

A dark blue vertical bar is on the left side of the page. A blue arrow points to the right, starting from the vertical bar and pointing towards the text.

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Course: CSE 4410

Database Management System II LAB 7

Several thin, curved lines in dark blue and light grey originate from the bottom left corner and curve upwards and to the right.

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Insertions:

```
use socialMedia;

db.posts.deleteMany({});
db.users.deleteMany({});
```

```
//2.A
db.users.insertOne({
  "name": "TahLil",
  "email": "tahlilmahfuz@iut-dhaka.edu",
  "password": "bolbo na"
});

//2.B
db.users.insertMany([
  {
    "name": "Mahfuz",
    "email": "mahfuz@gmail.com",
    "password": "etao bolbo na",
    "phone_no": "146193612415",
    "date_of_birth": ISODate("1995-03-01"),
    "address": "Khuḷna",
    "profile_creation_date": ISODate("2022-01-01"),
    "hobbies": ["reading", "coding", "sleeping"]
  },
  {
    "name": "Faruk",
    "email": "faruk@gmail.com",
    "password": "bolbo na akdomi",
    "phone_no": "1234567890",
    "date_of_birth": ISODate("1990-05-15"),
    "address": "Dhaka",
    "profile_creation_date": ISODate("2022-02-01"),
    "hobbies": ["reading", "moaning"]
  }
]);
```

```
//2.C
```

```
db.users.insertOne({
  "name": "Mamun",
  "email": "mamun@gmail.com",
  "password": "nope bolbo na",
  "phone_no": "198469136591",
  "date_of_birth": ISODate("1992-12-25"),
  "address": "Mohammadpur",
  "profile_creation_date": ISODate("2022-03-01"),
  "working_status": "Software Engineer"
});
```

```
//2.D
```

```
db.users.updateOne({ "email": "mamun@gmail.com" }, { $addToSet: { "followers": "Nibir" } });
db.users.updateOne({ "email": "faruk@gmail.com" }, { $addToSet: { "followers": "Kawser" } });
db.users.updateOne({ "email": "mahfuz@gmail.com" }, { $addToSet: { "followers": "Tanzim" } });

db.users.updateMany(
  { "email": { $in: ["mamun@gmail.com", "faruk@gmail.com", "mahfuz@gmail.com"] } },
  { $addToSet: { "followers": { $each: ["Hero Alom"] } } }
);

db.users.updateMany(
  { "email": { $in: ["mamun@gmail.com", "faruk@gmail.com"] } },
  { $addToSet: { "followers": { $each: ["Shoumik", "Kawsar", "tanzim"] }, "following": { $each: ["tahlil", "mahfuz", "faruk"] } } }
);

db.users.updateMany(
  { "email": { $in: ["faruk@gmail.com"] } },
  { $addToSet: { "followers": { $each: ["nibir", "Kawsar", "tanzim"] } } }
);

db.users.updateMany(
  { "email": { $in: ["mamun@gmail.com", "faruk@gmail.com"] } },
  { $addToSet: { "following": { $each: ["tahlil", "mahfuz", "faruk"] } } }
);

db.users.updateMany(
  { "email": { $in: ["mamun@gmail.com"] } },
  { $addToSet: { "following": { $each: ["tahlil", "mahfuz", "Shakkhor"] } } }
);
```

```
//2.E
db.posts.insertMany([
  {
    "content": "Broom Broom",
    "creation_time": ISODate("2022-03-05T12:00:00Z"),
    "user_id": "tingting@gmail.com",
    "likes": ["pingping@gmail.com", "tamim@gmail.com"],
  },
  {
    "content": "Troom Troom",
    "creation_time": ISODate("2022-03-05T12:00:00Z"),
    "user_id": "talha@gmail.com",
    "likes": ["muaz@gmail.com", "mukit@gmail.com"],
  },
  {
    "content": "kroom kroom",
    "creation_time": new Date(),
    "user_id": "talha123@gmail.com",
    "likes": ["muaz123@gmail.com", "mukit123@gmail.com"],
  },
]);
```

```
//2.F
db.posts.updateMany(
  {"user_id":{"$in": ["tingting@gmail.com", "talha@gmail.com", "talha123@gmail.com"] }},
  {"$addToSet": { "comments": { $each: ["Xoxx", "Nice pic", "Mama treat dao"] } } }
);

db.posts.updateMany(
  {"user_id":"tingting@gmail.com"},
  {"$set": {"comments":"tumi valo na", "comments":"tumi kharap"}}
);
```

Queries:

```
//3.A
db.posts.find().sort({creation_time:-1});

//3.B
db.posts.find({"creation_time":{"$gt:new Date(Date.now() - 24*60*60*1000)}});

//3.C
db.users.find({$where:"this.followers && this.followers.length >3"});
//3.D
db.users.find({ $where:"this.following && this.following.length >3"});
```

Query Results:

2.A

```
test> use socialMedia
switched to db socialMedia
socialMedia> db.posts.find().sort({creation_time:-1});
[
  {
    _id: ObjectId("64135fa74ef1af4381cfccce"),
    content: 'kroom kroom',
    creation_time: ISODate("2023-03-16T18:27:51.360Z"),
    user_id: 'talha123@gmail.com',
    likes: [ 'muaz123@gmail.com', 'mukit123@gmail.com' ],
    comments: [ 'Xoxx', 'Nice pic', 'Mama treat dao' ]
  },
  {
    _id: ObjectId("64135fa74ef1af4381cfcccc"),
    content: 'Broom Broom',
    creation_time: ISODate("2022-03-05T12:00:00.000Z"),
    user_id: 'tingting@gmail.com',
    likes: [ 'pingping@gmail.com', 'tamim@gmail.com' ],
    comments: 'tumi kharap'
  },
  {
    _id: ObjectId("64135fa74ef1af4381cfcccd"),
    content: 'Troom Troom',
    creation_time: ISODate("2022-03-05T12:00:00.000Z"),
    user_id: 'talha@gmail.com',
    likes: [ 'muaz@gmail.com', 'mukit@gmail.com' ],
    comments: [ 'Xoxx', 'Nice pic', 'Mama treat dao' ]
  }
]
```

Explanation:

Here creation time -1 will return the result according to the creation_time in descending order.

2.B

```
socialMedia> db.posts.find({"creation_time":{"$gt:new Date(Date.now() - 24*60*60*1000)}});
[
  {
    _id: ObjectId("64135fa74ef1af4381cfccce"),
    content: 'kroom kroom',
    creation_time: ISODate("2023-03-16T18:27:51.360Z"),
    user_id: 'talha123@gmail.com',
    likes: [ 'muaz123@gmail.com', 'mukit123@gmail.com' ],
    comments: [ 'Xox', 'Nice pic', 'Mama treat dao' ]
  }
]
```

Explanation:

Here we used the find() along with sort(). Then we convert it into 24 hour behind from the current date. 1000 needs to be multiplied because the date.now() returns current date on milliseconds. We convert it into seconds by multiplying 1000.

2.C

```
socialMedia> db.users.find({"$where":"this.followers && this.followers.length >3"});
[
  {
    _id: ObjectId("64135fa44ef1af4381cfccca"),
    name: 'Faruk',
    email: 'faruk@gmail.com',
    password: 'bolbo na akdomi',
    phone_no: '1234567890',
    date_of_birth: ISODate("1990-05-15T00:00:00.000Z"),
    address: 'Dhaka',
    profile_creation_date: ISODate("2022-02-01T00:00:00.000Z"),
    hobbies: [ 'reading', 'moaning' ],
    followers: [ 'Kawser', 'Hero Alom', 'Shoumik', 'Kawsar', 'tanzim', 'nibir' ],
    following: [ 'tahlil', 'mahfuz', 'faruk' ]
  },
  {
    _id: ObjectId("64135fa54ef1af4381cfcccb"),
    name: 'Mamun',
    email: 'mamun@gmail.com',
    password: 'nope bolbo na',
    phone_no: '198469136591',
    date_of_birth: ISODate("1992-12-25T00:00:00.000Z"),
    address: 'Mohammadpur',
    profile_creation_date: ISODate("2022-03-01T00:00:00.000Z"),
    working_status: 'Software Engineer',
    followers: [ 'Nibir', 'Hero Alom', 'Shoumik', 'Kawsar', 'tanzim' ],
    following: [ 'tahlil', 'mahfuz', 'faruk', 'Shakkhor' ]
  }
]
```

Explanation:

Here \$where operator is used. This.followers will return the followers in users collection and this.followers > 3 will apply condition on the returned result set.

2.D

```
socialMedia> db.users.find({ $where:"this.following && this.following.length >3"});
[
  {
    _id: ObjectId("64135fa54ef1af4381cfcccb"),
    name: 'Mamun',
    email: 'mamun@gmail.com',
    password: 'nope bolbo na',
    phone_no: '198469136591',
    date_of_birth: ISODate("1992-12-25T00:00:00.000Z"),
    address: 'Mohammadpur',
    profile_creation_date: ISODate("2022-03-01T00:00:00.000Z"),
    working_status: 'Software Engineer',
    followers: [ 'Nibir', 'Hero Alom', 'Shoumik', 'Kawsar', 'tanzim' ],
    following: [ 'tahlil', 'mahfuz', 'faruk', 'Shakkkhor' ]
  }
]
```

Explanation:

Here \$where operator is used. This.following will return the followers in users collection and this.following > 3 will apply condition on the returned result set.