



ISLAMIC UNIVERSITY OF TECHNOLOGY  
DEPARTMENT OF COMPUTER SCIENCE

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## Database Management Systems II Lab

Course Code- CSE 4410

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# 1 Tasks

## 1.1 Task2: Insertion

2.a: An entry of a user with only email, name and password.

### Code Snippet

```
1 db.user.insertOne({"name":"naziakarimkhan","email":"naziakarim@gmail.com","  
  password":"naziakarim123"})
```

### Snippet of the result

```
Switched to db SocialMedia  
SocialMedia>  
{  
  acknowledged: true,  
  insertedId: ObjectId("6418797b8542afccecee30d2")  
}
```

2.b: Multiple entries of users with basic info and hobbies.

### Code Snippet

```
1 db.user.insertMany([{"name":"naziakarim","email":"naziakarim@gmail.com","  
  password":"test@123",  
2    "phoneno":"012345","dob":new Date("2002-01-14"),"  
  address":"dhaka","profile_creation_date":new Date(),  
3    "Hobbies":["gardening","cooking"]},  
4    {"name":"naziakarimkhan","email":"naziakarim@gmail.com",  
  "password":"12345",  
5    "phoneno":"012345","dob":new Date("2002-01-14"),"address"  
  "":"dhaka","profile_creation_date":new Date(),  
6    "Hobbies":["gardening","sewing"]}]])
```

### Snippet of the result

```
...  
SocialMedia>  
{  
  acknowledged: true,  
  insertedIds: {  
    '0': ObjectId("64187e3c8542afccecee30d3"),  
    '1': ObjectId("64187e3c8542afccecee30d4")  
  }  
}
```

**2.c:** An entry of a user with basic info and working status.

### Code Snippet

```
1 db.user.insertOne({"name":"oishee","email":"naziakarim@gmail.com","password":"naziakarim","phoneno":"012345","dob":new Date("2002-01-14"),"address":"dhaka","date":new Date("2023-03-14"),"working status":"manager"})
```

### Snippet of the result

```
{ acknowledged: true,
  acknowledged: true,
  insertedId: ObjectId("64187ea58542afccecee30d5")
} '1': ObjectId("64187e3c8542afccecee30d4")
SocialMedia>
}
```

**2.d:** Add multiple followers for multiple users.

### Code Snippet

```
1 db.user.updateOne({"name":"oishee"}, {$set:{"followers":["naziakarim","X","Y"]}})
2 db.user.updateOne({"name":"naziakarim"}, {$set:{"followers":["naziakarim","X","Y"]}})
3 db.user.updateOne({"name":"naziakarimkhan"}, {$set:{"followers":["naziakarim","X","Y"]}})
```

### Snippet of the result

```
SocialMedia> db.user.updateOne({"name":"oishee"}, {$set:{"followers":["naziakarim","X","Y"]}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
SocialMedia> db.user.updateOne({"name":"naziakarim"}, {$set:{"followers":["naziakarim","X","Y"]}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

2.e: Multiple posts with content, creation time, like and the user id who likes.

### Code Snippet

```
1 db.post.insertOne({"postcreator":"naziakarim","date":new Date("2023-03-14")
  ,"like":2,"likedby":["x","y","z"]})
2 db.post.insertOne({"postcreator":"naziakarimkhan","date":new Date
  ("2022-03-14"),"like":2,"likedby":["x","y","z","w"]})
3 db.post.insertOne({"postcreator":"naziakarim","date":new Date("2023-03-20")
  ,"like":2,"likedby":["x","y","z"]})
```

### Snippet of the result

```
SocialMedia> db.post.insertOne({"postcreator":"naziakari
,"z","w"]})
{
  acknowledged: true,
  insertedId: ObjectId("6418801f8542afccecee30d7")
}
SocialMedia> _
```

2.f: Add multiple comments for multiple posts.

### Code Snippet

```
1 db.post.updateOne({"postcreator":"naziakarim"}, {$set:{"comments":["good","
  excellent","nice"],"commenter":["naziakarimkhan","oishee"]}})
```

### Snippet of the result

```
SocialMedia> db.post.updateOne({"postcrea
"naziakarimkhan","oishee"]}})
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
SocialMedia> _
```

## 1.2 Task3: Data Retrieving

**3.a:** Display the most recent to oldest posts along with their poster.

### Code Snippet

```
1 db.post.find().sort({"date": -1})
```

### Snippet of the result

```
SocialMedia> db.post.find().sort({"date": -1})
[
  {
    _id: ObjectId("641880018542afccecee30d6"),
    postcreator: 'naziakarim',
    date: ISODate("2023-03-14T00:00:00.000Z"),
    like: 2,
    likedby: [ 'x', 'y', 'z' ],
    commenter: [ 'naziakarimkhan', 'oishee' ],
    comments: [ 'good', 'excellent', 'nice' ]
  },
  {
    _id: ObjectId("6418801f8542afccecee30d7"),
    postcreator: 'naziakarimkhan',
    date: ISODate("2022-03-14T00:00:00.000Z"),
    like: 2,
    likedby: [ 'x', 'y', 'z', 'w' ]
  }
]
SocialMedia>
```

**3.b:** Show all the posts that were created in the last 24 hours.

### Code Snippet

```
1 db.post.find({"date":{"$gt:new Date(Date.now() - 24*60*60*1000)}})
```

### Snippet of the result

```
[
  {
    _id: ObjectId("6418834d8542afccecee30d8"),
    postcreator: 'naziakarim',
    date: ISODate("2023-03-20T00:00:00.000Z"),
    like: 2,
    likedby: [ 'x', 'y', 'z' ]
  }
]
```

**3.c:** Show all the users who have more than 3 followers.

### Code Snippet

```
1 db.user.aggregate([{$project: {num: {"$size": {"$ifNull" : ["$followers",[]]}}}}, {$match: {num: {"$gt": 3}}}]])
```

### Snippet of the result

```
SocialMedia> db.user.aggregate([{$project: {num: {"$size": {"$ifNull" : ["$followers",[]]}}}}, {$match: {num: {"$gt": 3}}}]])
[ { _id: ObjectId("64187ea58542afccecee30d5"), num: 4 } ]
SocialMedia>
```

**3.d:** Show all the users who are following more than 3 users.

### Code Snippet

```
1
2 db.user.updateOne({"name":"oishee"}, {$set:{"following":["naziakarim","X","Y",[]]}})
3 db.user.updateOne({"name":"naziakarim"}, {$set:{"following":["naziakarim","X","Y","Z"]}})
4
5 db.user.aggregate([{$project: {num: {"$size": {"$ifNull" : ["$following",[]]}}}}, {$match: {num: {"$gt": 3}}}]])
```

### Snippet of the result

```
SocialMedia> db.user.updateOne({"name": "John"},
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
})
SocialMedia> _
```

```
}
SocialMedia> db.user.aggregate([{$project: {num: {"$size": {"$ifNull" : ["$fo
SocialMedia>
[ { _id: ObjectId("64187e3c8542afccee30d3"), num: 4 } ]
```