

```

> use b2
switched to db b2
> db.student.insert({rollno : 201 , subject : "Physics" , marks : 40 })
WriteResult({ "nInserted" : 1 })
> db.student.insertMany([
... { rollno : 202 , subject : "Physics" , marks : 44 } ,
... { rollno : 201 , subject : "Chemistry" , marks : 40 } ,
... { rollno : 202 , subject : "Chemistry" , marks : 38 } ,
... { rollno : 201 , subject : "Math" , marks : 92 } ,
... { rollno : 202 , subject : "Math" , marks : 88 } ,
... { rollno : 203 , subject : "Physics" ,marks : 45 } ,
... { rollno : 203 , subject : "Chemistry" , marks :41 } ,
... { rollno : 203 , subject : "Math" , marks : 94 } ,
... { rollno : 204 , subject : "Physics" , marks : 32 } ,
... { rollno : 204 , subject : "Chemistry" , marks : 40 } ] )
{
  "acknowledged" : true,
  "insertedIds" : [
    ObjectId("5fa7eb298e612b224bb37dcf"),
    ObjectId("5fa7eb298e612b224bb37dd0"),
    ObjectId("5fa7eb298e612b224bb37dd1"),
    ObjectId("5fa7eb298e612b224bb37dd2"),
    ObjectId("5fa7eb298e612b224bb37dd3"),
    ObjectId("5fa7eb298e612b224bb37dd4"),
    ObjectId("5fa7eb298e612b224bb37dd5"),
    ObjectId("5fa7eb298e612b224bb37dd6"),
    ObjectId("5fa7eb298e612b224bb37dd7"),
    ObjectId("5fa7eb298e612b224bb37dd8")
  ]
}
>
>
> var mapFunction = function(){
... var key = this.rollno ;
... var value = { total_marks : this.marks , count : 1 , percentage : 0};
... emit (key,value);
... };
>
>
> var reduceFunction = function(key , values ) {
... var reducedObject = { total_marks : 0 ,count : 0 ,percentage : 0 } ;
... values.forEach( function(value) {
...   reducedObject.total_marks += value.total_marks;
...   reducedObject.count += value.count ;
... });
...
... return reducedObject ;
... };
>
>
> var finalizeFunction = function ( key,reducedValue ) {
...
... if(reducedValue.count > 0 )

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...   reducedValue.percentage = reducedValue.total_marks / reducedValue.count ;
...
... return reducedValue;
... };
>
>
>
>
> db.student.mapReduce(  mapFunction ,  reduceFunction ,  {   out : "result",   finalize : finalizeFunction   } )
{
  "result" : "result",
  "timeMillis" : 172,
  "counts" : {
    "input" : 11,
    "emit" : 11,
    "reduce" : 4,
    "output" : 4
  },
  "ok" : 1
}
>
>
> db.result.find({}).pretty()
{
  "_id" : 201,
  "value" : {
    "total_marks" : 172,
    "count" : 3,
    "percentage" : 57.333333333333336
  }
}
{
  "_id" : 202,
  "value" : {
    "total_marks" : 170,
    "count" : 3,
    "percentage" : 56.666666666666664
  }
}
{
  "_id" : 203,
  "value" : {
    "total_marks" : 180,
    "count" : 3,
    "percentage" : 60
  }
}
{
  "_id" : 204,
  "value" : {
    "total_marks" : 72,
    "count" : 2,
    "percentage" : 36
  }
}

```

