

MODERN DATABASE SYSTEMS LAB 10

Student Information System Design using MongoDB Part -1

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```
db.students.insertMany([
{
_id:"arun", name:"arun Kumar", year:1992, courses: ['java', 'php']
},
{
_id:"sam", name:"sam peter", year:1995, courses: ['php', 'python', 'java']}
,
{
_id:"anna", name:"anna eva", year:1997, courses: ['java']
},
{
_id:"rex", name:"rex samuel", year:1988, courses: ['python']
},
{
_id:"olivia", name:"olivia cathy"
}
]);
```

```
> db.students.find()
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "course" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

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> db.students.find()
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "course" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
> db.students.find({})
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "course" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
> db.students.find({})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "course" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
> db.students.find({_id:"arun"})
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
```

```
> db.students.find({_id:"arun"})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
```

```
> db.students.find({name:"arun Kumar", year:1992})
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
```

```
> db.students.find({name:"arun Kumar", year:1992})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
```

```
> db.students.find({year:{$gte:1990, $lte:2000}})
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
```

```
> db.students.find({year:{$gte:1990, $lte:2000}})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "course" : [ "java" ] }
```

```
> db.students.find({courses:{$exists:true}})
```

```
> db.students.find({courses:{$exists:true}})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992,
"courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995,
"courses" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997,
"courses" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988,
"courses" : [ "python" ] }
```

```
> db.students.find({courses:{$exists:true}})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "courses" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "courses" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "courses" : [ "python" ] }
>
```

```
> db.students.find({courses:"php"})
```

```
> db.students.find({courses:"php"})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "courses" : [ "php", "python", "java" ] }
>
```

```
> db.students.find({courses:{$in:["php","oracle"]}});
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
```

```
> db.students.find({course:{$in:["php","oracle"]}});
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "course" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "course" : [ "php", "python", "java" ] }
```

```
db.students.find({courses:{$all:["php","oracle"]}});
```

```
> db.students.find({course:{$all:["php","oracle"]}})
```

```
db.students.find({$or:[{year:1992}, {rating:{$gte:3}}]});
```

```
> db.students.find({$or:[{year:1992}, {rating:{$gte:3}}]});
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992,
"courses" : [ "java", "php" ] }
```

```
[> db.students.find({$or:[{year:1992}, {rating:{$gte:3}}]});
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "courses" : [ "java", "php" ] }
```

```
db.students.find({}, {name:1, year:1})
> db.students.find({}, {name:1, year:1})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992 }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995 }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997 }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988 }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
[> db.students.find({}, {name:1, year:1})
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992 }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995 }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997 }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988 }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
db.students.find({}, {courses: 0, _id:0})
> db.students.find({}, {courses: 0, _id:0})
{ "name" : "arun Kumar", "year" : 1992 }
{ "name" : "sam peter", "year" : 1995 }
{ "name" : "anna eva", "year" : 1997 }
{ "name" : "rex samuel", "year" : 1988 }
{ "name" : "olivia cathy" }
```

```
[> db.students.find({}, {courses: 0, _id:0})
{ "name" : "arun Kumar", "year" : 1992 }
{ "name" : "sam peter", "year" : 1995 }
{ "name" : "anna eva", "year" : 1997 }
{ "name" : "rex samuel", "year" : 1988 }
{ "name" : "olivia cathy" }
```

```
db.students.find({}, {name:1, courses:{$slice:2}, _id:0})
> db.students.find({}, {name:1, courses:{$slice:2}, _id:0})
{ "name" : "arun Kumar", "courses" : [ "java", "php" ] }
{ "name" : "sam peter", "courses" : [ "php", "python" ] }
{ "name" : "anna eva", "courses" : [ "java" ] }
{ "name" : "rex samuel", "courses" : [ "python" ] }
```

```
{ "name" : "olivia cathy" }
```

```
[> db.students.find({}, {name:1, courses:{$slice:2}, _id:0})
{ "name" : "arun Kumar", "courses" : [ "java", "php" ] }
{ "name" : "sam peter", "courses" : [ "php", "python" ] }
{ "name" : "anna eva", "courses" : [ "java" ] }
{ "name" : "rex samuel", "courses" : [ "python" ] }
{ "name" : "olivia cathy" }
```

```
db.students.find().sort({year:1, name:-1})
> db.students.find().sort({year:1, name:-1})
{ "_id" : "olivia", "name" : "olivia cathy" }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988,
"courses" : [ "python" ] }
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992,
"courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995,
"courses" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997,
"courses" : [ "java" ] }
```

```
[> db.students.find().sort({year:1, name:-1})
{ "_id" : "olivia", "name" : "olivia cathy" }
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988, "courses" : [ "python" ] }
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "year" : 1995, "courses" : [ "php", "python", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "year" : 1997, "courses" : [ "java" ] }
```

```
db.students.find().sort({name:1}).skip(1).limit(2)
> db.students.find().sort({name:1}).skip(1).limit(2)
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992,
"courses" : [ "java", "php" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
[> db.students.find().sort({name:1}).skip(1).limit(2)
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "olivia", "name" : "olivia cathy" }
```

```
db.students.find().sort({name:1}).limit(2).skip(1)
> db.students.find().sort({name:1}).limit(2).skip(1)
```

```
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992,  
  "courses" : [ "java", "php" ] }  
{ "_id" : "olivia", "name" : "olivia cathy" }
```

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> db.students.find({}, {name:1, year:1})  
{ "_id" : "arun", "name" : "arun Kumar", "year" : 1992 }  
{ "_id" : "sam", "name" : "sam peter", "year" : 1995 }  
{ "_id" : "anna", "name" : "anna eva", "year" : 1997 }  
{ "_id" : "rex", "name" : "rex samuel", "year" : 1988 }  
{ "_id" : "olivia", "name" : "olivia cathy" }
```