SQL & No SQL - Database

Practice Question

Code:-

```
//  terminal

>mongosh

>use retailDB

>db.createCollection("products")

db.createCollection("orders")

db.createCollection("users")

>db.products.insertMany([

 {

   name: "Samsung Galaxy S23",

   category: "Electronics",

   price: 69999,

   inStock: 120,

   attributes: {

     brand: "Samsung",

     ram: "8GB",

     storage: "128GB"

   }

 },

 {

   name: "Men's Cotton T-Shirt",

   category: "Clothing",

   price: 799,

   inStock: 450,

   attributes: {
```

```
      brand: "Roadster",

      size: "L",

      material: "Cotton"

    }

  }

])
>db.users.insertOne({

  username: "kiran_pp",

  email: "kiran@example.com",

  passwordHash: "HASHED_PASSWORD_HERE"

})
>db.orders.insertOne({

  userId: ObjectId("672f1aaa0000aaaa0000aaaa"),

  orderDate: new Date(),

  items: [

    {

      productId: ObjectId("672f1a1a1a1a1a1a1a1a1a1a"),

      name: "Samsung Galaxy S23",

      price: 69999,

      quantity: 1

    }

  ],

  totalAmount: 69999

})
>db.products.createIndex({ category: 1 })

db.products.createIndex({ name: "text" })


db.orders.createIndex({ userId: 1 })

db.orders.createIndex({ orderDate: -1 })
```

```
db.users.createIndex({ email: 1 }, { unique: true })

db.users.createIndex({ username: 1 }, { unique: true })

>db.products.find({ category: "Electronics" })

>db.orders.find({ userId: ObjectId("672f1aaa0000aaaa0000aaaa") })

>db.products.find({ $text: { $search: "Samsung" } })
```
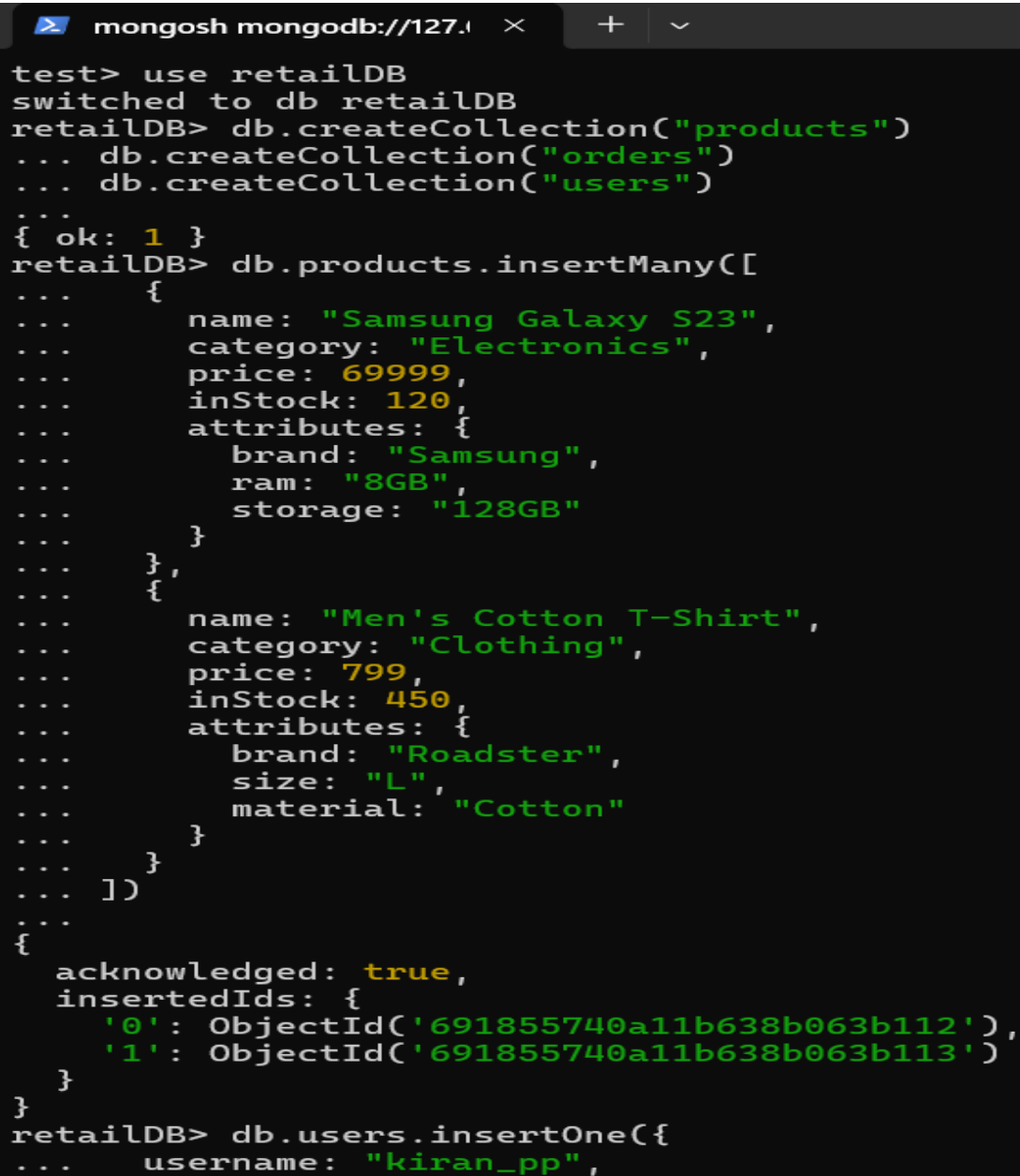
Output:-


```
mongosh mongodb://127.    ×    +    ∨

test> use retailDB
switched to db retailDB
retailDB> db.createCollection("products")
... db.createCollection("orders")
... db.createCollection("users")
...
{ ok: 1 }
retailDB> db.products.insertMany([
...    {
...        name: "Samsung Galaxy S23",
...        category: "Electronics",
...        price: 69999,
...        inStock: 120,
...        attributes: {
...            brand: "Samsung",
...            ram: "8GB",
...            storage: "128GB"
...        }
...    },
...    {
...        name: "Men's Cotton T-Shirt",
...        category: "Clothing",
...        price: 799,
...        inStock: 450,
...        attributes: {
...            brand: "Roadster",
...            size: "L",
...            material: "Cotton"
...        }
...    }
... ])
...
{
  acknowledged: true,
  insertedIds: {
    '0': ObjectId('691855740a11b638b063b112'),
    '1': ObjectId('691855740a11b638b063b113')
  }
}
retailDB> db.users.insertOne({
...        username: "kiran_pp",
```

```
}
retailDB> db.users.insertOne({
...     username: "kiran_pp",
...     email: "kiran@example.com",
...     passwordHash: "HASHED_PASSWORD_HERE"
... })
...
{
  acknowledged: true,
  insertedId: ObjectId('691855790a11b638b063b114')
}
retailDB> db.orders.insertOne({
...     userId: ObjectId("672f1aaa0000aaaa0000aaaa"),
...     orderDate: new Date(),
...     items: [
...        {
...          productId: ObjectId("672f1a1a1a1a1a1a1a1a1a1a"),
...          name: "Samsung Galaxy S23",
...          price: 69999,
...          quantity: 1
...        }
...     ],
...     totalAmount: 69999
... })
...
{
  acknowledged: true,
  insertedId: ObjectId('6918557d0a11b638b063b115')
}
retailDB> db.products.createIndex({ category: 1 })
... db.products.createIndex({ name: "text" })
...
... db.orders.createIndex({ userId: 1 })
... db.orders.createIndex({ orderDate: -1 })
...
... db.users.createIndex({ email: 1 }, { unique: true })
... db.users.createIndex({ username: 1 }, { unique: true })
...
username_1
retailDB> db.products.find({ category: "Electronics" })
[
```

```
username_1
retailDB> db.products.find({ category: "Electronics" })
[
  {
    _id: ObjectId('691855740a11b638b063b112'),
    name: 'Samsung Galaxy S23',
    category: 'Electronics',
    price: 69999,
    inStock: 120,
    attributes: { brand: 'Samsung', ram: '8GB', storage: '128GB' }
  }
]
retailDB> db.orders.find({ userId: ObjectId("672f1aaa0000aaaa0000aaaa") })
[
  {
    _id: ObjectId('6918557d0a11b638b063b115'),
    userId: ObjectId('672f1aaa0000aaaa0000aaaa'),
    orderDate: ISODate('2025-11-15T10:27:09.753Z'),
    items: [
      {
        productId: ObjectId('672f1a1a1a1a1a1a1a1a1a1a'),
        name: 'Samsung Galaxy S23',
        price: 69999,
        quantity: 1
      }
    ],
    totalAmount: 69999
  }
]
retailDB> db.products.find({ $text: { $search: "Samsung" } })
[
  {
    _id: ObjectId('691855740a11b638b063b112'),
    name: 'Samsung Galaxy S23',
    category: 'Electronics',
    price: 69999,
    inStock: 120,
    attributes: { brand: 'Samsung', ram: '8GB', storage: '128GB' }
  }
]
retailDB> |
```