Name :- Jainam Doshi

Sem :- MCA Sem – 4 (A)

Roll No :- C10

Q-1. To find the total price, using group function.

Ans :-

* use Customer
* db.createCollection("Orders")
* db.Orders.insert([

{\_id:1,custId:"c101",order\_date:new Date("2020-04-11"),price:145,items:[{sku: "Bananas",qty:10,price:5.00},{sku: "Apples",qty:3,price:15.00},{sku: "Kiwi",qty:1,price:50.00}],status:’A’},

{\_id:2,custId:"c102",order\_date:new Date("2020-03-11"),price:425,items:[{sku: "Bananas",qty:5,price:5.00},{sku: "Apples",qty:10,price:15.00},{sku: "Kiwi",qty:5,price:50.00}],status:’A’},

{\_id:3,custId:"c101",order\_date:new Date("2020-02-11"),price:300,items:[{sku: "Bananas",qty:15,price:5.00},{sku: "Apples",qty:5,price:15.00},{sku: "Kiwi",qty:3,price:50.00}],status:’A’},

{\_id:4,custId:"c104",order\_date:new Date("2020-04-15"),price:205,items:[{sku: "Bananas",qty:3,price:5.00},{sku: "Apples",qty:6,price:15.00},{sku: "Kiwi",qty:2,price:50.00}],status:’A’},

{\_id:5,custId:"c102",order\_date:new Date("2020-05-16"),price:70,items:[{sku: "Bananas",qty:1,price:5.00},{sku: "Apples",qty:1,price:15.00},{sku: "Kiwi",qty:1,price:50.00}],status:’A’}

])

* db.Orders.aggregate({$group:{\_id:"$custId",total\_price:{$sum:"$price"}}},{$out : "total\_price" })
* db.total\_price.find()

Output :-

{ "\_id" : "c101", "total\_price" : 445 }

{ "\_id" : "c104", "total\_price" : 205 }

{ "\_id" : "c102", "total\_price" : 495 }

Q-2. Create a database named “BookStore” in MongoDB with a collection called “Books”

containing documents with some or all of the following fields: bookId, bookTitle,

authors(containing fields: authorName), publicationYear, publisher,

Orders(containing fields: OrderedId, orderDate, customerName, price,

quantityOrdered, discount).

Ans :-

* use BookStore
* db.createCollection("Books")

1. Insert records for 10 books from 5 authors, and at least 20 orders in total.

* db.Books.insert([

{\_id:1,bookId:"b101",bookTitle:"The Secret 1",authors:["Rhonda Byrne"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150},{OrderedId:"o104", orderDate:new Date("2020-02-14"), customerName:"Darshan", price:1000,

quantityOrdered:1, discount:100}]},

{\_id:2,bookId:"b102",bookTitle:"The Secret 2",authors:["Rhonda Byrne","Bob Proctor"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150}]},

{\_id:3,bookId:"b103",bookTitle:"The Secret 3",authors:["Rhonda Byrne","Esther Hicks"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150},{OrderedId:"o104", orderDate:new Date("2020-02-14"), customerName:"Darshan", price:1000,

quantityOrdered:1, discount:100}]},

{\_id:4,bookId:"b104",bookTitle:"The Secret 4",authors:["Rhonda Byrne","Bob Proctor"],publicationYear:2006,publisher:"Beyond Words Publishing",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150}]},

{\_id:5,bookId:"b105",bookTitle:"The Secret 5",authors:["Rhonda Byrne"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50}]},

{\_id:6,bookId:"b106",bookTitle:"The Secret 6",authors:["Rhonda Byrne","EstherHicks","Esther Hicks"],publicationYear:2006,publisher:"Beyond Words Publishing",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150}]},

{\_id:7,bookId:"b107",bookTitle:"The Secret 7",authors:["Rhonda Byrne","BobProctor","Esther Hicks"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150},{OrderedId:"o104", orderDate:new Date("2020-02-14"), customerName:"Darshan", price:1000,

quantityOrdered:1, discount:100}]},

{\_id:8,bookId:"b108",bookTitle:"The Secret 8",authors:["Rhonda Byrne"],publicationYear:2006,publisher:"Beyond Words Publishing",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150}]},

{\_id:9,bookId:"b109",bookTitle:"The Secret 9",authors:["Rhonda Byrne","Esther Hicks"],publicationYear:2006,publisher:"Atria Publishing Group",

orders:[{OrderedId:"o101", orderDate:new Date("2020-02-11"), customerName:"Jainam", price:1000,

quantityOrdered:1, discount:100},{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o104", orderDate:new Date("2020-02-14"), customerName:"Darshan", price:1000,

quantityOrdered:1, discount:100}]},

{\_id:10,bookId:"b110",bookTitle:"The Secret 10",authors:["Rhonda Byrne","BobProctor","Esther Hicks"],publicationYear:2006,publisher:"Beyond Words Publishing",

orders:[{OrderedId:"o102", orderDate:new Date("2020-02-12"), customerName:"Rahil", price:1000,

quantityOrdered:2, discount:50},{OrderedId:"o103", orderDate:new Date("2020-02-13"), customerName:"Gautam", price:1000,

quantityOrdered:2, discount:150},{OrderedId:"o104", orderDate:new Date("2020-02-14"), customerName:"Darshan", price:1000,

quantityOrdered:1, discount:100}]},

])

Output :-

BulkWriteResult({

"writeErrors" : [ ],

"writeConcernErrors" : [ ],

"nInserted" : 10,

"nUpserted" : 0,

"nMatched" : 0,

"nModified" : 0,

"nRemoved" : 0,

"upserted" : [ ]

})

1. Update the title of a particular book.

* db.Books.update({\_id:10},{$set:{bookTitle:"The Secret Final"}},{upsert:true});

Output:-

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

1. Display all the books having less than 3 authors and sort by book name.

* db.Books.aggregate({$project:{number\_of\_authers:{$size:"$authors"}}},{$out : "number\_of\_authers" }).pretty();
* db.number\_of\_authers.find({number\_of\_authers:{$lt:3}}).pretty()

Output :-

{ "\_id" : 1, "number\_of\_authers" : 1 }

{ "\_id" : 2, "number\_of\_authers" : 2 }

{ "\_id" : 3, "number\_of\_authers" : 2 }

{ "\_id" : 4, "number\_of\_authers" : 2 }

{ "\_id" : 5, "number\_of\_authers" : 1 }

{ "\_id" : 8, "number\_of\_authers" : 1 }

{ "\_id" : 9, "number\_of\_authers" : 2 }

1. Display the number of books from each publisher.

* db.Books.aggregate({$group:{\_id:"$publisher",total\_books:{$sum:1}}});

Output:-

{ "\_id" : "Beyond Words Publishing", "total\_books" : 4 }

{ "\_id" : "Atria Publishing Group", "total\_books" : 6 }

1. Use MapReduce function to display the total quantity of books ordered for each date.

* var map=function(){

for(varidx=0;idx<this.orders.length;idx++)

{

var key=this.orders[idx].orderDate;

varvalue={count:1,quantityOrdered:this.orders[idx].quantityOrdered};

emit(key,value);

}

}

* var reduce=function(key\_obj,count\_obj){

reduceval={count:0,quantityOrdered:0};

for(varidx=0;idx<count\_obj.length;idx++)

{

reduceval.count += count\_obj[idx].count;

reduceval.quantityOrdered+= count\_obj[idx].quantityOrdered;

}

returnreduceval;

}

* db.Books.mapReduce(map,reduce,{out:"books\_by\_date"})
* db.books\_by\_date.find().pretty()

Output :-

{

"\_id" :ISODate("2020-02-11T00:00:00Z"),

"value" : {

"count" : 8,

"quantityOrdered" : 8

}

}

{

"\_id" :ISODate("2020-02-12T00:00:00Z"),

"value" : {

"count" : 9,

"quantityOrdered" : 18

}

}

{

"\_id" :ISODate("2020-02-13T00:00:00Z"),

"value" : {

"count" : 8,

"quantityOrdered" : 16

}

}

{

"\_id" :ISODate("2020-02-14T00:00:00Z"),

"value" : {

"count" : 5,

"quantityOrdered" : 5

}

}

1. Use MapReduce function to display the discount offered to a particular customer.

* var map=function(){

for(varidx=0;idx<this.orders.length;idx++)

{

var key=this.orders[idx].customerName;

var value={count:1,discount:this.orders[idx].discount};

emit(key,value);

}

}

* var reduce=function(key\_obj,count\_obj){

reduceval={count:0,discount:0};

for(varidx=0;idx<count\_obj.length;idx++)

{

reduceval.count += count\_obj[idx].count;

reduceval.discount += count\_obj[idx].discount;

}

returnreduceval;

}

* db.Books.mapReduce(map,reduce,{out:"discount\_to\_cust"})
* db.discount\_to\_cust.find().pretty()

Output :-

{ "\_id" : "Darshan", "value" : { "count" : 5, "discount" : 500 } }

{ "\_id" : "Gautam", "value" : { "count" : 8, "discount" : 1200 } }

{ "\_id" : "Jainam", "value" : { "count" : 8, "discount" : 800 } }

{ "\_id" : "Rahil", "value" : { "count" : 9, "discount" : 450 } }