quantity":8},
{"_id":5, "product":"Cups","category":"Crocery","price":500,"quantity":10},
{"_id":6, "product":"plates","category":"Crocery","price":900,"quantity":20}])
```

```
{ "acknowledged" : true, "insertedIds" : [ 1, 2, 3, 4, 5, 6 ] }
```

// group by category sum each price

```
db.sales.aggregate([
{
  $group: {
    _id: "$category",
    totalSales: {$sum: {$multiply: ["$price", "$quantity"]}}
  }
}])
```

```
{ "_id" : "Electronics", "totalSales" : 300000 }
```

```
{ "_id" : "Crocery", "totalSales" : 23000 }
```

```
{ "_id" : "Furniture", "totalSales" : 800000 }
```

// Sorting ascending

```
db.sales.aggregate([
{
  $sort:{price:1}
}])
```

```
{ "_id" : 5, "product" : "Cups", "category" : "Crocery", "price" : 500,
"quantity" : 10 }
```

```
{ "_id" : 6, "product" : "plates", "category" : "Crocery", "price" : 900,
"quantity" : 20 }
```

```
{ "_id" : 2, "product" : "mobile", "category" : "Electronics", "price" : 20000,
"quantity" : 6 }
```

```
{ "_id" : 4, "product" : "table", "category" : "Furniture", "price" : 50000,
"quantity" : 8 }
```

```
{ "_id" : 1, "product" : "laptop", "category" : "Electronics", "price" : 60000,
"quantity" : 3 }
```

```
{ "_id" : 3, "product" : "Cupboard", "category" : "Furniture", "price" : 80000,
"quantity" : 5 }
```

// Max value from category

```
db.sales.aggregate([
{
```

```

    $group:{
      _id : "$category",
      maxPrice:{ $max:"$price"}
    }
  }
])
{ "_id" : "Electronics", "maxPrice" : 60000 }
{ "_id" : "Furniture", "maxPrice" : 80000 }
{ "_id" : "Crocery", "maxPrice" : 900 }

// min value from category
db.sales.aggregate([
  {
    $group:{
      _id: "$category",
      minPrice:{ $min:"$price"}
    }
  })
{ "_id" : "Furniture", "minPrice" : 50000 }
{ "_id" : "Electronics", "minPrice" : 20000 }
{ "_id" : "Crocery", "minPrice" : 500 }

{ "_id" : "Crocery", "average" : 700 }
{ "_id" : "Furniture", "average" : 65000 }
{ "_id" : "Electronics", "average" : 40000 }

// average
db.sales.aggregate([
  {
    $group:{
      _id: "$category",
      average: { $avg:"$price"}
    }
  })
{ "_id" : "Crocery", "average" : 700 }
{ "_id" : "Furniture", "average" : 65000 }
{ "_id" : "Electronics", "average" : 40000 }

// count using sum
db.sales.aggregate([
  {
    $group:{
      _id:"$category",
      count: { $sum:1}
    }
  })
{ "_id" : "Crocery", "count" : 2 }
{ "_id" : "Electronics", "count" : 2 }
{ "_id" : "Furniture", "count" : 2 }

// count
db.sales.aggregate([

```

```
{
  $count: "totalDocuments"
})
{ "totalDocuments" : 6 }
```

```
db.sales.createIndex({price:1})
```

```
{
  "numIndexesBefore" : 1,
  "numIndexesAfter" : 2,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
db.sales.createIndex({category:1})
```

```
{
  "numIndexesBefore" : 2,
  "numIndexesAfter" : 3,
  "createdCollectionAutomatically" : false,
  "ok" : 1
}
```

```
db.sales.getIndexes()
```

```
[
  {
    "v" : 2,
    "key" : {
      "_id" : 1
    },
    "name" : "_id_"
  },
  {
    "v" : 2,
    "key" : {
      "price" : 1
    },
    "name" : "price_1"
  },
  {
    "v" : 2,
    "key" : {
      "category" : 1
    },
    "name" : "category_1"
  }
]
```

```
db.sales.find({category: "Electronics"}).explain("executionStats");
```

```
{
  "explainVersion" : "1",
  "queryPlanner" : {
    "namespace" : "db_43zjy9fa5_43zkd2xa.sales",
    "indexFilterSet" : false,
    "parsedQuery" : {
      "category" : {
        "$eq" : "Electronics"
      }
    },
    "maxIndexedOrSolutionsReached" : false,
    "maxIndexedAndSolutionsReached" : false,
    "maxScansToExplodeReached" : false,
    "winningPlan" : {
      "stage" : "FETCH",
      "inputStage" : {
        "stage" : "IXSCAN",
        "keyPattern" : {
          "category" : 1
        },
        "indexName" : "category_1",
        "isMultiKey" : false,
        "multiKeyPaths" : {
          "category" : [ ]
        },
        "isUnique" : false,
        "isSparse" : false,
        "isPartial" : false,
        "indexVersion" : 2,
        "direction" : "forward",
        "indexBounds" : {
          "category" : [
            ["Electronics", "Electronics"]
          ]
        }
      }
    },
    "rejectedPlans" : [ ]
  },
  "executionStats" : {
    "executionSuccess" : true,
    "nReturned" : 2,
    "executionTimeMillis" : 0,
    "totalKeysExamined" : 2,
    "totalDocsExamined" : 2,
    "executionStages" : {
      "stage" : "FETCH",
      "nReturned" : 2,
      "executionTimeMillisEstimate" : 0,
      "works" : 3,
      "advanced" : 2,
      "needTime" : 0,
      "needYield" : 0,
      "saveState" : 0,
      "restoreState" : 0,
      "isEOF" : 1,
      "docsExamined" : 2,
      "alreadyHasObj" : 0,
      "inputStage" : {
        "stage" : "IXSCAN",
        "nReturned" : 2,
        "executionTimeMillisEstimate" : 0,
        "works" : 3,
        "advanced" : 2,
        "needTime" : 0,
```

```

        "needYield" : 0,
        "saveState" : 0,
        "restoreState" : 0,
        "isEOF" : 1,
        "keyPattern" : {
            "category" : 1
        },
        "indexName" : "category_1",
        "isMultiKey" : false,
        "multiKeyPaths" : {
            "category" : [ ]
        },
        "isUnique" : false,
        "isSparse" : false,
        "isPartial" : false,
        "indexVersion" : 2,
        "direction" : "forward",
        "indexBounds" : {
            "category" : [
                ["Electronics\\", "Electronics\\"]
            ]
        },
        "keysExamined" : 2,
        "seeks" : 1,
        "dupsTested" : 0,
        "dupsDropped" : 0
    }
},
"command" : {
    "find" : "sales",
    "filter" : {
        "category" : "Electronics"
    },
    "$db" : "db_43zjy9fa5_43zkdk2xa"
},
"serverInfo" : {
    "host" : "625d44439ab6",
    "port" : 27017,
    "version" : "5.0.4",
    "gitVersion" : "62a84ede3cc9a334e8bc82160714df71e7d3a29e"
},
"serverParameters" : {
    "internalQueryFacetBufferSizeBytes" : 104857600,
    "internalQueryFacetMaxOutputDocSizeBytes" : 104857600,
    "internalLookupStageIntermediateDocumentMaxSizeBytes" : 104857600,
    "internalDocumentSourceGroupMaxMemoryBytes" : 104857600,
    "internalQueryMaxBlockingSortMemoryUsageBytes" : 104857600,
    "internalQueryProhibitBlockingMergeOnMongoS" : 0,
    "internalQueryMaxAddToSetBytes" : 104857600,
    "internalDocumentSourceSetWindowFieldsMaxMemoryBytes" : 104857600
},
"ok" : 1
}

```