1.**In database Employee.**

1. **find the average salary of each dept.**

db.empDetails.aggregate([{$group:{\_id:"dept",avg\_salary:{$avg:"$salary"}}}])

{ "\_id" : "dept", "avg\_salary" : 3400 }

1. **find the minimum salary of each dept.**

db.empDetails.aggregate([{$group:{\_id:"dept",avg\_salary:{$min:"$salary"}}}])

{ "\_id" : "dept", "avg\_salary" : 2500 }

1. **find the no.of employees of each dept.**

db.empDetails.aggregate([{$group:{\_id:"dept",number\_of\_emp:{$sum:1}}}])

{ "\_id" : "dept", "number\_of\_emp" : 5 }

1. **sort the collection empDetails in descending order of name**

db.empDetails.find().sort({Name:-1})

{ "\_id" : ObjectId("6299ad13e050ae51c07d8b2a"), "Name" : "mohan", "Age" : 29, "e\_Mail" : "mohan@gmail.com", "Phone" : 9865455476, "salary" : 3200, "dept" : "Designer" }

{ "\_id" : ObjectId("6299ad13e050ae51c07d8b2c"), "Name" : "Ram", "Age" : 31, "e\_Mail" : "fabinfrancisn@gmail.com", "Phone" : 9834645476, "salary" : 2800, "dept" : "Tester" }

{ "\_id" : ObjectId("629f0bbf5c47a784b20c7097"), "Name" : "Raju", "Age" : 32, "e\_Mail" : "Raju@gmail.com", "Phone" : 3445344543, "salary" : 2500, "dept" : "Tester" }

{ "\_id" : ObjectId("6299ad13e050ae51c07d8b2b"), "Name" : "Manu", "Age" : 29, "e\_Mail" : "rash@gmail.com", "Phone" : 8885455476, "salary" : 5500, "dept" : "Designer" }

{ "\_id" : ObjectId("6299ab68e050ae51c07d8b28"), "Name" : "Bhavan", "Age" : 30, "e\_Mail" : "nishanparammal@gmail.com", "Phone" : 9865455476, "salary" : 3000, "dept" : "Developer" }

1. **Create a text index for ‘name’ and search for names** mohan and bhuvan

db.empDetails.createIndex({Name:"text"})

{

"numIndexesBefore" : 1,

"numIndexesAfter" : 2,

"createdCollectionAutomatically" : false,

"ok" : 1

}

db.empDetails.find({$text:{$search:"mohan Bhavan"}})

{ "\_id" : ObjectId("6299ab68e050ae51c07d8b28"), "Name" : "Bhavan", "Age" : 30, "e\_Mail" : "nishanparammal@gmail.com", "Phone" : 9865455476, "salary" : 3000, "dept" : "Developer" }

{ "\_id" : ObjectId("6299ad13e050ae51c07d8b2a"), "Name" : "mohan", "Age" : 29, "e\_Mail" : "mohan@gmail.com", "Phone" : 9865455476, "salary" : 3200, "dept" : "Designer" }

2.**create a database Inventory and create an orders collection. Apply MapReduce operation for finding the total purchase of each customer.**

use inventory

switched to db inventory

db.createCollection("order")

{ "ok" : 1 }

db.order.insertMany([{custid:200,name:"Maya",item:"rice",price:340},{custid:201,name:"Manu",item:"rice",price:340},{custid:202,name:"Meera",item:"sugar",price:150},{custid:202,name:"Meera",item:"wheat",price:250},{custid:200,name:"Maya",item:"wheat",price:250}])

{

"acknowledged" : true,

"insertedIds" : [

ObjectId("629f21dd05b6fd74a6704145"),

ObjectId("629f21dd05b6fd74a6704146"),

ObjectId("629f21dd05b6fd74a6704147"),

ObjectId("629f21dd05b6fd74a6704148"),

ObjectId("629f21dd05b6fd74a6704149")

]

}

db.order.find()

{ "\_id" : ObjectId("629f21dd05b6fd74a6704145"), "custid" : 200, "name" : "Maya", "item" : "rice", "price" : 340 }

{ "\_id" : ObjectId("629f21dd05b6fd74a6704146"), "custid" : 201, "name" : "Manu", "item" : "rice", "price" : 340 }

{ "\_id" : ObjectId("629f21dd05b6fd74a6704147"), "custid" : 202, "name" : "Meera", "item" : "sugar", "price" : 150 }

{ "\_id" : ObjectId("629f21dd05b6fd74a6704148"), "custid" : 202, "name" : "Meera", "item" : "wheat", "price" : 250 }

{ "\_id" : ObjectId("629f21dd05b6fd74a6704149"), "custid" : 200, "name" : "Maya", "item" : "wheat", "price" : 250 }

var mapFunction=function(){emit(this.custid,this.price);};

var reduceFunction=function(key,values){return Array.sum(values);};

db.order.mapReduce(mapFunction,reduceFunction,{'out':"map\_example"})

{ "result" : "map\_example", "ok" : 1 }

db.map\_example.find()

{ "\_id" : 201, "value" : 340 }

{ "\_id" : 200, "value" : 590 }

{ "\_id" : 202, "value" : 400 }