Create Database BSIOTR using MongoDB Create following Collections

# Teachers(Tname,dno,dname,experience,salary,date\_of\_joining ) Students(Sname,roll\_no,class)

* 1. Display the department wise average salary
  2. display the no. Of employees working in each department
  3. Display the department wise total salary of departments having total salary greater than or equals to 50000/-
  4. Write the queries using the different operators like max, min. Etc.
  5. Create unique index on any field for above given collections
  6. Create compound index on any fields for above given collections
  7. Show all the indexes created in the database DYPIT
  8. Show all the indexes created in above collections.

Here are the MongoDB queries to perform the requested operations in the "BSIOTR" database using the provided collections:

1. Display the department-wise average salary:

```javascript

db.Teachers.aggregate([

{

$group: {

\_id: "$dname",

avgSalary: { $avg: "$salary" }

}

}

])

```

2. Display the number of employees working in each department:

```javascript

db.Teachers.aggregate([

{

$group: {

\_id: "$dname",

count: { $sum: 1 }

}

}

])

```

3. Display the department-wise total salary of departments having a total salary greater than or equal to 50,000:

```javascript

db.Teachers.aggregate([

{

$group: {

\_id: "$dname",

totalSalary: { $sum: "$salary" }

}

},

{

$match: {

totalSalary: { $gte: 50000 }

}

}

])

```

4. Write queries using different operators like `max`, `min`, etc. (Please specify which operators you would like to use).

5. Create a unique index on the "Tname" field in the "Teachers" collection:

```javascript

db.Teachers.createIndex({ Tname: 1 }, { unique: true })

```

6. Create a compound index on multiple fields in the "Teachers" collection (e.g., on "dname" and "experience"):

```javascript

db.Teachers.createIndex({ dname: 1, experience: 1 })

```

7. Show all the indexes created in the "DYPIT" database:

```javascript

db.getSiblingDB("DYPIT").getCollectionNames().forEach(function (coll) {

var indexes = db.getSiblingDB("DYPIT")[coll].getIndexes();

print("Indexes for collection: " + coll);

indexes.forEach(printjson);

})

```

8. Show all the indexes created in the "Teachers" and "Students" collections:

```javascript

var teachersIndexes = db.Teachers.getIndexes();

var studentsIndexes = db.Students.getIndexes();

print("Indexes for Teachers collection:");

teachersIndexes.forEach(printjson);

print("Indexes for Students collection:");

studentsIndexes.forEach(printjson);

```

These MongoDB queries should help you perform the requested operations in the "BSIOTR" database with the provided collections.