

BIG DATA ANALYSIS TEACHER'S ASSESSMENT 2

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Roll No. - B-40

Sem - VIII Shift - 2

1) Update the field's information in the MongoDB database for the CSE Department. Also use the MongoDB commands for getting the results like SQL AND / OR etc.

```
Command Prompt - mongo
> db.createCollection("CSE")
{"ok": 1}
> db.CSE.insertOne({sid:1,sfname:"Atharva",slname:"Paliwal",sroll:40,sgender:"Male"})
{"acknowledged": true, "insertedId": ObjectId("61f953e3d6f9c13018d7ccaa")}
> db.CSE.insertOne({sid:2,sfname:"Yash",slname:"Roy",sroll:82,sgender:"Male"})
{"acknowledged": true, "insertedId": ObjectId("61f95444d6f9c13018d7ccab")}
> db.CSE.insertOne({sid:3,sfname:"Chaitanya",slname:"Kapre",sroll:41,sgender:"Male"})
{"acknowledged": true, "insertedId": ObjectId("61f9544dd6f9c13018d7ccac")}
> db.CSE.insertOne({sid:4,sfname:"Ritul",slname:"Deshmukh",sroll:14,sgender:"Female"})
{"acknowledged": true, "insertedId": ObjectId("61f95478d6f9c13018d7ccad")}
> db.CSE.insertOne({sid:5,sfname:"Ketki",slname:"Fadanvis",sroll:05,sgender:"Female"})
{"acknowledged": true, "insertedId": ObjectId("61f95481d6f9c13018d7ccae")}
> db.CSE.find( { $or: [ { sfname: "Ketki" }, { sroll: 5 } ] } )
{"_id": ObjectId("61f95481d6f9c13018d7ccae"), "sid": 5, "sfname": "Ketki", "slname": "Fadanvis", "sroll": 5, "sgender": "Female" }
> db.CSE.insertOne({sid:6,sfname:"Ketki",slname:"Deshmukh",sroll:06,sgender:"Female"})
{"acknowledged": true, "insertedId": ObjectId("61f95512d6f9c13018d7ccaf")}
> db.CSE.find( { $or: [ { sfname: "Ketki" }, { sgender: "female" } ] } )
{"_id": ObjectId("61f95481d6f9c13018d7ccae"), "sid": 5, "sfname": "Ketki", "slname": "Fadanvis", "sroll": 5, "sgender": "Female" }
{"_id": ObjectId("61f95512d6f9c13018d7ccaf"), "sid": 6, "sfname": "Ketki", "slname": "Deshmukh", "sroll": 6, "sgender": "Female" }
> db.CSE.find( { $and: [ { sfname: "Ketki" }, { sroll: 05 } ] } )
{"_id": ObjectId("61f95481d6f9c13018d7ccae"), "sid": 5, "sfname": "Ketki", "slname": "Fadanvis", "sroll": 5, "sgender": "Female" }
```

```
Command Prompt - mongo
{"_id": ObjectId("61f95512d6f9c13018d7ccaf"), "sid": 6, "sfname": "Ketki", "slname": "Deshmukh", "sroll": 6, "sgender": "Female" }
> db.CSE.find( { $or: [ { sfname: "Ketki" }, { sgender: "female" } ] } )
{"_id": ObjectId("61f95481d6f9c13018d7ccae"), "sid": 5, "sfname": "Ketki", "slname": "Fadanvis", "sroll": 5, "sgender": "Female" }
{"_id": ObjectId("61f95512d6f9c13018d7ccaf"), "sid": 6, "sfname": "Ketki", "slname": "Deshmukh", "sroll": 6, "sgender": "Female" }
> db.CSE.find( { $and: [ { sfname: "Ketki" }, { sroll: 05 } ] } )
{"_id": ObjectId("61f95481d6f9c13018d7ccae"), "sid": 5, "sfname": "Ketki", "slname": "Fadanvis", "sroll": 5, "sgender": "Female" }
> db.CSE.update(
... {"sid": 6},
... {$set: {"sfname": "Shruti"}});
WriteResult({ "nMatched": 1, "nUpserted": 0, "nModified": 1 })
> db.CSE.find( { $or: [ { slname: "Deshmukh" }, { sgender: "female" } ] } )
{"_id": ObjectId("61f95478d6f9c13018d7ccad"), "sid": 4, "sfname": "Ritul", "slname": "Deshmukh", "sroll": 14, "sgender": "Female" }
{"_id": ObjectId("61f95512d6f9c13018d7ccaf"), "sid": 6, "sfname": "Shruti", "slname": "Deshmukh", "sroll": 6, "sgender": "Female" }
```

2) Create collection for grocery store in MongoDB which consists of four documents having details of product, type, manufacturer, date of purchase, price, etc and find average price for each type of product using MongoDB Map-Reduce operation and also show the same result using MongoDB Aggregation operation.

```
Microsoft Windows [Version 10.0.22000.434]
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C:\Users\ACER>mongo
MongoDB shell version v4.4.4
connecting to: mongodb://127.0.0.1:27017/?compressors=disabled&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("550a0cfa-63b9-4c51-8a9a-3d0406d710f5") }
MongoDB server version: 4.4.4
---
The server generated these startup warnings when booting:
  2022-01-15T13:17:38.221+05:30: Access control is not enabled for the database. Read and write access to data and configuration is unrestricted
---
  Enable MongoDB's free cloud-based monitoring service, which will then receive and display
  metrics about your deployment (disk utilization, CPU, operation statistics, etc).

  The monitoring data will be available on a MongoDB website with a unique URL accessible to you
  and anyone you share the URL with. MongoDB may use this information to make product
  improvements and to suggest MongoDB products and deployment options to you.

  To enable free monitoring, run the following command: db.enableFreeMonitoring()
  To permanently disable this reminder, run the following command: db.disableFreeMonitoring()
---
> db.createCollection("GroceryStore")
{"ok" : 1 }
> db.GroceryStore.insertOne({pid:1,pname:"Dant Kanti",type:"Toothpaste",manufacturer:"Patanjali",dop:"09-09-2021",doe:"10-10-2022",price:60})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f32d6f9c13018d7cca3")
}
> db.GroceryStore.insertOne({pid:2,pname:"Colgate",type:"Toothpaste",manufacturer:"Colgate",dop:"09-10-2021",doe:"10-10-2022",price:50})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f3ad6f9c13018d7cca4")
}
> db.GroceryStore.insertOne({pid:3,pname:"Babool",type:"Toothpaste",manufacturer:"Dabur",dop:"09-11-2021",doe:"10-11-2022",price:70})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f42d6f9c13018d7cca5")
}
> db.GroceryStore.insertOne({pid:4,pname:"Trimax",type:"Pen",manufacturer:"Reynolds",dop:"09-11-2019",doe:"10-10-2022",price:30})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f49d6f9c13018d7cca6")
}
> db.GroceryStore.insertOne({pid:5,pname:"Amul Milk",type:"Milk",manufacturer:"Amul",dop:"09-09-2021",doe:"10-09-2021",price:60})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f51d6f9c13018d7cca7")
}
> db.GroceryStore.insertOne({pid:6,pname:"Dinshaw Milk",type:"Milk",manufacturer:"Dinshaw",dop:"09-09-2021",doe:"09-10-2021",price:50})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f59d6f9c13018d7cca8")
}
> db.GroceryStore.insertOne({pid:7,pname:"Parker",type:"Pen",manufacturer:"Cello",dop:"10-10-2019",doe:"10-10-2022",price:100})
{
  "acknowledged" : true,
  "insertedId" : ObjectId("61f94f5fd6f9c13018d7cca9")
}
> db.GroceryStore.aggregate([{$group:{_id:"$type",average:{avg:"$price"}}}])
... var map = function(){emit(this.type,this.price)};
... var reduce = function(type,price){return Array.avg(price)};
... db.GroceryStore.mapReduce(map,reduce,{out:"avg_list"})
... db.GroceryStore.find().pretty()
... ^C

> db.GroceryStore.find().pretty()
{
  "_id" : ObjectId("61f94f32d6f9c13018d7cca3"),
  "pid" : 1,
  "pname" : "Dant Kanti",
  "type" : "Toothpaste",
  "manufacturer" : "Patanjali",
  "dop" : "09-09-2021",
  "doe" : "10-10-2022",
  "price" : 60
}
{
  "_id" : ObjectId("61f94f3ad6f9c13018d7cca4"),
```

```
Command Prompt - mongo

{"pid": 2,
  "pname": "Colgate",
  "type": "Toothpaste",
  "manufacturer": "Colgate",
  "dop": "09-10-2021",
  "doe": "10-10-2022",
  "price": 50
}

{"_id": ObjectId("61f94f42d6f9c13018d7cca5"),
  "pid": 3,
  "pname": "Babool",
  "type": "Toothpaste",
  "manufacturer": "Dabun",
  "dop": "09-11-2021",
  "doe": "10-11-2022",
  "price": 70
}

{"_id": ObjectId("61f94f49d6f9c13018d7cca6"),
  "pid": 4,
  "pname": "Trimax",
  "type": "Pen",
  "manufacturer": "Reynolds",
  "dop": "09-11-2019",
  "doe": "10-10-2022",
  "price": 30
}

{"_id": ObjectId("61f94f51d6f9c13018d7cca7"),
  "pid": 5,
  "pname": "Amul Milk",
  "type": "Milk",
  "manufacturer": "Amul",
  "dop": "09-09-2021",
  "doe": "10-09-2021",
  "price": 60
}

{"_id": ObjectId("61f94f59d6f9c13018d7cca8"),
  "pid": 6,
  "pname": "Dinshaw Milk",
  "type": "Milk",
  "manufacturer": "Dinshaw",
  "dop": "09-09-2021",
  "doe": "09-10-2021",
  "price": 50
}

{"_id": ObjectId("61f94f5fd6f9c13018d7cca9"),
  "pid": 7,
  "pname": "Parker",
  "type": "Pen",
  "manufacturer": "Cello",
  "dop": "10-10-2019",
  "doe": "10-10-2022",
  "price": 100
}
```

```
Command Prompt - mongo

{"pid": 6,
  "pname": "Dinshaw Milk",
  "type": "Milk",
  "manufacturer": "Dinshaw",
  "dop": "09-09-2021",
  "doe": "09-10-2021",
  "price": 50
}

{"_id": ObjectId("61f94f5fd6f9c13018d7cca9"),
  "pid": 7,
  "pname": "Parker",
  "type": "Pen",
  "manufacturer": "Cello",
  "dop": "10-10-2019",
  "doe": "10-10-2022",
  "price": 100
}
```