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**Assignment-11**

**Title : MongoDB MapReduce**

**Using Map-Reduce function comply the following requirements**

1. **Display the salary of employees department wise**

**> db.emp.find({})**

{ "\_id" : ObjectId("5d78b688907d0dcabb99c018"), "eid" : "1", "ename" : "niki", "dept" : "comp", "salary" : "100000" }

{ "\_id" : ObjectId("5d78b69d907d0dcabb99c019"), "eid" : "2", "ename" : "sid", "dept" : "comp", "salary" : "500000" }

{ "\_id" : ObjectId("5d78b6bb907d0dcabb99c01a"), "eid" : "3", "ename" : "manu", "dept" : "IT", "salary" : "800000" }

{ "\_id" : ObjectId("5d78b6d4907d0dcabb99c01b"), "eid" : "4", "ename" : "riya", "dept" : "IT", "salary" : "700000" }

{ "\_id" : ObjectId("5d78b6e7907d0dcabb99c01c"), "eid" : "5", "ename" : "tiya", "dept" : "mech", "salary" : "300000" }

**>db.emp.mapReduce(function(){emit(this.dept,this.salary);},function(keydept,valuessalary){re turn Array.sum(valuessalary)},{out:"total",})**

{

"result" : "total", "timeMillis" : 58, "counts" : {

"input" : 5,

"emit" : 5,

"reduce" : 2,

"output" : 3

},

"ok" : 1,

}

**> db.total.find()**

{ "\_id" : "IT", "value" : "1500000" }

{ "\_id" : "comp", "value" : "600000" }

{ "\_id" : "mech", "value" : "300000" }

1. **Display the count of employees department wise**

> **db.emp.mapReduce(function(){emit(this.dept,1);},function(keydept,keid){return**

**Array.sum(keid)},{out:"total1",})**

{

"result" : "total1", "timeMillis" : 5, "counts" : {

"input" : 5,

"emit" : 5,

"reduce" : 2,

"output" : 3

},

"ok" : 1,

}

**> db.total1.find()**

{ "\_id" : "IT", "value" : 2 }

{ "\_id" : "comp", "value" : 2 }

{ "\_id" : "mech", "value" : 1 }

1. **Consider the collection “Orders “ with the following types of documents**

{

\_id: ObjectId("50a8240b927d5d8b5891743c"), cust\_id: "abc123",

status: 'A', price: 25,

}

Return the Total Price Per Customer

**> db.cust.find()**

{ "\_id" : ObjectId("5d78bb3a907d0dcabb99c01d"), "cid" : "1", "status" : "A", "price" : "20" }

{ "\_id" : ObjectId("5d78bb45907d0dcabb99c01e"), "cid" : "2", "status" : "A", "price" : "30" }

{ "\_id" : ObjectId("5d78bb50907d0dcabb99c01f"), "cid" : "3", "status" : "B", "price" : "50" }

{ "\_id" : ObjectId("5d78bb6b907d0dcabb99c020"), "cid" : "4", "status" : "B", "price" : "25" }

{ "\_id" : ObjectId("5d78bb74907d0dcabb99c021"), "cid" : "5", "status" : "B", "price" : "35" }

{ "\_id" : ObjectId("5d78bbc9907d0dcabb99c022"), "cid" : "5", "status" : "B", "price" : "30" }

{ "\_id" : ObjectId("5d78bbd5907d0dcabb99c023"), "cid" : "1", "status" : "A", "price" : "20" }

**> db.cust.mapReduce(function(){emit(this.cid,this.price);}, function(keycid,valuesprice){return Array.sum(valuesprice)}, {out:'total3',})**

{

"result" : "total3", "timeMillis" : 5, "counts" : {

"input" : 7,

"emit" : 7,

"reduce" : 2,

"output" : 5

},

"ok" : 1,

}

**> db.total3.find()**

{ "\_id" : "1", "value" : "40" }

{ "\_id" : "2", "value" : "30" }

{ "\_id" : "3", "value" : "50" }

{ "\_id" : "4", "value" : "25" }

{ "\_id" : "5", "value" : "65" }

1. **Display the total salatry of employees working in computer department.**

**>db.emp.mapReduce(function(){emit(this.dept,this.salary);},function(keydept,valuessalary){re turn Array.sum(valuessalary)},{query:{dept:"comp"}, out:"total4"})**

{

"result" : "total4", "timeMillis" : 5, "counts" : {

"input" : 2,

"emit" : 2,

"reduce" : 1,

"output" : 1

},

"ok" : 1,

}

**> db.total4.find()**

{ "\_id" : "comp", "value" : "600000" }

1. **Consider each document in the zipcode collection has the following form**:

{

"\_id": "10280",

"city": "NEW YORK",

"state": "NY", "pop": 5574,

}

**Return the city wise population of the cities in the NY state.**

{ "\_id" : ObjectId("5d78bfe7907d0dcabb99c029"), "city" : "pune", "state" : "maharashtra", "pop" : 100000 }

{ "\_id" : ObjectId("5d78bff1907d0dcabb99c02a"), "city" : "nashik", "state" : "maharashtra", "pop" : 200000 }

{ "\_id" : ObjectId("5d78c004907d0dcabb99c02b"), "city" : "gulbarga", "state" : "karnataka", "pop" : 300000 }

{ "\_id" : ObjectId("5d78c012907d0dcabb99c02c"), "city" : "banglore", "state" : "karnataka", "pop" : 440000 }

{ "\_id" : ObjectId("5d78c025907d0dcabb99c02d"), "city" : "nagpur", "state" : "maha", "pop"

: 250000 }

**> db.zipcode.mapReduce(function(){emit(this.city,this.pop);}, function(keycity,valuespop){return Array.sum(valuespop)},{query:{state:"maharashtra"}, out:"T"})**

{

"result" : "T", "timeMillis" : 5, "counts" : {

"input" : 2,

"emit" : 2,

"reduce" : 0,

"output" : 2

},

"ok" : 1,

}

**> db.T.find()**

{ "\_id" : "nashik", "value" : 200000 }

{ "\_id" : "pune", "value" : 100000 }