Name: Anushka M Mulay

Class: TE IT (A)

Roll No: 35040

Batch: B

Group: C

**Assignment No. 4**

**Title:** MapReduce Function

**Problem Statement:** Implement Map-Reduce Function using suitable example.

**Requirements:** MongoDB

**Prerequisites:** Basic knowledge about MongoDB.

**Theory:**

As per the MongoDB documentation, Map-reduce is a data processing paradigm for condensing large volumes of data into useful aggregated results. MongoDB uses mapReduce command for map-reduce operations. MapReduce is generally used for processing large data sets.

**Syntax**

>db.collection.mapReduce(

function() {emit(key,value);}, //map function

function(key,values) {return reduceFunction},

//reduce function

{

out: collection,

query: document,

sort: document,

limit: number

}

)

* **map** is a javascript function that maps a value with a key and emits(produces) a key-value pair
* **reduce** is a javscript function that reduces or groups all the documents having the same key
* **out** specifies the location of the map-reduce query result
* **query** specifies the optional selection criteria for selecting documents
* **sort** specifies the optional sort criteria
* **limit** specifies the optional maximum number of documents to be returned

The map-reduce function first queries the collection, then maps the result documents to emit key-value pairs which is then reduced based on the keys that have multiple values.

**Conclusion:** Thus, in this assignment we studied about map-reduce function.