Assignment No 10

❖ Aggregation

❖ Displaying the Documents using sort

```
> db.studMarks.find().sort({marks:1})
< { _id: ObjectId("634e3341f4ee0bbaadbb2abe"),
    name: 'Omkar Jadhav',
    age: 21,
    marks: 42 }
  { _id: ObjectId("634e3314f4ee0bbaadbb2abc"),
    name: 'Satyam Sakore',
    age: 21,
    marks: 46 }
  { _id: ObjectId("634e3314f4ee0bbaadbb2abd"),
    name: 'Tejas',
    age: 22,
    marks: 47 }
  { _id: ObjectId("634e3368f4ee0bbaadbb2ac0"),
    name: 'Prathmesh Swami',
    age: 22,
    marks: 48 }
  { _id: ObjectId("634e3341f4ee0bbaadbb2abf"),
    name: 'Yash Shinde',
    age: 21,
    marks: 50 }
  { _id: ObjectId("634e3368f4ee0bbaadbb2ac1"),
```

❖ Sum of all Marks

```
> db.studMarks.aggregate({$group:{_id:"name", Total_Marks:{$sum:"$marks"}}})
< { _id: 'name', Total_Marks: 285 }
```

❖ Average of All Marks

```
> db.studMarks.aggregate({$group:{_id:"name", Average_Marks:{$avg:"$marks"}}})
< { _id: 'name', Average_Marks: 47.5 }
```

❖ <u>Maximum Marks obtained</u>

```
> db.studMarks.aggregate({$group:{_id:"name", Maximum_Marks:{$max:"$marks"}}})
< { _id: 'name', Maximum_Marks: 52 }
```

❖ <u>Minimum Marks obtained</u>

```
> db.studMarks.aggregate({$group:{_id:"name", Minimum_Marks:{$min:"$marks"}}})
< { _id: 'name', Minimum_Marks: 42 }
```

❖ <u>Match and Project</u>

```
> db.studMarks.aggregate({$match:{age:22}},{$project:{name:1,marks:1}})
< { _id: ObjectId("634e3314f4ee0bbaadbb2abd"),
    name: 'Tejas',
    marks: 47 }
  { _id: ObjectId("634e3368f4ee0bbaadbb2ac0"),
    name: 'Prathmesh Swami',
    marks: 48 }
```

❖ <u>Indexing</u>

```
> db.studMarks.createIndex({name:1})
< 'name_1'
> db.studMarks.createIndex({mobile:1})
< 'mobile_1'
```

```
> db.studMarks.getIndexes()
< [
    { v: 2, key: { _id: 1 }, name: '_id_' },
    { v: 2, key: { name: 1 }, name: 'name_1' },
    { v: 2, key: { mobile: 1 }, name: 'mobile_1' }
  ]
```