Group B : Lab Assignment no. 10

**Title :Implement aggregation and indexing with suitable example using MongoDB**

**prashant@prashant-VPCEG28FN:~$ mongo MongoDB shell version v3.6.3**

**connecting to: mongodb://127.0.0.1:27017 MongoDB server version: 3.6.3**

**Server has startup warnings:**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten]**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten] \*\* WARNING:**

**Using the XFS filesystem is strongly recommended with the WiredTiger storage engine**

**2020-10-15T14:26:28.786+0530 I STORAGE [initandlisten] \*\* See** [**http://dochub.mongodb.org/core/prodnotes-filesystem**](http://dochub.mongodb.org/core/prodnotes-filesystem)

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten]**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten] \*\* WARNING:**

**Access control is not enabled for the database.**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten] \*\* Read and write access to data and configuration is unrestricted.**

**2020-10-15T14:26:36.417+0530 I CONTROL [initandlisten]**

**>**

**//USE DATABASE**

* **use comp; switched to db comp**

**//CREATE COLLECTION WEBSITE**

* **db.createCollection('website');**

**{ "ok" : 1 }**

**//INSERT VALUES IN WEBSITE**

**>**

**db.website.insert({'roll':'1','name':'Vaibhavi','amount':1000,'ur l':'www.yahoo.com'});**

**WriteResult({ "nInserted" : 1 })**

**>db.website.insert({'roll':'2','name':'hariom','amount':2000,'url':'**[**www.yahoo.com**](http://www.yahoo.com/) **'});**

**WriteResult({ "nInserted" : 1 })**

**>db.website.insert({'roll':'3','name':'rina','amount':3000,'url':'www.google.com'**

**});**

**WriteResult({ "nInserted" : 1 })**

**>db.website.insert({'roll':'4','name':'ash','amount':4000,'url':'www.gmail.com'})**

**;**

**WriteResult({ "nInserted" : 1 })**

**>db.website.insert({'roll':'5','name':'ash','amount':1000,'url':'**[**www.pvg.com**](http://www.pvg.com/)**'}); WriteResult({ "nInserted" : 1 })**

**//SUM AGGREGATE**

* **db.website.aggregate({$group:{\_id:"$name","total":{$sum:"$amount"}}});**

**{ "\_id" : "ash", "total" : 5000 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 2000 }**

**//AVG AGGREGATE**

* **db.website.aggregate({$group:{\_id:"$name","total":**

**{$avg:"$amount"}}});**

**{ "\_id" : "ash", "total" : 2500 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 1000 }**

**//MIN AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total":{$min:"$amount"}}});**

**{ "\_id" : "ash", "total" : 1000 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 1000 }**

**//MAX AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total":{$max:"$amount"}}});**

**{ "\_id" : "ash", "total" : 4000 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 1000 }**

**//FIRST AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total":{$first:"$amount"}}});**

**{ "\_id" : "ash", "total" : 4000 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 1000 }**

**//LAST AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total":{$last:"$amount"}}});**

**{ "\_id" : "ash", "total" : 1000 }**

**{ "\_id" : "rina", "total" : 3000 }**

**{ "\_id" : "hariom", "total" : 2000 }**

**{ "\_id" : "Vaibhavi", "total" : 1000 }**

**//PUSH AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total":**

**{$push:"$amount"}}});**

**{ "\_id" : "ash", "total" : [ 4000, 1000 ] }**

**{ "\_id" : "rina", "total" : [ 3000 ] }**

**{ "\_id" : "hariom", "total" : [ 2000 ] }**

**{ "\_id" : "Vaibhavi", "total" : [ 1000, 1000 ] }**

**//COUNT AGGREGATION**

* **db.website.aggregate({$group:{\_id:"$name","total": {$sum:1}}});**

**{ "\_id" : "ash", "total" : 2 }**

**{ "\_id" : "rina", "total" : 1 }**

**{ "\_id" : "hariom", "total" : 1 }**

**{ "\_id" : "Vaibhavi", "total" : 2 }**

**//ADDTOSET AGGREGATE**

* **db.website.aggregate({$group:**

**{\_id:"$name","total"{$addToSet:"$amount"}}});**

**{ "\_id" : "ash", "total" : [ 1000, 4000 ] }**

**{ "\_id" : "rina", "total" : [ 3000 ] }**

**{ "\_id" : "hariom", "total" : [ 2000 ] }**

**{ "\_id" : "Vaibhavi", "total" : [ 1000 ] }**

**//INDEXING**

* **db.createCollection('website1');**

**{ "ok" : 1 }**

* **db.website1.insert({'r':1,'name':'Vaibhavi'}); WriteResult({ "nInserted" : 1 })**
* **db.website1.find().pretty()**

**{ "\_id" : ObjectId("5ba3509a444926329738012d"), "roll" : 1, "name" : "Vaibhavi" }**

**{ "\_id" : ObjectId("5ba35293444926329738012e"), "roll" : 1, "name" : "Vaibhavi" }**

* **db.website1.createIndex({'name':1})**

**{ "numIndexesBefore" : 2, "note" : "all indexes already exist", "ok" : 1 }//CREATE INDEXING**

* **db.website1.createIndex({'name':-1})**

**{**

**"createdCollectionAutomatically" : false, "numIndexesBefore" : 2,**

**"numIndexesAfter" : 3,**

**"ok" : 1**

**}**

* **db.website1.getIndexses()**

**2018-09-20T13:28:09.628+0530 TypeError: Property 'getIndexses' of object om.website is not a**

**function**

* **db.website1.getIndexes() [**

**{"v" : 1,**

**},**

**{**

**"v" : 1,**

**"key" : {**

**"name" : 1**

**},**

**"name" : "name\_1", "ns" : "Vaibhavi.website1"**

**},**

**{**

**"v" : 1,**

**"key" : {**

**"name" : -1**

**},**

**"name" : "name\_-1", "ns" : "Vaibhavi.website1"**

**}**

**]**

* **db.website1.createIndex({'name':-1})**

**{ "numIndexesBefore" : 3, "note" : "all indexes already exist", "ok" : 1 }**

**//DROP INDEX**

* **db.website.dropIndex({'name':-1})**

**{ "nIndexesWas" : 3, "ok" : 1 }> db.website1.dropIndex({'name':1})**

**{ "nIndexesWas" : 2, "ok" : 1 }> db.website1.dropIndex({'name':1})**

**{**

**"nIndexesWas" : 1,**

**"ok" : 0,**

**"errmsg" : "can't find index with key:{ name: 1.0 }"**

**}**

**//GET INDEXING**

* **db.website1.getIndexes() [**

**{**

**"v" : 1,**

**}**

**]**

* **db.website1.find().pretty()**

**{ "\_id" : ObjectId("5ba3509a444926329738012d"), "roll" : 1, "name" : "Vaibhavi" }**

**{ "\_id" : ObjectId("5ba35293444926329738012e"), "roll" : 1, "name" : "Vaibhavi" }**

**>**

* **db.website1.createIndex({'name':1})**

**{**

**"createdCollectionAutomatically" : false, "numIndexesBefore" : 1,**

**"numIndexesAfter" : 2,**

**"ok" : 1**

**}**

* **db.website1.getIndexes()[**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "Vaibhavi.website1"**

**},**

**{**

**"v" : 1,**

**"key" : {"name" : 1**

**},**

**"name" : "name\_1", "ns" : "Vaibhavi.website1"**

**}**

**]**

* **db.website1.dropIndex({'name':1})**

**{ "nIndexesWas" : 2, "ok" : 1 }**

* **db.website1.getIndexes() [**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "Vaibhavi.website1"**

**}**

**]**

* **db.website1.createIndex({'name':1,'r':-1})**

**{"createdCollectionAutomatically" : false, "numIndexesBefore" : 1,**

**"numIndexesAfter" : 2,**

**"ok" : 1**

**}**

* **db.website1.getIndexes() [**

**{**

**"v" : 1,**

**"key" : {**

**"\_id" : 1**

**},**

**"name" : "\_id\_",**

**"ns" : "Vaibhavi.website1"**

**},**

**{**

**"v" : 1,**

**"key" : {**

**"name" : 1,**

**"r" : -1**

**},**

**"name" : "name\_1\_r\_-1", "ns" : "Vaibhavi.website1"**

**}**

**] (i-search)`db.website1.insert({'roll':1,'name':'Vaibhavi'});':**