Assignment 16

→ Problem Statement :

Implement the aggregation & indexing with suitable example on given mongoDB database to demonstrate the following

1. Aggregation framework.
2. Create & drop different types of indexes

→ Theory :

A] Aggregation features :

- Improving performance & usability
- Supports sharded & non-sharded input collection
- User, & pipeline approach where objects are transformed as they pass through series of pipeline ops.

B] Implementation of aggregation :

- db.teacher.aggregate([{$group:{_id:"$dept", totalsal:{$sum:"$sal"}}}])

- db.teacher.aggregate([{$group:{_id:"$dept", totalsal:{$sum:"$sal"}, avgSal:{$sum:"$totalsal"}}}])

C] Indexing in MongodB :

- It supports the efficient execution of queries
- Default indexing is created as _id field.
  We cannot drop indexing on _id.
- It uses a B Tree Structure.

D] Implementation of Indexes :

- db.collection.createIndex ({ name 1 })
- db.collection.createIndex ({item : 1, quantity: 2})
- db.collection.createIndex ({ name : 1 }, {name : "query for name" })

→ Conclusion :

Topics Covered :

1. Aggregation Techniques.
2. Indexing in mongodB.