Name: Jenil Girish Rathod   Class: TE

Div: B   Batch: B1

Roll No: T212009

Group B: Practical No: 10

Program Statement:

MongoDB Queries: Design and Develop MongoDB Queries using CRUD operations. (Use CRUD operations, SAVE method, logical operators etc.).

Code:

1. db.collection.insertOne() method. :

```
test> show databases
admin   40.00 KiB
config  12.00 KiB
local   40.00 KiB
test> use classroom
switched to db classroom
classroom> db.student.insertOne({
... name: "Jenil",
... age: 20,
... branch: "CSE",
... course: "DBMS",
... mode: "offline",
... paid: true,
... amount: 2000
... })
{
  acknowledged: true,
  insertedId: ObjectId('67099a97b13510ddeb86b01d')
}
classroom>
```

2. db.collection.insertMany() method:

```
test> use classroom
switched to db classroom
classroom> db.student.insertMany([
```

```
      ... {
      ... name: "Jenil",
      ... age: 20,
      ... branch: "CSE",
      ... course: "MySQL",
      ... mode: "offline",
      ... paid: true,
      ... amount: 2000
      ... },
      ...
      ... {
      ... name: "Zaid",
      ... age: 19,
      ... branch: "MBBS",
      ... course: "Psycology",
      ... mode: "offline",
      ... paid: true,
      ... amount: 2500
      ... }
      ...
      ... ])
      {
       acknowledged: true,
       insertedIds: {
         '0': ObjectId('67099e764df2cdb69d86b01d'),
         '1': ObjectId('67099e764df2cdb69d86b01e')
       }
      }
      classroom>
```

3. db.collection.find() method:

```
test> use classroom
switched to db classroom
classroom> db.student.find().pretty()
[
  {
    _id: ObjectId('67099a97b13510ddeb86b01d'),
    name: 'Jenil',
    age: 20,
    branch: 'CSE',
    course: 'DBMS',
    mode: 'offline',
    paid: true,
    amount: 2000
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01d'),
    name: 'Jenil',
```

```
    age: 20,
    branch: 'CSE',
    course: 'MySQL',
    mode: 'offline',
    paid: true,
    amount: 2000
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01e'),
    name: 'Zaid',
    age: 19,
    branch: 'MBBS',
    course: 'Psycology',
    mode: 'offline',
    paid: true,
    amount: 2500
  }
]
classroom>
```

4. db.collection.updateOne() method. :

```
test> use classroom
switched to db classroom
classroom> db.student.updateOne({name: "Jenil"}, {$set: {age: 21}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
classroom> db.student.find().pretty()
[
  {
    _id: ObjectId('67099a97b13510ddeb86b01d'),
    name: 'Jenil',
    age: 21,
    branch: 'CSE',
    course: 'DBMS',
    mode: 'offline',
    paid: true,
    amount: 2000
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01d'),
    name: 'Jenil',
    age: 20,
    branch: 'CSE',
```

```
    course: 'MySQL',
    mode: 'offline',
    paid: true,
    amount: 2000
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01e'),
    name: 'Zaid',
    age: 19,
    branch: 'MBBS',
    course: 'Psycology',
    mode: 'offline',
    paid: true,
    amount: 2500
  }
]
classroom>
```

5. db.collection.updateMany() method :

```
test> use classroom
switched to db classroom
classroom> db.student.updateMany ({ }, {$set: {year: 2024}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 3,
  modifiedCount: 3,
  upsertedCount: 0
}
classroom> db.student.find().pretty()
[
  {
    _id: ObjectId('67099a97b13510ddeb86b01d'),
    name: 'Jenil',
    age: 21,
    branch: 'CSE',
    course: 'DBMS',
    mode: 'offline',
    paid: true,
    amount: 2000,
    year: 2024
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01d'),
    name: 'Jenil',
    age: 20,
    branch: 'CSE',
```

```
   course: 'MySQL',
   mode: 'offline',
   paid: true,
   amount: 2000,
   year: 2024
  },
  {
   _id: ObjectId('67099e764df2cdb69d86b01e'),
   name: 'Zaid',
   age: 19,
   branch: 'MBBS',
   course: 'Psycology',
   mode: 'offline',
   paid: true,
   amount: 2500,
   year: 2024
  }
]
classroom>
```

6. db.collection.deleteOne() method:

```
test use classroom
switched to db classroom
classroom> db.student.find().pretty()
[
  {
   _id: ObjectId('67099a97b13510ddeb86b01d'),
   name: 'Jenil',
   age: 21,
   branch: 'CSE',
   course: 'DBMS',
   mode: 'offline',
   paid: true,
   amount: 2000,
   year: 2024
  },
  {
   _id: ObjectId('67099e764df2cdb69d86b01d'),
   name: 'Jenil',
   age: 20,
   branch: 'CSE',
   course: 'MySQL',
   mode: 'offline',
   paid: true,
   amount: 2000,
   year: 2024
```

```
    },
    {
      _id: ObjectId('67099e764df2cdb69d86b01e'),
      name: 'Zaid',
      age: 19,
      branch: 'MBBS',
      course: 'Psycology',
      mode: 'offline',
      paid: true,
      amount: 2500,
      year: 2024
    }
]
classroom> db.student.deleteOne({name: "Zaid"})
{ acknowledged: true, deletedCount: 1 }
classroom> db.student.find().pretty()
[
    {
      _id: ObjectId('67099a97b13510ddeb86b01d'),
      name: 'Jenil',
      age: 21,
      branch: 'CSE',
      course: 'DBMS',
      mode: 'offline',
      paid: true,
      amount: 2000,
      year: 2024
    },
    {
      _id: ObjectId('67099e764df2cdb69d86b01d'),
      name: 'Jenil',
      age: 20,
      branch: 'CSE',
      course: 'MySQL',
      mode: 'offline',
      paid: true,
      amount: 2000,
      year: 2024
    }
]
classroom>
```

MongoDB – Logical Query Operators

1. $and

```
classroom> db.student.find({$and: [{branch: "CSE"}, {year: 2024}]}).pretty()
[
```

```
    {
     _id: ObjectId('67099a97b13510ddeb86b01d'),
     name: 'Jenil',
     age: 21,
     branch: 'CSE',
     course: 'DBMS',
     mode: 'offline',
     paid: true,
     amount: 2000,
     year: 2024
    },
    {
     _id: ObjectId('67099e764df2cdb69d86b01d'),
     name: 'Jenil',
     age: 20,
     branch: 'CSE',
     course: 'MySQL',
     mode: 'offline',
     paid: true,
     amount: 2000,
     year: 2024
    }
]
classroom>
```

2. $or

```
classroom> db.student.find({$or: [{course: "MySQL"}, {year: 2024}]}).pretty()
[
    {
     _id: ObjectId('67099a97b13510ddeb86b01d'),
     name: 'Jenil',
     age: 21,
     branch: 'CSE',
     course: 'DBMS',
     mode: 'offline',
     paid: true,
     amount: 2000,
     year: 2024
    },
    {
     _id: ObjectId('67099e764df2cdb69d86b01d'),
     name: 'Jenil',
     age: 20,
     branch: 'CSE',
     course: 'MySQL',
     mode: 'offline',
     paid: true,
     amount: 2000,
     year: 2024
```

```
      }
  ]
```

3. $not

```
classroom> db.student.find({age:{$not: {$gt: 21}}}).pretty()
[
  {
    _id: ObjectId('67099a97b13510ddeb86b01d'),
    name: 'Jenil',
    age: 21,
    branch: 'CSE',
    course: 'DBMS',
    mode: 'offline',
    paid: true,
    amount: 2000,
    year: 2024
  },
  {
    _id: ObjectId('67099e764df2cdb69d86b01d'),
    name: 'Jenil',
    age: 20,
    branch: 'CSE',
    course: 'MySQL',
    mode: 'offline',
    paid: true,
    amount: 2000,
    year: 2024
  }
]
```

4. $nor

```
classroom> db.student.find({$nor: [{amount:1500}, {course: "DBMS"}]}).pretty()
[
  {
    _id: ObjectId('67099e764df2cdb69d86b01d'),
    name: 'Jenil',
    age: 20,
    branch: 'CSE',
    course: 'MySQL',
    mode: 'offline',
    paid: true,
    amount: 2000,
    year: 2024
  }
]
```