

Create a StudentMaster database with a collection called "Student" containing documents with some or all of the following fields: StudentRollNo, StudentName, Grade, Hobbies, and DOJ. Perform the following operations on the database:

1. Insert 10 Records in the database.

```
> db.Student.find().pretty()
{
  "_id" : 1,
  "StudName" : "Raj Patel",
  "Grade" : "I",
  "Hobbies" : "Playing",
  "DOJ" : "14/06/2021",
  "Address" : "Naroda",
  "StuRoll" : "123"
}
{
  "_id" : 2,
  "StudName" : "Ajay Rathod",
  "Grade" : "VII",
  "Hobbies" : "Chess",
  "DOJ" : "12/12/2021",
  "StuRoll" : "160"
}
```

```
{  
  "_id" : 3,  
  "StudName" : "Vatsal Mehta",  
  "Grade" : "IV",  
  "Hobbies" : "Playing",  
  "DOJ" : "10/06/2021",  
  "StuRoll" : "160"  
}
```

```
{  
  "_id" : 4,  
  "StudName" : "Vatsal Mehta",  
  "Grade" : "III",  
  "Hobbies" : "Dancing",  
  "DOJ" : "30/01/2020",  
  "StuRoll" : "180"  
}
```

```
{  
  "_id" : 5,  
  "StudName" : "Maulik",  
  "Grade" : "II",  
  "Hobbies" : "Dancing",  
  "DOJ" : "30/01/2020",  
  "StuRoll" : "060"  
}
```

```
{  
  "_id" : 6,  
  "StudName" : "Mahesh",
```

```
    "Grade" : "VI",
    "Hobbies" : "Chess",
    "DOJ" : "05/11/2020",
    "StuRoll" : "050"
  }
  {
    "_id" : 7,
    "StudName" : "Ganesh",
    "Grade" : "I",
    "Hobbies" : "Playing",
    "DOJ" : "22/09/2020",
    "StuRoll" : "055"
  }
  {
    "_id" : 8,
    "StudName" : "Raj",
    "Grade" : "III",
    "Hobbies" : "Chess",
    "DOJ" : "23/12/2020",
    "StuRoll" : "199"
  }
  {
    "_id" : 9,
    "StudName" : "Usaid",
    "Grade" : "V",
    "Hobbbies" : "Playing",
    "DOJ" : "23/12/2021",
```

```

    "StuRoll" : "124"
  }
  {
    "_id" : ObjectId("6022a93ebe979eda83057bc0"),
    "StudName" : "Neel",
    "Grade" : "IV",
    "Hobbies" : "Chess",
    "DOJ" : "23/12/2021",
    "Address" : "Bapunagar",
    "StuRoll" : "100"
  }

```

2. Find the document wherein the “StudName” has value “Ajay Rathod”.

```

> db.Student.find({StudName:"Ajay Rathod"})
{ "_id" : 2, "StudName" : "Ajay Rathod", "Grade" : "VII", "Hobbies" :
"Chess", "DOJ" : "12/12/2021", "StuRoll" : "160" }

```

3. Find all documents in proper format. (Without _Id field)

```

> db.Student.find({}, {_id:0}).pretty()
{
  "StudName" : "Raj Patel",
  "Grade" : "I",
  "Hobbies" : "Playing",

```

```
"DOJ" : "14/06/2021",
"Address" : "Naroda",
"StuRoll" : "123"
}
{
  "StudName" : "Ajay Rathod",
  "Grade" : "VII",
  "Hobbies" : "Chess",
  "DOJ" : "12/12/2021",
  "StuRoll" : "160"
}
{
  "StudName" : "Vatsal Mehta",
  "Grade" : "IV",
  "Hobbies" : "Playing",
  "DOJ" : "10/06/2021",
  "StuRoll" : "160"
}
{
  "StudName" : "Vatsal Mehta",
  "Grade" : "III",
  "Hobbies" : "Dancing",
  "DOJ" : "30/01/2020",
  "StuRoll" : "180"
}
{
  "StudName" : "Maulik",
```

```
    "Grade" : "II",
    "Hobbies" : "Dancing",
    "DOJ" : "30/01/2020",
    "StuRoll" : "060"
}
{
    "StudName" : "Mahesh",
    "Grade" : "VI",
    "Hobbies" : "Chess",
    "DOJ" : "05/11/2020",
    "StuRoll" : "050"
}
{
    "StudName" : "Ganesh",
    "Grade" : "I",
    "Hobbies" : "Playing",
    "DOJ" : "22/09/2020",
    "StuRoll" : "055"
}
{
    "StudName" : "Raj",
    "Grade" : "III",
    "Hobbies" : "Chess",
    "DOJ" : "23/12/2020",
    "StuRoll" : "199"
}
{
```

```
"StudName" : "Usaid",
"Grade" : "V",
"Hobbies" : "Playing",
"DOJ" : "23/12/2021",
"StuRoll" : "124"
}
{
"StudName" : "Neel",
"Grade" : "IV",
"Hobbies" : "Chess",
"DOJ" : "23/12/2021",
"Address" : "Bapunagar",
"StuRoll" : "100"
}
```

4. Retrieve only Student Name and Grade.

```
> db.Student.find({}, {StudName:1, Grade:1, _id:0})
{ "StudName" : "Raj Patel", "Grade" : "I" }
{ "StudName" : "Ajay Rathod", "Grade" : "VII" }
{ "StudName" : "Vatsal Mehta", "Grade" : "IV" }
{ "StudName" : "Vatsal Mehta", "Grade" : "III" }
{ "StudName" : "Maulik", "Grade" : "II" }
{ "StudName" : "Mahesh", "Grade" : "VI" }
{ "StudName" : "Ganesh", "Grade" : "I" }
{ "StudName" : "Raj", "Grade" : "III" }
```

```
{ "StudName" : "Usaid", "Grade" : "V" }
```

```
{ "StudName" : "Neel", "Grade" : "IV" }
```

5. Retrieve Student Name and Grade of student who is having _id column is 1.

```
> db.Student.find({_id:1}, {StudName:1, Grade:1})
```

```
{ "_id" : 1, "StudName" : "Raj Patel", "Grade" : "I" }
```

6. Add new field "Address" in Student Collection.

```
> db.Student.update({_id:1}, {$set:{Address:"Naroda"}}, {upsert:true})
```

```
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

7. Find those documents where the Grade is set to 'VII'.

```
> db.Student.find({Grade:"VII"})
```

```
{ "_id" : 2, "StudName" : "Ajay Rathod", "Grade" : "VII", "Hobbies" :  
"Chess", "DOJ" : "12/12/2021", "StuRoll" : "160" }
```

8. Find those documents where the Grade is not set to 'VII'.


```
> db.Student.find({Grade:{$ne:"VII"}})

{ "_id" : 1, "StudName" : "Raj Patel", "Grade" : "I", "Hobbies" : "Playing",
"DOJ" : "14/06/2021", "Address" : "Naroda", "StuRoll" : "123" }

{ "_id" : 3, "StudName" : "Vatsal Mehta", "Grade" : "IV", "Hobbies" :
"Playing", "DOJ" : "10/06/2021", "StuRoll" : "160" }

{ "_id" : 4, "StudName" : "Vatsal Mehta", "Grade" : "III", "Hobbies" :
"Dancing", "DOJ" : "30/01/2020", "StuRoll" : "180" }

{ "_id" : 5, "StudName" : "Maulik", "Grade" : "II", "Hobbies" : "Dancing",
"DOJ" : "30/01/2020", "StuRoll" : "060" }

{ "_id" : 6, "StudName" : "Mahesh", "Grade" : "VI", "Hobbies" : "Chess",
"DOJ" : "05/11/2020", "StuRoll" : "050" }

{ "_id" : 7, "StudName" : "Ganesh", "Grade" : "I", "Hobbies" : "Playing",
"DOJ" : "22/09/2020", "StuRoll" : "055" }

{ "_id" : 8, "StudName" : "Raj", "Grade" : "III", "Hobbies" : "Chess", "DOJ" :
"23/12/2020", "StuRoll" : "199" }

{ "_id" : 9, "StudName" : "Usaid", "Grade" : "V", "Hobbies" : "Playing",
"DOJ" : "23/12/2021", "StuRoll" : "124" }

{ "_id" : ObjectId("6022a93ebe979eda83057bc0"), "StudName" : "Neel",
"Grade" : "IV", "Hobbies" : "Chess", "DOJ" : "23/12/2021", "Address" :
"Bapunagar", "StuRoll" : "100" }
```

9. Find those documents where the Hobbies is set to either 'Chess' or is set to 'Dancing'.

```
> db.Student.find({Hobbies:{$in:["Chess", "Dancing"]}})

{ "_id" : 2, "StudName" : "Ajay Rathod", "Grade" : "VII", "Hobbies" :
"Chess", "DOJ" : "12/12/2021", "StuRoll" : "160" }

{ "_id" : 4, "StudName" : "Vatsal Mehta", "Grade" : "III", "Hobbies" :
"Dancing", "DOJ" : "30/01/2020", "StuRoll" : "180" }
```

```
{ "_id" : 5, "StudName" : "Maulik", "Grade" : "II", "Hobbies" : "Dancing",
"DOJ" : "30/01/2020", "StuRoll" : "060" }

{ "_id" : 6, "StudName" : "Mahesh", "Grade" : "VI", "Hobbies" : "Chess",
"DOJ" : "05/11/2020", "StuRoll" : "050" }

{ "_id" : 8, "StudName" : "Raj", "Grade" : "III", "Hobbies" : "Chess", "DOJ" :
"23/12/2020", "StuRoll" : "199" }

{ "_id" : ObjectId("6022a93ebe979eda83057bc0"), "StudName" : "Neel",
"Grade" : "IV", "DOJ" : "23/12/2021", "Address" : "Bapunagar", "StuRoll" :
"100", "Hobbies" : "Chess" }
```

10. Find those documents where the Hobbies is set neither to 'Chess' nor is set to 'Dancing'.

```
> db.Student.find({Hobbies:{$nin:["Chess", "Dancing"]}})

{ "_id" : 1, "StudName" : "Raj Patel", "Grade" : "I", "Hobbies" : "Playing",
"DOJ" : "14/06/2021", "Address" : "Naroda", "StuRoll" : "123" }

{ "_id" : 3, "StudName" : "Vatsal Mehta", "Grade" : "IV", "Hobbies" :
"Playing", "DOJ" : "10/06/2021", "StuRoll" : "160" }

{ "_id" : 7, "StudName" : "Ganesh", "Grade" : "I", "Hobbies" : "Playing",
"DOJ" : "22/09/2020", "StuRoll" : "055" }

{ "_id" : 9, "StudName" : "Usaid", "Grade" : "V", "Hobbbies" : "Playing",
"DOJ" : "23/12/2021", "StuRoll" : "124" }
```

11. Find those documents where the student name begins with 'M'.

```
> db.Student.find({StudName:/^M/})
```

```
{ "_id" : 5, "StudName" : "Maulik", "Grade" : "II", "Hobbies" : "Dancing",  
"DOJ" : "30/01/2020", "StuRoll" : "060" }
```

```
{ "_id" : 6, "StudName" : "Mahesh", "Grade" : "VI", "Hobbies" : "Chess",  
"DOJ" : "05/11/2020", "StuRoll" : "050" }
```

12. Find those documents where the student name has an “e” in any position.

```
> db.Student.find({StudName:/.*e.*/})
```

```
{ "_id" : 1, "StudName" : "Raj Patel", "Grade" : "I", "Hobbies" : "Playing",  
"DOJ" : "14/06/2021", "Address" : "Naroda", "StuRoll" : "123" }
```

```
{ "_id" : 3, "StudName" : "Vatsal Mehta", "Grade" : "IV", "Hobbies" :  
"Playing", "DOJ" : "10/06/2021", "StuRoll" : "160" }
```

```
{ "_id" : 4, "StudName" : "Vatsal Mehta", "Grade" : "III", "Hobbies" :  
"Dancing", "DOJ" : "30/01/2020", "StuRoll" : "180" }
```

```
{ "_id" : 6, "StudName" : "Mahesh", "Grade" : "VI", "Hobbies" : "Chess",  
"DOJ" : "05/11/2020", "StuRoll" : "050" }
```

```
{ "_id" : 7, "StudName" : "Ganesh", "Grade" : "I", "Hobbies" : "Playing",  
"DOJ" : "22/09/2020", "StuRoll" : "055" }
```

```
{ "_id" : ObjectId("6022a93ebe979eda83057bc0"), "StudName" : "Neel",  
"Grade" : "IV", "DOJ" : "23/12/2021", "Address" : "Bapunagar", "StuRoll" :  
"100", "Hobbies" : "Chess" }
```

13. Find those documents where the student name ends in “a”.

```
> db.Student.find({StudName:/a$/})
```

```
{ "_id" : 3, "StudName" : "Vatsal Mehta", "Grade" : "IV", "Hobbies" :  
"Playing", "DOJ" : "10/06/2021", "StuRoll" : "160" }
```

```
{ "_id" : 4, "StudName" : "Vatsal Mehta", "Grade" : "III", "Hobbies" :  
"Dancing", "DOJ" : "30/01/2020", "StuRoll" : "180" }
```

14. Find total number of documents.

```
> db.Student.find().count()
```

10

15. Find total the number of documents where Grade is 'VII'.

```
> db.Student.find({Grade:"VII"}).count()
```

1

16. Sort the documents in ascending order of student name.

```
> db.Student.find().sort({StudName:1})
```

```
{ "_id" : 2, "StudName" : "Ajay Rathod", "Grade" : "VII", "Hobbies" :  
"Chess", "DOJ" : "12/12/2021", "StuRoll" : "160" }
```

```
{ "_id" : 7, "StudName" : "Ganesh", "Grade" : "I", "Hobbies" : "Playing",  
"DOJ" : "22/09/2020", "StuRoll" : "055" }
```

```
{ "_id" : 6, "StudName" : "Mahesh", "Grade" : "VI", "Hobbies" : "Chess",  
"DOJ" : "05/11/2020", "StuRoll" : "050" }
```

```
{ "_id" : 5, "StudName" : "Maulik", "Grade" : "II", "Hobbies" : "Dancing",  
"DOJ" : "30/01/2020", "StuRoll" : "060" }
```

```
{ "_id" : ObjectId("6022a93ebe979eda83057bc0"), "StudName" : "Neel",  
"Grade" : "IV", "DOJ" : "23/12/2021", "Address" : "Bapunagar", "StuRoll" :  
"100", "Hobbies" : "Chess" }
```

```
{ "_id" : 8, "StudName" : "Raj", "Grade" : "III", "Hobbies" : "Chess", "DOJ" :  
"23/12/2020", "StuRoll" : "199" }
```

```
{ "_id" : 1, "StudName" : "Raj Patel", "Grade" : "I", "Hobbies" : "Playing",  
"DOJ" : "14/06/2021", "Address" : "Naroda", "StuRoll" : "123" }
```

```
{ "_id" : 9, "StudName" : "Usaid", "Grade" : "V", "Hobbies" : "Playing",  
"DOJ" : "23/12/2021", "StuRoll" : "124" }
```

```
{ "_id" : 3, "StudName" : "Vatsal Mehta", "Grade" : "IV", "Hobbies" :  
"Playing", "DOJ" : "10/06/2021", "StuRoll" : "160" }
```

```
{ "_id" : 4, "StudName" : "Vatsal Mehta", "Grade" : "III", "Hobbies" :  
"Dancing", "DOJ" : "30/01/2020", "StuRoll" : "180" }
```

17. Display the last two records.

```
> db.Student.find().skip(db.Student.count() - 2)
```

```
{ "_id" : 9, "StudName" : "Usaid", "Grade" : "V", "Hobbies" : "Playing",  
"DOJ" : "23/12/2021", "StuRoll" : "124" }
```

```
{ "_id" : ObjectId("6022a93ebe979eda83057bc0"), "StudName" : "Neel",  
"Grade" : "IV", "DOJ" : "23/12/2021", "Address" : "Bapunagar", "StuRoll" :  
"100", "Hobbies" : "Chess" }
```