LAB EXERCISE:

COMPARISION OPERATOR

IN MONGOSH

1. THE NOT EQUAL! = COMPARISON OPERATOR

2. LESS THAN OPERATOR

3. LESS THAN EQUAL TO OPERATOR

4. GREATER THAN OPERATOR

```
school> db.student.find({age:{$gt:20}})
    _id: ObjectId('668a4dd5fef1eab46860f818'),
    name: 'Ayesha',
    age: 50,
    gpa: 3.5
   _id: ObjectId('668a4dd5fef1eab46860f819'),
    name: 'Arshad',
   age: 57,
    gpa: 3.9
    _id: ObjectId('668a4dd5fef1eab46860f81a'),
    name: 'Maham',
    age: 22,
    gpa: 3.8
    _id: ObjectId('668a4e4ffef1eab46860f81c'),
   name: 'Tooba',
   age: 32,
    gpa: 2.8,
    fullTime: false,
    graduationdate: null,
    courses: [ 'datastructures', 'oop', 'calculus' ],
    address: { street: '123 ned university', city: 'karachi', zip: 23456 }
```

5. GREATER THAN EQUAL TO OPERATOR

6. IN BETWEEN OPERATOR

```
school> db.student.find({gpa:{$gte:3,$lte:4}})
  {
    _id: ObjectId('668a4dd5fef1eab46860f818'),
   name: 'Ayesha',
   age: 50,
    gpa: 3.5
 },
   _id: ObjectId('668a4dd5fef1eab46860f819'),
    name: 'Arshad',
    age: 57,
    gpa: 3.9
 },
    _id: ObjectId('668a4dd5fef1eab46860f81a'),
    name: 'Maham',
    age: 22,
    gpa: 3.8
```

7. IN OPERATOR

8. NOT IN OPERATOR

LOGICAL OPERATORS

1. AND OPERATOR

2. OR OPERATOR

3. NOR OPERATOR

4. NOT OPERATOR

```
school> db.student.find({$nor:[{name:true},{age:{$lte:20}}]})
   _id: ObjectId('668a4dd5fef1eab46860f818'),
   name: 'Ayesha',
   age: 50,
   gpa: 3.5
   _id: ObjectId('668a4dd5fef1eab46860f819'),
   name: 'Arshad',
   age: 57,
   gpa: 3.9
 },
   _id: ObjectId('668a4dd5fef1eab46860f81a'),
   name: 'Maham',
   age: 22,
   gpa: 3.8
   _id: ObjectId('668a4e4ffef1eab46860f81c'),
   name: 'Tooba',
   age: 32,
   gpa: 2.8,
   fullTime: false,
   graduationdate: null,
   courses: [ 'datastructures', 'oop', 'calculus' ],
   address: { street: '123 ned university', city: 'karachi', zip: 23456 }
```

INDEXES

1. TO CREATE AN INDEX

```
school> db.student.createIndex({name:1})
name_1
```

2. TO GET ALL INDEXES IN THE DATABASE:

```
school> db.student.getIndexes()
[
     { v: 2, key: { _id: 1 }, name: '_id_' },
      { v: 2, key: { name: 1 }, name: 'name_1' }
]
```

3. TO DROPAN INDEX

```
school> db.student.dropIndex("name_1")
{ nIndexesWas: 2, ok: 1 }
```

IN MongoDB COMPASS

COMPARISION OPERATORS

1. THE NOT EQUAL! = COMPARISON OPERATOR

```
{name:{$ne:"Mariam"}}
                                      UPDATE

    ADD DATA ▼

☑ EXPORT DATA ▼
                                                   DELETE
        _id: ObjectId('668a4dd5fef1eab46860f818')
        name: "Ayesha"
        age: 50
        gpa: 3.5
        _id: ObjectId('668a4dd5fef1eab46860f819')
        name: "Arshad"
        age: 57
        gpa: 3.9
        _id: ObjectId('668a4dd5fef1eab46860f81a')
        name: "Maham"
        age: 22
        gpa: 3.8
        _id: ObjectId('668a4e4ffef1eab46860f81c')
        name: "Tooba"
        age: 32
        gpa: 2.8
        fullTime: false
        graduationdate: null
      ▶ courses : Array (3)
      ▶ address : Object
```

2. LESS THAN OPERATOR

```
{age:{$lt:40}}
 0 -
                                                  DELETE

◆ ADD DATA ▼

☑ EXPORT DATA ▼

✓ UPDATE
        _id: ObjectId('668a4ce6fef1eab46860f816')
        name: "Mariam"
        age: 20
        gpa: "3.7"
        fullTime: "true"
        _id: ObjectId('668a4dd5fef1eab46860f81a')
        name: "Maham"
        age: 22
        gpa: 3.8
        _id: ObjectId('668a4e4ffefleab46860f81c')
        name: "Tooba"
        age: 32
        gpa: 2.8
        fullTime: false
        graduationdate: null
      ▶ courses : Array (3)
      ▶ address : Object
```

3. LESS THAN EQUAL TO OPERATOR

4. GREATER THAN OPERATOR

```
{age:{$gt:20}}

    ADD DATA ▼

               DELETE
       _id: ObjectId('668a4dd5fef1eab46860f818')
       name: "Ayesha"
       age: 50
       gpa: 3.5
       _id: ObjectId('668a4dd5fef1eab46860f819')
       name: "Arshad"
       age: 57
       gpa: 3.9
       _id: ObjectId('668a4dd5fef1eab46860f81a')
       name: "Maham"
       age: 22
       gpa: 3.8
       _id: ObjectId('668a4e4ffefleab46860f81c')
       name: "Tooba"
       age: 32
       gpa: 2.8
       fullTime: false
       graduationdate : null
      ▶ courses: Array (3)
      ▶ address : Object
```

5. GREATER THAN EQUAL TO OPERATOR

```
{age:{$gte:32}}
♣ ADD DATA ▼
EXPORT DATA ▼
                                    ✓ UPDATE
                                                 DELETE
        _id: ObjectId('668a4dd5fef1eab46860f818')
        name: "Ayesha"
        age: 50
        gpa: 3.5
        _id: ObjectId('668a4dd5fef1eab46860f819')
        name: "Arshad"
        age: 57
        gpa: 3.9
        _id: ObjectId('668a4e4ffefleab46860f81c')
       name: "Tooba"
        age: 32
        gpa: 2.8
        fullTime: false
        graduationdate : null
      courses: Array (3)
      ▶ address : Object
```

6. IN BETWEEN OPERATOR

```
{gpa:{$gte:3,$lte:4}}
 •

    ADD DATA ▼

✓ UPDATE
                                               DELETE
       _id: ObjectId('668a4dd5fef1eab46860f818')
       name: "Ayesha"
       age: 50
       gpa: 3.5
       _id: ObjectId('668a4dd5fef1eab46860f819')
       name: "Arshad"
       age: 57
       gpa: 3.9
       _id: ObjectId('668a4dd5fef1eab46860f81a')
       name: "Maham"
       age: 22
       gpa: 3.8
```

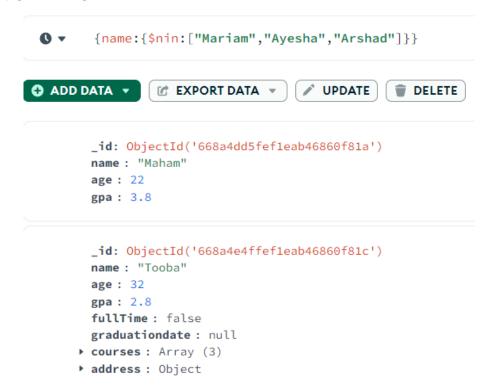
7. IN OPERATOR

```
{name:{$in:["Mariam","Ayesha","Arshad"]}}
◆ ADD DATA ▼
                DELETE

✓ UPDATE

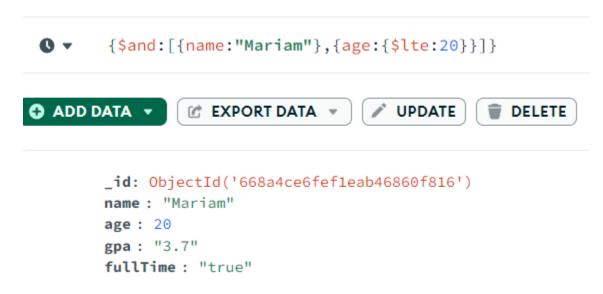
        _id: ObjectId('668a4ce6fef1eab46860f816')
        name: "Mariam"
        age: 20
        gpa: "3.7"
        fullTime : "true"
        _id: ObjectId('668a4dd5fef1eab46860f818')
        name: "Ayesha"
        age: 50
        gpa: 3.5
        _id: ObjectId('668a4dd5fef1eab46860f819')
        name: "Arshad"
        age: 57
        gpa: 3.9
```

8. NOT IN OPERATOR



LOGICAL OPERATORS

1. AND OPERATOR



2. OR OPERATOR

3. NOR OPERATOR

```
{$nor:[{name:"Mariam"},{age:{$lte:20}}]}

    ADD DATA ▼

                 UPDATE
                                                 DELETE
        _id: ObjectId('668a4dd5fef1eab46860f818')
        name: "Ayesha"
        age: 50
        gpa: 3.5
        _id: ObjectId('668a4dd5fef1eab46860f819')
        name: "Arshad"
        age: 57
        gpa: 3.9
        _id: ObjectId('668a4dd5fef1eab46860f81a')
        name: "Maham"
        age: 22
        gpa: 3.8
        _id: ObjectId('668a4e4ffef1eab46860f81c')
        name: "Tooba"
        age: 32
        gpa: 2.8
        fullTime: false
        graduationdate: null
      ▶ courses: Array (3)
      ▶ address : Object
```

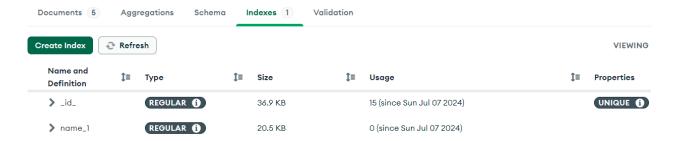
4. NOT OPERATOR

INDEXES

1. TO CREATE AN INDEX



2. TO GET ALL INDEXES IN THE DATABASE



3. TO DROPAN INDEX

