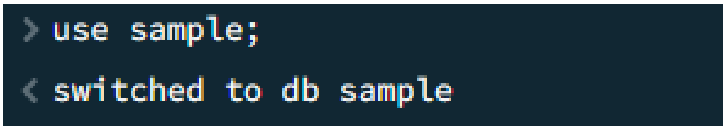
30.07.2024 **DAILY TASK**

Basic CRUD Operations Objective: Understand and implement basic CRUD (Create, Read, Update) operations in MongoDB.

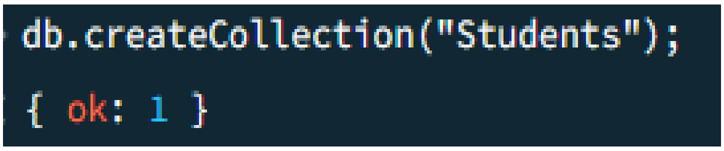
1)Create: Insert multiple documents into a collection called students with fields such as name, age, grade, and subjects.

Using the database "Sample"



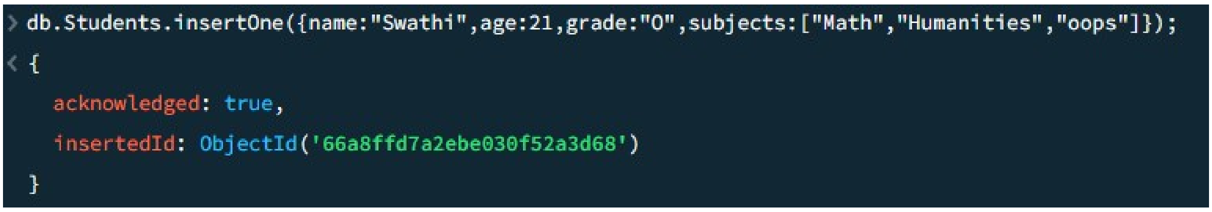
```
> use sample;
< switched to db sample
```

Creating the Collection for "Students"

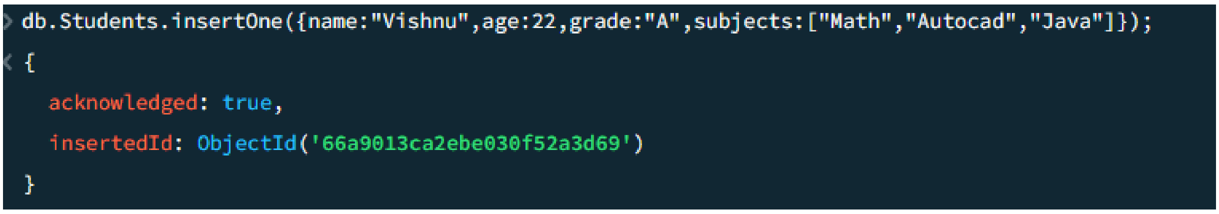


```
db.createCollection("Students");
{ ok: 1 }
```

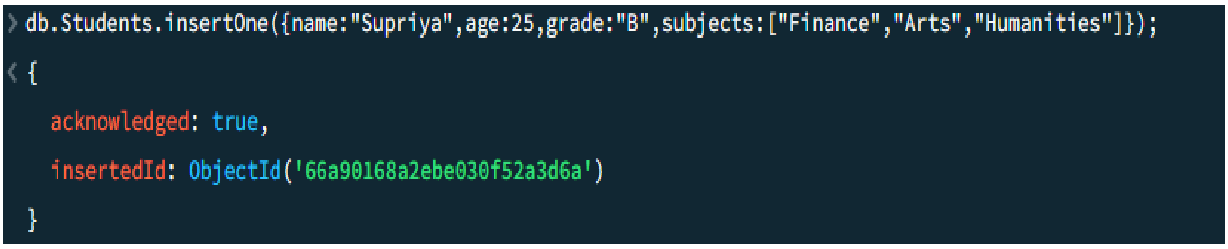
Inserting the values for the collection "Students"



```
> db.Students.insertOne({name:"Swathi",age:21,grade:"O",subjects:["Math","Humanities","oops"]});
< {
    acknowledged: true,
    insertedId: ObjectId('66a8ffd7a2ebe030f52a3d68')
  }
```

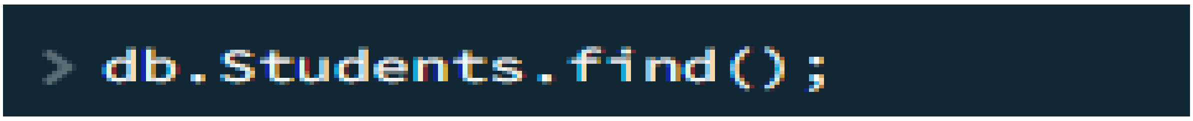


```
> db.Students.insertOne({name:"Vishnu",age:22,grade:"A",subjects:["Math","Autocad","Java"]});
< {
    acknowledged: true,
    insertedId: ObjectId('66a9013ca2ebe030f52a3d69')
  }
```



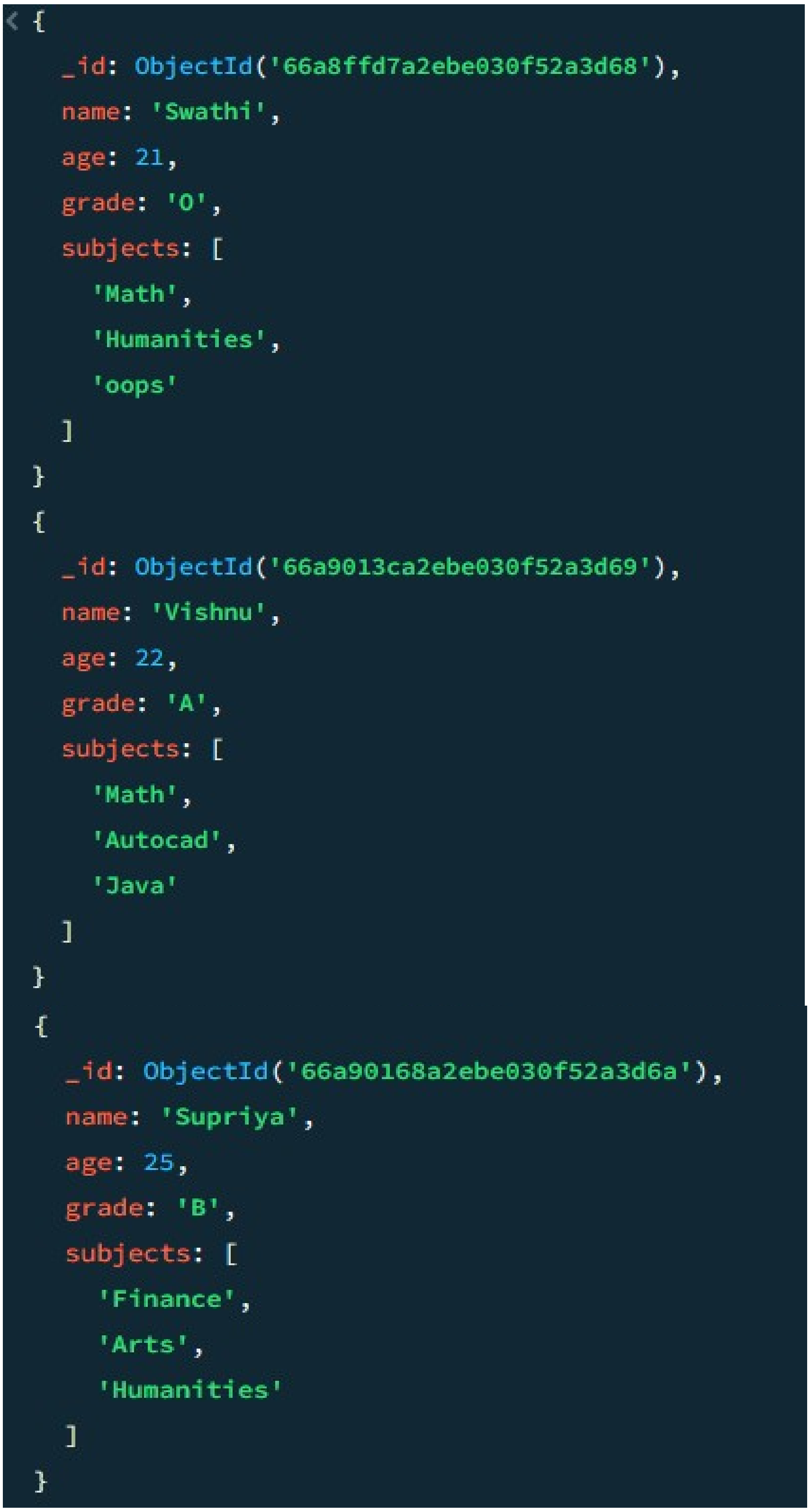
```
> db.Students.insertOne({name:"Supriya",age:25,grade:"B",subjects:["Finance","Arts","Humanities"]});
< {
    acknowledged: true,
    insertedId: ObjectId('66a90168a2ebe030f52a3d6a')
  }
```

2)Find all students.



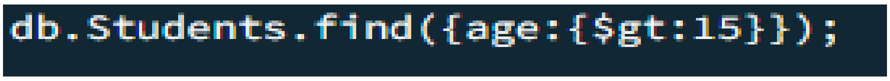
```
> db.Students.find();
```

OUTPUT:



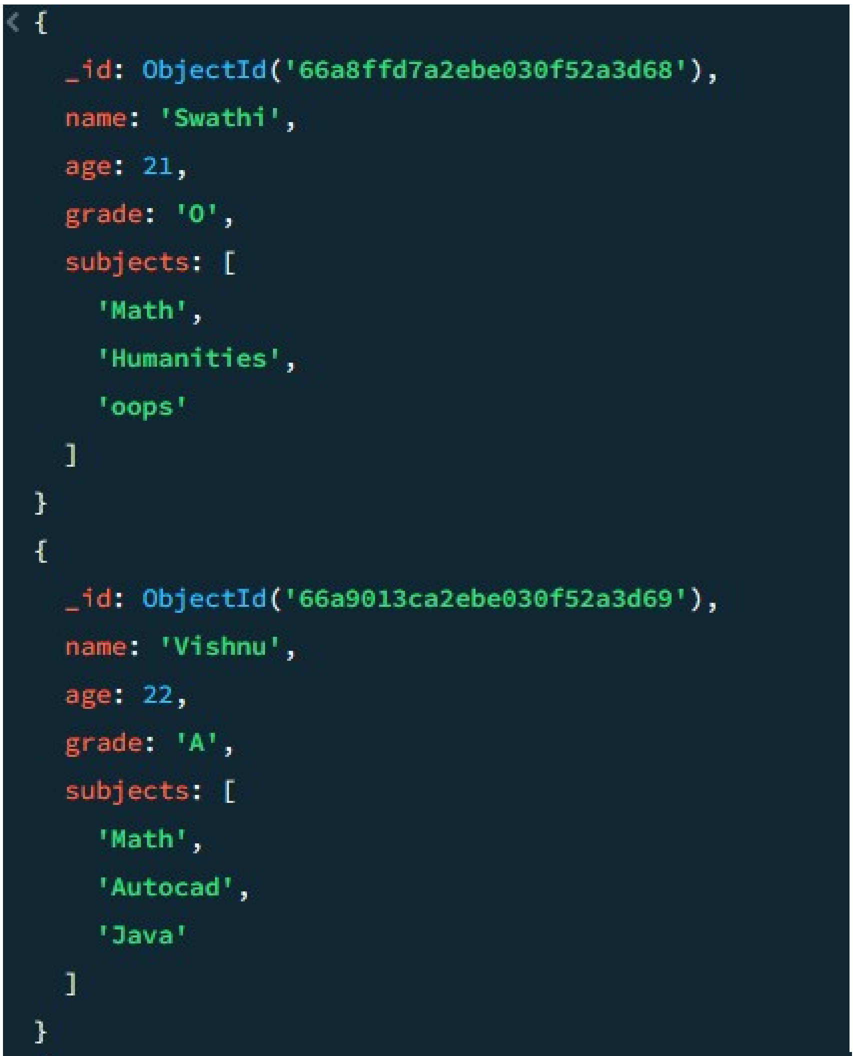
```
< {
    _id: ObjectId('66a8ffd7a2ebe030f52a3d68'),
    name: 'Swathi',
    age: 21,
    grade: 'O',
    subjects: [
      'Math',
      'Humanities',
      'oops'
    ]
  }
  {
    _id: ObjectId('66a9013ca2ebe030f52a3d69'),
    name: 'Vishnu',
    age: 22,
    grade: 'A',
    subjects: [
      'Math',
      'Autocad',
      'Java'
    ]
  }
  {
    _id: ObjectId('66a90168a2ebe030f52a3d6a'),
    name: 'Supriya',
    age: 25,
    grade: 'B',
    subjects: [
      'Finance',
      'Arts',
      'Humanities'
    ]
  }
```

3)Find students who are older than 15 years

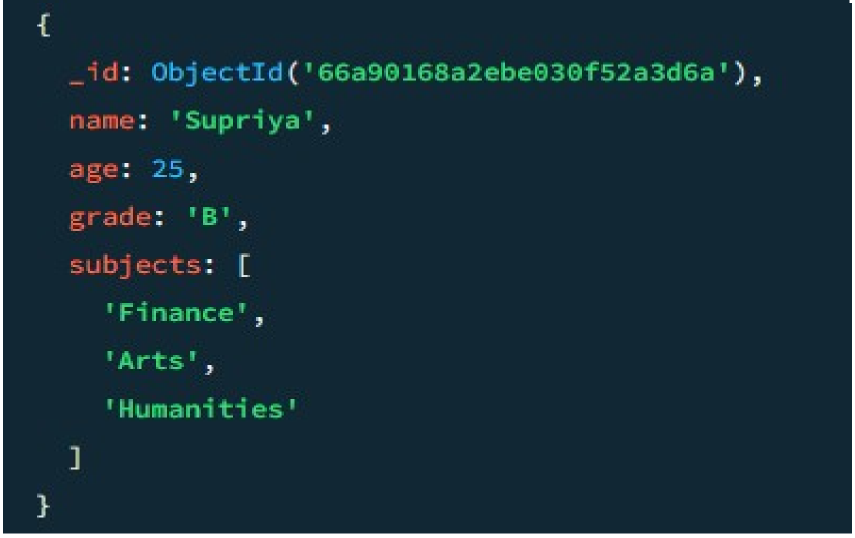


```
db.Students.find({age:{$gt:15}});
```

OUTPUT:

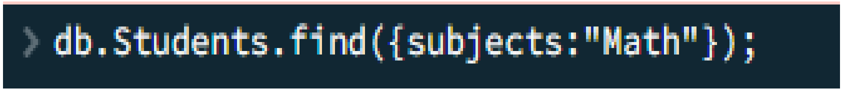


```
< {
    _id: ObjectId('66a8ffd7a2ebe030f52a3d68'),
    name: 'Swathi',
    age: 21,
    grade: 'O',
    subjects: [
      'Math',
      'Humanities',
      'oops'
    ]
  }
  {
    _id: ObjectId('66a9013ca2ebe030f52a3d69'),
    name: 'Vishnu',
    age: 22,
    grade: 'A',
    subjects: [
      'Math',
      'Autocad',
      'Java'
    ]
  }
```



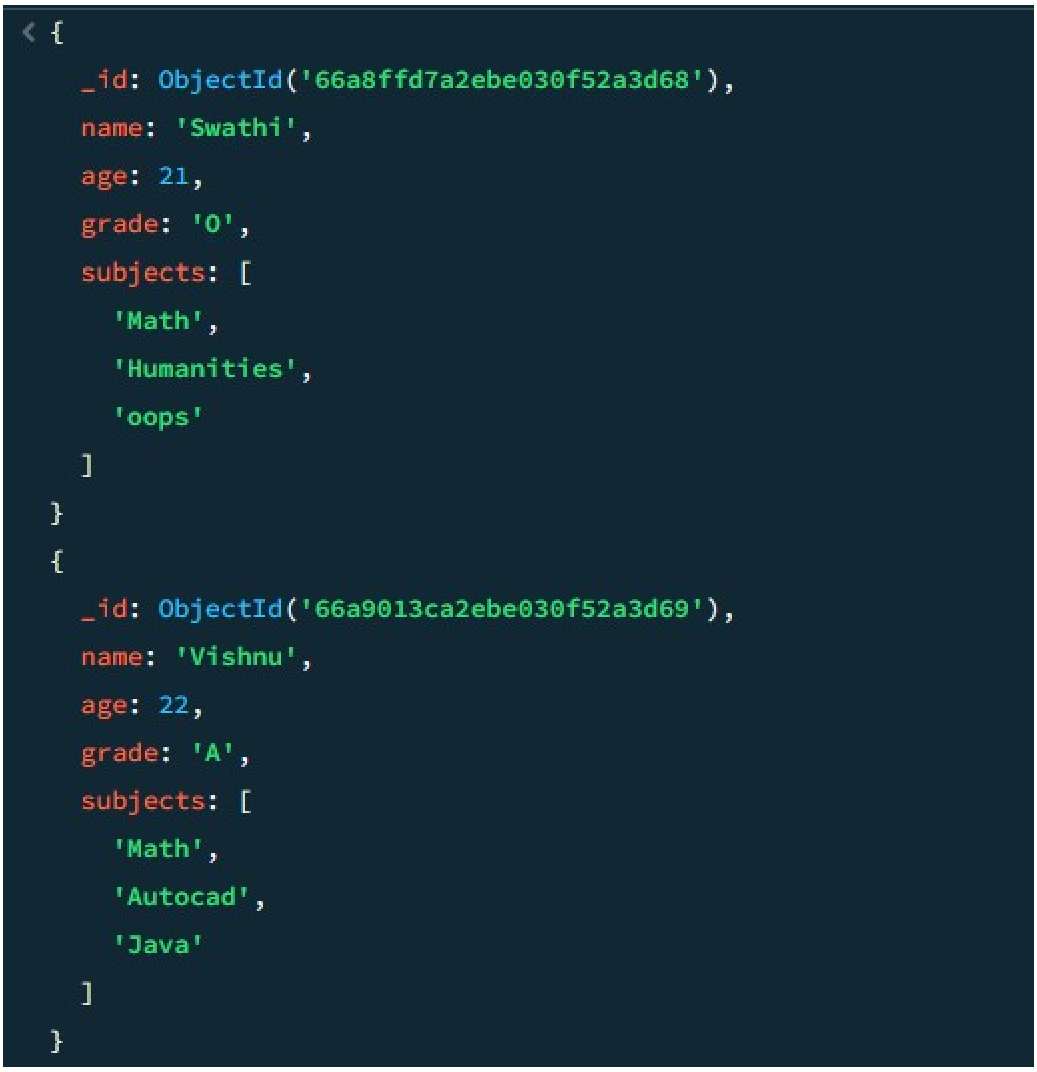
```
  {
    _id: ObjectId('66a90168a2ebe030f52a3d6a'),
    name: 'Supriya',
    age: 25,
    grade: 'B',
    subjects: [
      'Finance',
      'Arts',
      'Humanities'
    ]
  }
```

4)Find students who have "Math" as one of their subjects



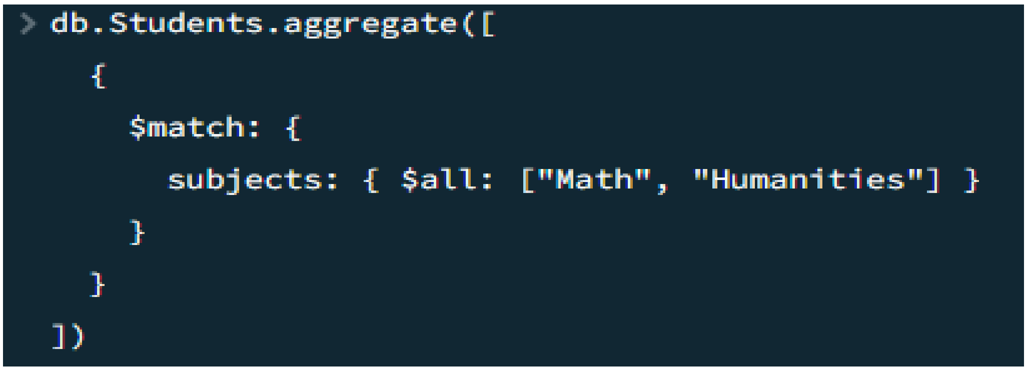
```
> db.Students.find({subjects:"Math"});
```

OUTPUT:



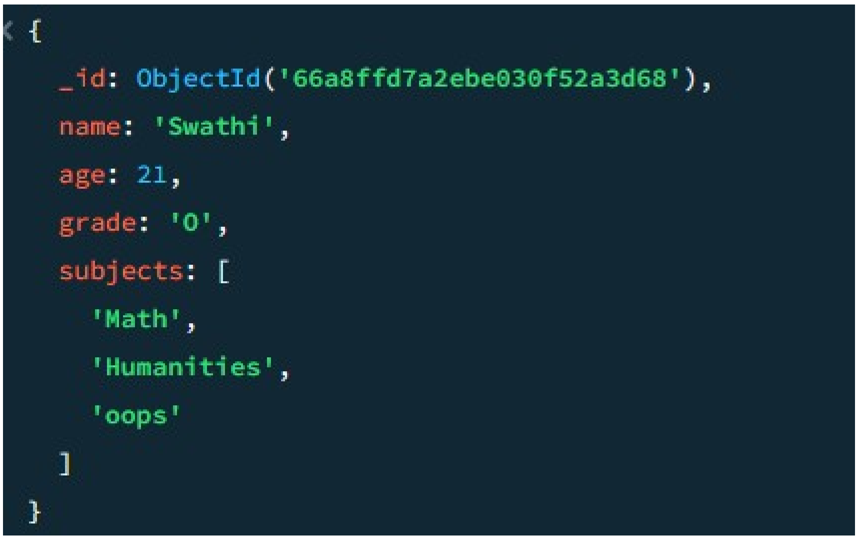
```
< {
    _id: ObjectId('66a8ffd7a2ebe030f52a3d68'),
    name: 'Swathi',
    age: 21,
    grade: 'O',
    subjects: [
      'Math',
      'Humanities',
      'oops'
    ]
  }
  {
    _id: ObjectId('66a9013ca2ebe030f52a3d69'),
    name: 'Vishnu',
    age: 22,
    grade: 'A',
    subjects: [
      'Math',
      'Autocad',
      'Java'
    ]
  }
```

5)Find students who have "Math" and “Humanities” subjects.



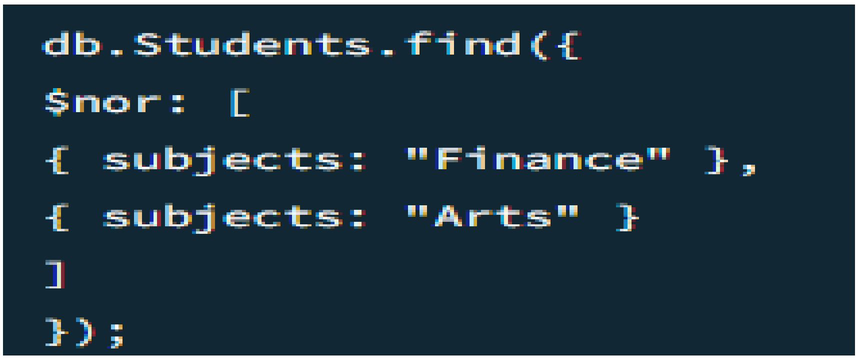
```
> db.Students.aggregate([
    {
      $match: {
        subjects: { $all: ["Math", "Humanities"] }
      }
    }
  ])
```

OUTPUT:



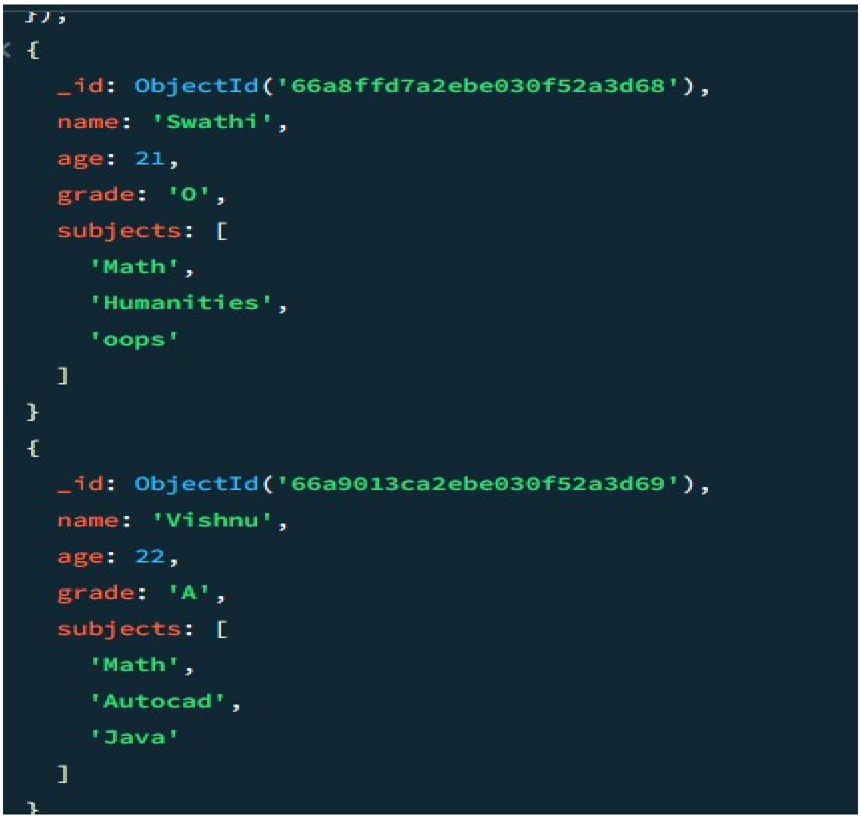
```
< {
    _id: ObjectId('66a8ffd7a2ebe030f52a3d68'),
    name: 'Swathi',
    age: 21,
    grade: 'O',
    subjects: [
      'Math',
      'Humanities',
      'oops'
    ]
  }
```

6)Find students who not have both "Finance" and “Arts” subjects.



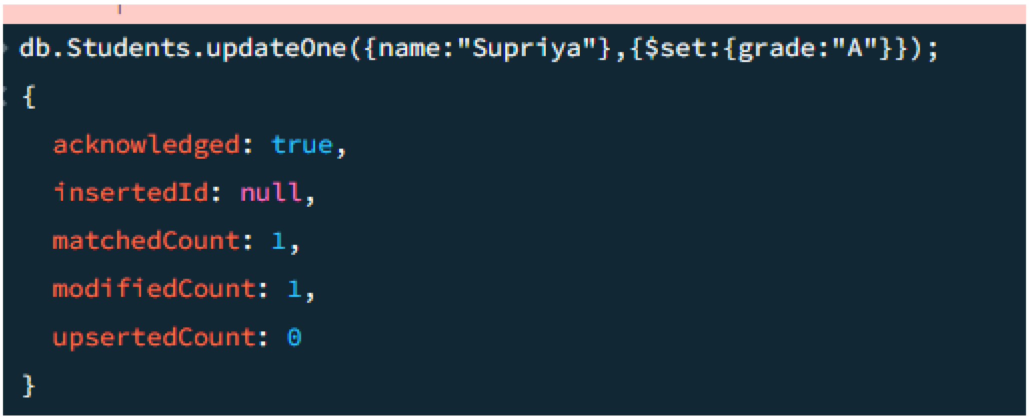
```
db.Students.find({
$nor: [
{ subjects: "Finance" },
{ subjects: "Arts" }
]
});
```

OUTPUT:



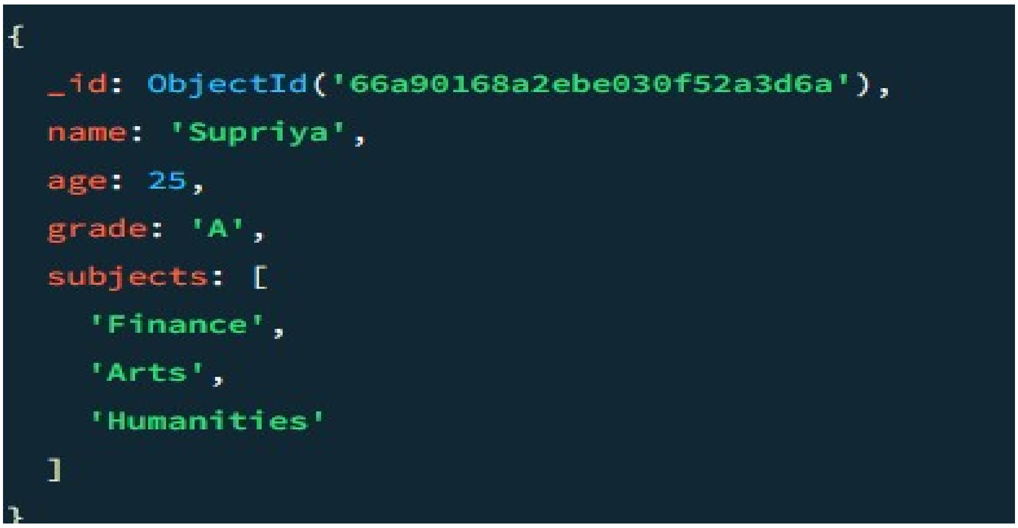
```
  });
< {
    _id: ObjectId('66a8ffd7a2ebe030f52a3d68'),
    name: 'Swathi',
    age: 21,
    grade: 'O',
    subjects: [
      'Math',
      'Humanities',
      'oops'
    ]
  }
  {
    _id: ObjectId('66a9013ca2ebe030f52a3d69'),
    name: 'Vishnu',
    age: 22,
    grade: 'A',
    subjects: [
      'Math',
      'Autocad',
      'Java'
    ]
  }
```

7)Update: Update the grade of a student named "Supriya" to "A" .



```
db.Students.updateOne({name:"Supriya"},{$set:{grade:"A"}});
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

OUTPUT:



```
{
  _id: ObjectId('66a90168a2ebe030f52a3d6a'),
  name: 'Supriya',
  age: 25,
  grade: 'A',
  subjects: [
    'Finance',
    'Arts',
    'Humanities'
  ]
}
```