**GROUP C**
**ASSIGNMENT 5**

**NAME** – Kartik Pingale
**CLASS** – TE-IT
**BATCH** - T2
**ROLL NO** – 7048

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

1. Find the total amount of each customer

```
> db.customers.aggregate( {$group: {_id: "_id", total_amt: {$sum: "$Amount"}}} )
{ "_id" : "_id", "total_amt" : 2100 }
```

2. Find the total amount of each customer whose status is A.

```
> db.customers.aggregate({$match:{Status:"A"}},{$group:{_id:"_id", total_amt:{$sum:"$Amount"}}})
{ "_id" : "_id", "total_amt" : 1300 }
```

3. Find the minimum total amount of each customer whose Status is A.

```
> db.customers.aggregate({$match:{Status:"A"}},{$group:{_id:"_id", min_amt:{$min:"$Amount"}}})
{ "_id" : "_id", "min_amt" : 300 }
```

4. Find the maximum total amount of each customer whose Status is A.

```
> db.customers.aggregate({$match:{Status:"A"}},{$group:{_id:"_id", max_amt:{$max:"$Amount"}}})
{ "_id" : "_id", "max_amt" : 500 }
```

5. Find the average total amount of each customer whose Status is A.

```
>
db.customers.aggregate({$match:{Status:"A"}},{$group:{_id:"_id",
avg_amt:{$avg:"$Amount"}}})
{ "_id" : "_id", "avg_amt" : 433.3333333333333 }
```

6. Create index on custID.

```
> db.customers.createIndex({"custID":1})
{
     "createdCollectionAutomatically" : false,
     "numIndexesBefore" : 1,
     "numIndexesAfter" : 2,
     "ok" : 1
}
```

7.  Execute getIndexes.

```
> db.customers.getIndexes()
[
     {
          "v" : 2,
          "key" : {
               "_id" : 1
          },
          "name" : "_id_",
          "ns" : "cust_db.customers"
     },
     {
          "v" : 2,
          "key" : {
               "custID" : 1
          },
          "name" : "custID_1",
          "ns" : "cust_db.customers"
     }
]
```

8. Drop the index

```
> db.customers.dropIndexes()
{
     "nIndexesWas" : 2,
```

```
        "msg" : "non-_id indexes dropped for collection",
        "ok" : 1
}
```