PES University
Department of Computer Science and Engineering
UE21CS351A: Database Management System

MongoDB Practice Session

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db.createCollection("collection_name")

db.collection.insertOne({name: "teresha", age: 20, status: "married"})

db.collection.insertMany([{item: "chai"},{item: "cake"}])

db.collection.find(query, projection-> which fields to include: 1 for yes, 0 for no)
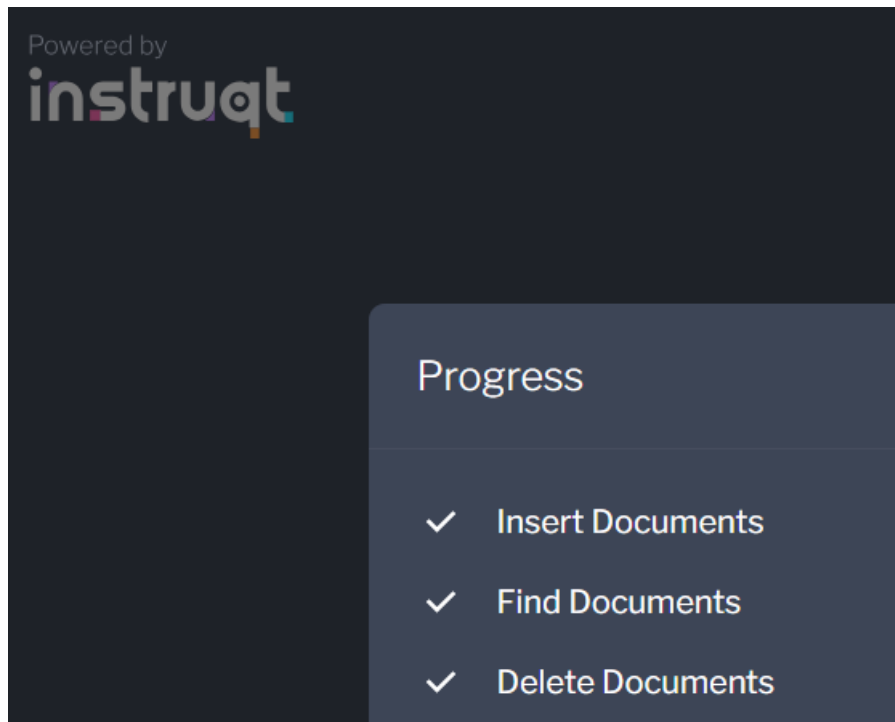
db.collection.findOne() -> returns first satisfied document

db.collection.updateOne($set-> modify field values) -> atmost one is updated

db.collection.updateMany() -> all updated

db.collection.replaceOne() -> atmost one is replaced

An interactive web tutorial is available at
https://www.mongodb.com/docs/manual/tutorial/getting-started/

Progress

✓ Insert Documents

✓ Find Documents

✓ Delete Documents

PRACTICE QUESTION

Consider a database db with the collection "posts". Documents are inserted into this collection with this command:

```
db.posts.insertMany([
{
  title: "Intermittent fasting",
  body: "It promotes health benefits such as weight loss and   improved
metabolic function.",
  category: "Health",
  likes: 17
},
{
title: "Benefits of Blockchain",
body:"Blockchain provides decentralized and secure data storage, ,
enhancing transparency,traceability,trust in various industries.",
category: "Technology",
likes: 4
},
{
  title: "2024 Elections",
```

body: "Political parties are gearing up for the Lok Sabha   elections in 2024.",
  category: "News",
  likes: 65
 },

{
  title: "Audio Steganography",
  body:"An approach of hiding information within an audio signal.",
  category: "Technology",
  likes: 8
 },

{ title: "Mockumentary TV Shows",
  body: "The Office, Modern Family are among the best mockumentaries ",
  category: "Entertainment",
  likes: 64
 }
])

```
DBMS_PES2UG21CS579_EL2> db.posts.insertMany([{title: "Intermittent
 fasting", body: "It promotes health benefits such as weight loss
and improved metabolic function.", category: "Health", likes: 17},
{title: "Benefits of Blockchain",body:"Blockchain provides decentr
alized and secure data storage, enhancing transparency, traceabili
ty, trust in various industries.", category: "Technology", likes:
4},{title: "2024 Elections",body: "Political parties are gearing u
p for the Lok Sabha elections in 2024.",category: "News", likes: 6
5},{title:"Audio Steganography", body: "An approach of hiding info
rmation within an audio signal.",category: "Technology",likes: 8},
{title: "Mockumentary TV Shows",body:"The Office, Modern Family ar
e among the best mockumentaries.",category:"Entertainment",likes:6
4}])
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId("655597dbbf406a2433aa22b0"),
    '1': ObjectId("655597dbbf406a2433aa22b1"),
    '2': ObjectId("655597dbbf406a2433aa22b2"),
    '3': ObjectId("655597dbbf406a2433aa22b3"),
    '4': ObjectId("655597dbbf406a2433aa22b4")
  }
}
```

Write commands in MongoDB for the following operations:

- Insert a document with the following fields and values into this collection:

title: "G20 Summit",
body: "The summit addressed pressing geopolitical challenges.",
category: "News",
likes: 15

```
DBMS_PES2UG21CS579_EL2> db.posts.insertOne({ title: "G20 Summit",
 body: "The summit addressed pressing geopolitical challenges.",
category: "News", likes: 15 })
{
  acknowledged: true,
  insertedId: ObjectId("655598bebf406a2433aa22b6")
}
```

- Retrieve the posts where category is "News"

```
DBMS_PES2UG21CS579_EL2> db.posts.find({ category: "News"
 })
[
  {
    _id: ObjectId("655597dbbf406a2433aa22b2"),
    title: '2024 Elections',
    body: 'Political parties are gearing up for the Lok
Sabha elections in 2024.',
    category: 'News',
    likes: 65
  },
  {
    _id: ObjectId("655598adbf406a2433aa22b5"),
    title: 'G20 Summit',
    body: 'The summit addressed pressing geopolitical ch
allenges.',
    category: 'News',
    likes: 15
  },
```

- Retrieve information of only title and body of all posts

```
DBMS_PES2UG21CS579_EL2> db.posts.find({}, { title: 1, body: 1
, _id: 0 })
[
  {
    title: 'Intermittent fasting',
    body: 'It promotes health benefits such as weight loss an
d improved metabolic function.'
  },
  {
    title: 'Benefits of Blockchain',
    body: 'Blockchain provides decentralized and secure data
storage, enhancing transparency, traceability, trust in vario
us industries.'
  },
  {
    title: '2024 Elections',
    body: 'Political parties are gearing up for the Lok Sabha
 elections in 2024.'
  },
  {
    title: 'Audio Steganography',
    body: 'An approach of hiding information within an audio
signal.'
  },
  {
    title: 'Mockumentary TV Shows',
    body: 'The Office, Modern Family are among the best mocku
mentaries.'
  },
  {
    title: 'G20 Summit',
    body: 'The summit addressed pressing geopolitical challen
ges.'
  },
```

- Set the number of likes on the post "Benefits of Blockchain" to 8

```
DBMS_PES2UG21CS579_EL2> db.posts.updateOne(
...     { title: "Benefits of Blockchain" },
...     { $set: { likes: 8 } }
... )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

```
DBMS_PES2UG21CS579_EL2> db.posts.findOne({ title: "Benefits
 of Blockchain" })
{
  _id: ObjectId("655597dbbf406a2433aa22b1"),
  title: 'Benefits of Blockchain',
  body: 'Blockchain provides decentralized and secure data
storage, enhancing transparency, traceability, trust in var
ious industries.',
  category: 'Technology',
  likes: 8
```

- Set the number of likes of a post to 10 if the number of likes is less than 5.

```
DBMS_PES2UG21CS579_EL2> db.posts.updateMany(
...     { likes: { $lt: 5 } },
...     { $set: { likes: 10 } }
... )
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```

```
DBMS_PES2UG21CS579_EL2> db.posts.find().pretty()
[
  {
    _id: ObjectId("655597dbbf406a2433aa22b0"),
    title: 'Intermittent fasting',
    body: 'It promotes health benefits such as weight loss and improve
    category: 'Health',
    likes: 17
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b1"),
    title: 'Benefits of Blockchain',
    body: 'Blockchain provides decentralized and secure data storage,
    category: 'Technology',
    likes: 8
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b2"),
    title: '2024 Elections',
    body: 'Political parties are gearing up for the Lok Sabha election
    category: 'News',
    likes: 65
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b3"),
    title: 'Audio Steganography',
    body: 'An approach of hiding information within an audio signal.'
    category: 'Technology',
    likes: 8
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b4"),
    title: 'Mockumentary TV Shows',
    body: 'The Office, Modern Family are among the best mockumentaries
    category: 'Entertainment',
    likes: 64
  },
  {
    _id: ObjectId("655598adbf406a2433aa22b5"),
    title: 'G20 Summit',
    body: 'The summit addressed pressing geopolitical challenges.',
    category: 'News',
    likes: 15
  },
```

- Delete the post with the title "2024 Elections".

```
DBMS_PES2UG21CS579_EL2> db.posts.deleteOne({ title: "2024 Elections" })
{ acknowledged: true, deletedCount: 1 }
```

- Delete all the posts whose category is "News".

```
DBMS_PES2UG21CS579_EL2> db.posts.deleteMany({ category: "News" })
{ acknowledged: true, deletedCount: 2 }
DBMS_PES2UG21CS579_EL2>
```

- Retrieve posts whose category is either "Entertainment" or "Health"

```
DBMS_PES2UG21CS579_EL2> db.posts.find({ category: { $in: ["Entertainment
", "Health"] } }).pretty()
[
  {
    _id: ObjectId("655597dbbf406a2433aa22b0"),
    title: 'Intermittent fasting',
    body: 'It promotes health benefits such as weight loss and improved
metabolic function.',
    category: 'Health',
    likes: 17
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b4"),
    title: 'Mockumentary TV Shows',
    body: 'The Office, Modern Family are among the best mockumentaries.'
,
    category: 'Entertainment',
    likes: 64
  }
]
```

- Retrieve "Technology" category posts which have greater than 5 likes.

```
DBMS_PES2UG21CS579_EL2> db.posts.find({
...   $and: [
...     { category: "Technology" },
...     { likes: { $gt: 5 } }
...   ]
... }).pretty()
[
  {
    _id: ObjectId("655597dbbf406a2433aa22b1"),
    title: 'Benefits of Blockchain',
    body: 'Blockchain provides decentralized and secure data st
hancing transparency, traceability, trust in various industries
    category: 'Technology',
    likes: 8
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b3"),
    title: 'Audio Steganography',
    body: 'An approach of hiding information within an audio si
    category: 'Technology',
    likes: 8
  }
]
```

- Retrieve all posts whose likes are less than or equal to 15.

```
]
DBMS_PES2UG21CS579_EL2> db.posts.find({ likes: { $lte: 15 } }).pretty()
[
  {
    _id: ObjectId("655597dbbf406a2433aa22b1"),
    title: 'Benefits of Blockchain',
    body: 'Blockchain provides decentralized and secure data storage, en
hancing transparency, traceability, trust in various industries.',
    category: 'Technology',
    likes: 8
  },
  {
    _id: ObjectId("655597dbbf406a2433aa22b3"),
    title: 'Audio Steganography',
    body: 'An approach of hiding information within an audio signal.',
    category: 'Technology',
    likes: 8
  }
]
```