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Lab10. Student Information System Design using MongoDB PART-I

Question1. Create a new collection students

```
>ds.createCollection(“student”);
{“ok” : 1}
```

Question2. Insert the following students into your students collection

```
db.students.insert({_id:"arun",name:"arun kumar",Year: 1992, courses:["java","php"]})
WriteResult({ "nInserted" : 1 })
> db.students.insert({_id:"sam",name:"sam peter",Year: 1995,
couses:["php","phthon","java"]})
WriteResult({ "nInserted" : 1 })
> db.students.insert({_id:"anna",name:"anna eva",Year: 1997, couses:["java"]})
WriteResult({ "nInserted" : 1 })
> db.students.insert({_id:"rex",name:"rex samuel",Year: 1988, couses:["python"]})
WriteResult({ "nInserted" : 1 })
> db.students.insert({_id:"olivia",name:"olivia cathy",Year: 2006})
```

Question3. Execute and explain the meaning of the following queries

```
> db.students.find();
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "Year" : 1988, "couses" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy", "Year" : 2006 }
```

```
> db.students.find({});
 { "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
 { "_id" : "sam", "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
 { "_id" : "anna", "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }
 { "_id" : "rex", "name" : "rex samuel", "Year" : 1988, "couses" : [ "python" ] }
 { "_id" : "olivia", "name" : "olivia cathy", "Year" : 2006 }
> db.students.find({_id:"arun"});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
> db.students.find({name:"arun kumar",Year:1992});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }

> db.students.find({Year:{$gte:1990,$lte:2000}});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }

> db.students.find({courses:{$exists:true}})
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }

db.students.find({courses:"php"});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }

> db.students.find({courses:{$in:["php","oracle"]}});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }

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

Question.4 Execute and explain the meaning of the following queries

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

> db.students.find({rating: {$not:{$gte:3}}});
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }
{ "_id" : "rex", "name" : "rex samuel", "Year" : 1988, "couses" : [ "python" ] }
{ "_id" : "olivia", "name" : "olivia cathy", "Year" : 2006 }

> 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", "Year" : 2006 }

> db.students.find({},{courses:0,_id:0});
{ "name" : "arun kumar", "Year" : 1992 }
{ "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
{ "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }
{ "name" : "rex samuel", "Year" : 1988, "couses" : [ "python" ] }
{ "name" : "olivia cathy", "Year" : 2006 }
> db.students.find({},{name:1,courses:{$slice:2},_id:0});
{ "name" : "arun kumar", "courses" : [ "java", "php" ] }
{ "name" : "sam peter" }
{ "name" : "anna eva" }
{ "name" : "rex samuel" }
```

```
{ "name" : "olivia cathy" }
> db.students.find().sort({Year:1,name:-1});
{ "_id" : "rex", "name" : "rex samuel", "Year" : 1988, "couses" : [ "python" ] }
{ "_id" : "arun", "name" : "arun kumar", "Year" : 1992, "courses" : [ "java", "php" ] }
{ "_id" : "sam", "name" : "sam peter", "Year" : 1995, "couses" : [ "php", "phthon", "java" ] }
{ "_id" : "anna", "name" : "anna eva", "Year" : 1997, "couses" : [ "java" ] }
{ "_id" : "olivia", "name" : "olivia cathy", "Year" : 2006 }
> 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", "Year" : 2006 }
> 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", "Year" : 2006 }
```