```
Question: 1
```

> db. create Collection ("students") 1"0K":1}

## Question: 2

- > db. Students. insert Many [[{"id": "arun", "name": "Arun Kumar",
- > db. Students. Insert Many [ [ f"id ": "Sam", "name": "Sam peter" "year": "1995", "courks": ["php", "python",
- > db. Students. insert Many [[{"\_id": "anna", "name": "anna eva", "year": "1997", "courses": ["jara"]}])
- > db. Studenty. impert Many [[{"\_id": "rex", "name": "rex Samuel", "Year": "1998", "Coarks": ["Python"]])
- > db. Students. insert Many ([[["-id":"olivia", "name": "olivia cathy ", "year": "2006" }])

### Department of Data Science, Bishop Heber College Tiruchirappalli NoSQL Database Management Lab

### 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" ]
name: "anna eva", year: 1997,
courses: [ "java" ]
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, "courky": ["Java", "php"]}
  { "_id": "Sam", "name": "Sam peter", "Year": [995, "courses": ["php", "python",
      "Java"]}
  { "-id": "anna", "name": "anna eva", "year": 1997, "courses": ["Java"]}
  of "-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, "coums": ["java","plp"]
{ "-id": "Sam", "name": "Sam" peter", "year": 1995, "Courres": [ "php", "python",
    "Java"]}
{ "-id": "anna", "name": "anna eva", "year": 1997, "courses": ["sava"]}
{ "_id": " rex", "name": "rex samuel", "year": 1998, "courses": ["python"]}
 { "_id": "olivia", "name": "olivia cathy", "year": 2006}
3) db. Studenty. find ({ find _id: "arun"}):
 > db. Students. find ({ -id: "arun"})
  ¿"id": "aruh", "name": "arun kumar", "year": 1992, "coutses":["Jana",
     "Php"] }
4) db. Students. find ({ name: "arun kumar", year: 1992}):
 > db. Students. find ( { name: "arun kumar", year:1992})
    2" 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 } })

2-id": "arun", "narre"; "arun kumar", "Year": 1992, "courks": ["Java", "Php"]
["_1d": "Sam", "name": "Sam peter", "year": 1995, "courses": [" php", "pythen", "salud"])
["-td": "anna", "name": "anna eva", "year": 1997, "courses": ["]ava"]
db.students.find({ courses: { $exists: true } })
{ "-id": "arun", "name": "arun kumar", "year": 1992, "courses": ["Jave", "plp"]
{ "- 1d": "Sam", "name"; "sam peter", "year": 1945, "courses": ["php", "python", "sava"]}
[ "-id": "anna", "name": "anna eva", "year": 1997, "courses": [" Java"]
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, "courses": ["Java", "php"]
["_ id": "Sam", "name": "Sam pecer", " year": [995, "courses": ["php", "python" "java"]
db.students.find({ courses: { $all: [ "php", "oracle" ] } })
```

```
2) db. Students. find ({ rating: { $ not: { $ qte: 3}}}):
 & "_id": "arun", "name": "arun kumar", "year": 1992, "courks": ["Java", "php"]}
  {"-id": "Sam", "name": "Sam peter", "Year": 1993, "courses": ["php", "python",
    "java"]}
  { "-id": "anna", "name": "anna eva", "year": 1997, "courses": ["Java"]}
  { "-id": "rek", "name": "rek Samuel", "year": 1988, "courses": ["python"]}
  2 "_id": "olivia", "name": "olivia cathy", "year": 2006}
6) db. students. find (). sort ({ year:1, name:-1}):
  { "_id": "rex", "name": "rex sumuel", "year": 1987, " "courses": ["python"]}
  ["_id": "arun", "name": "arun kumar", "year": 1992, "courses": ["Java", "php"]}
  { "_id": "Sam", "name": " Sam peter", "year": 1995, "courses": ["php", "python",
  " 3ava"]}
  { "_id": "anna", "name": "anna eva", "year": 1997, "courses": ["java"]}
  ["-id": "olivia", "name": "olivia cathy", "year": 2006)
```

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## 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. "Courky": ["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 pater", "year": 1995}
{ "-id": "anna", "name": "anna eva", "year": 1997}
["-id": " rxx", "name": " rxx Samuel", "year": 1988]
db.students.find({ }, { courses: 0, _id: 0 })
& "name": "Sam peter", "year" , 1995}
I "name": "anna eva" "Year": 1997) "course": ["python"]]
db.students.find({ }, { name: 1, courses: { $slice: 2 }, _id: 0 })
{ "name": "arun kumar", "courses": ["Java" "php"]
I"name": "sam pecer", "courag": ["php", "python"]}
¿"name": "anna eva", "cournes": [" java"]}
 [ "name": "rex samuel "}
db.students.find().sort({ year: 1, name: -1 })
db.students.find().sort({ name: 1 }).skip(1).limit(2)
  { "_id": "aruh", "name": "arun kumar", "year": 1992, "courses": ["Jaha", "php"]
 { "-id": "olivia", "name": "olivia cathy", "year": 2006}
db.students.find().sort({ name: 1 }).limit(2).skip(1)
  b.students.find().sort({ name: 1 }).imil(2).skip(1)

{ "-id": "arun", "name": "arun konnar", "year": 1992, "courm,": ["java", php"]}
  { "-1d": "olivia", "name": "olivia cathy", "Year": 2006}
```