

Question:1
=

```
> db.createCollection("students")  
{"ok": 1}
```

Question:2
=

```
> db.students.insertMany([{"_id": "arun", "name": "Arun Kumar",  
"year": "1992", "courses": ["Java", "PHP"]}]])
```

```
> db.students.insertMany([{"_id": "sam", "name": "Sam Peter",  
"year": "1995", "courses": ["PHP", "Python",  
"Java"]}]])
```

```
> db.students.insertMany([{"_id": "anna", "name": "anna eva",  
"year": "1997", "courses": ["Java"]}]])
```

```
> db.students.insertMany([{"_id": "rex", "name": "rex  
Samuel", "year": "1998", "courses": ["Python"]}]])
```

```
> db.students.insertMany([{"_id": "olivia", "name": "olivia  
cathy", "year": "2006"}]])
```

Lab9. Student Information System Design using MongoDB PART-I

Question1. Create a new collection **students**

Question2: Insert the following students into your **students** collection

```
{  _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", year: 2006  
}
```

1) db.students.find()

> db.students.find()

```
{ "_id": "arun", "name": "arunkumar", "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", "year": 2006 }
```

2) db.students.find({}):

> db.students.find({})

```
{ "_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": 1998, "courses": ["python"] }  
{ "_id": "olivia", "name": "olivia cathy", "year": 2006 }
```

3) db.students.find({ ~~find~~ _id: "arun" }):

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

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

4) db.students.find({ name: "arun kumar", year: 1992 }):

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

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


Question3. Execute and explain the meaning of the following queries

db.students.find()
db.students.find({})
db.students.find({ _id: "arun" })
db.students.find({ name: "arun kumar", year: 1992 })
db.students.find({ year: { \$gte: 1990, \$lte: 2000 } }) <pre>{ "_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"] }</pre>
db.students.find({ courses: { \$exists: true } }) <pre>{ "_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"] }</pre>
db.students.find({ courses: "php" }) <pre>{ "_id": "arun", "name": "arun kumar", "year": 1992, "courses": ["java", "php"] } { "_id": "sam", "name": "sam peter", "year": 1995, "courses": ["php", "python", "java"] }</pre>
db.students.find({ courses: { \$in: ["php", "oracle"] } }) <pre>{ "_id": "arun", "name": "arun kumar", "year": 1992, "courses": ["java", "php"] } { "_id": "sam", "name": "sam peter", "year": 1995, "courses": ["php", "python", "java"] }</pre>
db.students.find({ courses: { \$all: ["php", "oracle"] } })

2) db.students.find({rating: {\$not: {\$gte: 3}}}):

{ "_id": "arun", "name": "arunkumar", "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", "year": 2006 }

6) db.students.find().sort({year: 1, name: -1}):

{ "_id": "rex", "name": "rex samuel", "year": 1988, "courses": ["python"] }

{ "_id": "arun", "name": "arunkumar", "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": "olivia", "name": "olivia cathy", "year": 2006 }

Question4. Execute and explain the meaning of the following queries

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

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

db.students.find({ rating: { \$not: { \$gte: 3 } } })

db.students.find({ }, { name: 1, year: 1 })

```
{ "_id": "arun", "name": "arunkumar", "year": 1992 }
{ "_id": "sam", "name": "sam peter", "year": 1995 }
{ "_id": "anna", "name": "anna eva", "year": 1997 }
{ "_id": "rex", "name": "rex samuel", "year": 1988 }
```

db.students.find({ }, { courses: 0, _id: 0 })

```
{ "name": "arunkumar", "year": 1992 }
{ "name": "sam peter", "year": 1995 }
{ "name": "anna eva", "year": 1997 }
{ "name": "rex samuel", "year": 1988, "course": [ "python" ] }
```

db.students.find({ }, { name: 1, courses: { \$slice: 2 }, _id: 0 })

```
{ "name": "arunkumar", "courses": [ "java", "php" ] }
{ "name": "sam peter", "courses": [ "php", "python" ] }
{ "name": "anna eva", "courses": [ "java" ] }
{ "name": "rex samuel" }
```

db.students.find().sort({ year: 1, name: -1 })

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

```
{ "_id": "arun", "name": "arunkumar", "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": "arunkumar", "year": 1992, "courses": [ "java", "php" ] }
{ "_id": "olivia", "name": "olivia cathy", "year": 2006 }
```