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ASSIGNMENT 16

Aim: Implement the aggregation and indexing with suitable example on above MongoDB database. Demonstrate following :
- Aggregation framework
- Create and drop different types of indexes and explain() to show the advantage of the indexes.

Problem Statement : Implement the aggregation and indexing on MongoDB database. Demonstrate following :
- Aggregation framework
- Create and drop different types of indexes and explain() to show the advantage of the indexes.

Objective :
- To understand the concept of aggregation in MongoDB
- To implement concept of document oriented databases.

Theory :
- New feature in the MongoDB 2.2.0 production release
- Designed with specific goals of improving performance and usability.
- Returns result set inline
- supports non-sharded and sharded input collections
- Uses a "pipeline" approach where objects are transformed as they pass through a series of pipeline operators such as matching, projecting, sorting and grouping.
- Pipeline operators need not produce one output document for every input document. Operators may also generate new documents or filter out documents.

Implementation of aggregation :

1) use Teacher switched to db Teacher

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2) db.Teacher.find()

3) db.Teacher.aggregate([
{$group:{_id:"$Department", totalsalary:{$sum:"$Salary"}}}
])

4) db.Teacher.aggregate([
{$group:{_id:"$Department", total salary:{$sum:
"$salary"}}}, {$group:{_id:"$_id.Department",
AvgSal:{$sum:"$totalsalary"}}}])

5) db.Teacher.aggregate([
{$group:{_id:"$Department", totalsalary:
{$sum:"$salary"}}}, {$match:{totalsalary:
{$gte:200000}}}])

6) db.Teacher.aggregate([{$group:{_id:"$Department,
totalsalary:{$sum:"$salary"}}}, {$sort:
{totalsalary:1}}])

7) db.Teacher.aggregate([{$group:{_id:"$Department",
totalsalary:{$sum:"$salary"}}}, {$group:
{_id:"$Department", big:{$last:"$_id.Dept_name"
}, bigsalary:{$last:"$totalsalary"}, small:
{$first:"$_id.Dept-name"}, smallsalary:{
$first:$totalsalary"}}])

Conclusion :
Understood to use aggregation operation in MongoDB.

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