

Iamsspm07-(MongoDB)

*****Take Home Assignment Day 7: MongoDB*****

```
use Sujit
```

```
db.createCollection("Employees")
```

```
db.Employees.insertMany([
```

```
{
```

```
  "name": "Sue",
```

```
  "age": 19,
```

```
  "phone": {
```

```
    "personal": "555-123-123",
```

```
    "work": "555-456-456",
```

```
    "ext": "2342"
```

```
  },
```

```
  "privileges": "user",
```

```
  "favorites": {
```

```
    "artist": "Picasso",
```

```
    "food": "pizza"
```

```
  },
```

```
  "finished": [
```

```
    17,
```

```
    3
```

```
  ],
```

```
  "badges": [
```

```
    "blue",
```

```
    "black"
```

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```
],  
  "points": [  
    {  
      "points": 85,  
      "bonus": 20  
    },  
    {  
      "points": 85,  
      "bonus": 10  
    }  
  ],  
},  
{  
  "name": "Bob",  
  "age": 42,  
  "phone": {  
    "personal": "555-123-123",  
    "work": "555-456-456",  
    "ext": "7673"  
  },  
  "privileges": "admin",  
  "favorites": {  
    "artist": "Miro",  
    "food": "meringue"  
  },  
  "finished": [  
    11,
```

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25

],

"badges": [

"green"

],

"points": [

{

"points": 85,

"bonus": 20

},

{

"points": 64,

"bonus": 12

}

]

},

{

"name": "Willy",

"age": 22,

"phone": {

"personal": "555-123-123",

"work": "555-456-456",

"ext": "8263"

},

"privileges": "user",

"favorites": {

"artist": "Cassatt",

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```
"food": "cake"
},
"finished": [
6
],
"badges": [
"blue",
"Picasso"
],
"points": [
{
"points": 81,
"bonus": 8
},
{
"points": 55,
"bonus": 20
}
],
},
{
"name": "John",
"age": 34,
"phone": {
"personal": "555-123-123",
"work": "555-456-456",
"ext": "2143"
```

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```
},  
  "privileges": "admin",  
  "favorites": {  
    "artist": "Chagall",  
    "food": "chocolate"  
  },  
  "finished": [  
    5,  
    11  
  ],  
  "badges": [  
    "Picasso",  
    "black"  
  ],  
  "points": [  
    {  
      "points": 53,  
      "bonus": 15  
    },  
    {  
      "points": 51,  
      "bonus": 15  
    }  
  ]  
},  
{  
  "name": "Steve",
```

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```
"age": 23,  
"phone": {  
  "personal": "555-123-123",  
  "work": "555-456-456",  
  "ext": "8253"  
},  
"privileges": "user",  
"favorites": {  
  "artist": "Noguchi",  
  "food": "nougat"  
},  
"finished": [  
  14,  
  6  
],  
"badges": [  
  "orange"  
],  
"points": [  
  {  
    "points": 71,  
    "bonus": 20  
  }  
],  
},  
{  
  "name": "Martin",
```

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```
"age": 43,  
"phone": {  
  "personal": "555-123-123",  
  "work": "555-456-456",  
  "ext": "5623"  
},  
"privileges": "user",  
"favorites": {  
  "food": "pizza",  
  "artist": "Picasso"  
},  
"finished": [  
  18,  
  12  
],  
"badges": [  
  "black",  
  "blue"  
],  
"points": [  
  {  
    "points": 78,  
    "bonus": 8  
  },  
  {  
    "points": 57,  
    "bonus": 7
```

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```
}  
]  
}  
])
```

```
=====  
=====
```

Queries:

1) List all the employees.

```
==> db.Employees.find().pretty();
```

```
db.Employees.find().pretty()
```

```
{  
  "_id" : ObjectId("6321cf84907dac32b18ed9de"),  
  "name" : "Sue",  
  "age" : 19,  
  "phone" : {  
    "personal" : "555-123-123",  
    "work" : "555-456-456",  
    "ext" : "2342"  
  },  
  "privileges" : "user",  
  "favorites" : {  
    "artist" : "Picasso",  
    "food" : "pizza"  
  },  
  "finished" : [  
    17,
```


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```
    3
  ],
  "badges" : [
    "blue",
    "black"
  ],
  "points" : [
    {
      "points" : 85,
      "bonus" : 20
    },
    {
      "points" : 85,
      "bonus" : 10
    }
  ]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9df"),
  "name" : "Bob",
  "age" : 42,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "7673"
  },
  "privileges" : "admin",
```

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```
"favorites" : {
  "artist" : "Miro",
  "food" : "meringue"
},
"finished" : [
  11,
  25
],
"badges" : [
  "green"
],
"points" : [
  {
    "points" : 85,
    "bonus" : 20
  },
  {
    "points" : 64,
    "bonus" : 12
  }
]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9eo"),
  "name" : "Willy",
  "age" : 22,
  "phone" : {
```

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```
"personal" : "555-123-123",
"work" : "555-456-456",
"ext" : "8263"
},
"privileges" : "user",
"favorites" : {
  "artist" : "Cassatt",
  "food" : "cake"
},
"finished" : [
  6
],
"badges" : [
  "blue",
  "Picasso"
],
"points" : [
  {
    "points" : 81,
    "bonus" : 8
  },
  {
    "points" : 55,
    "bonus" : 20
  }
]
}
```

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```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e1"),
  "name" : "John",
  "age" : 34,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "2143"
  },
  "privileges" : "admin",
  "favorites" : {
    "artist" : "Chagall",
    "food" : "chocolate"
  },
  "finished" : [
    5,
    11
  ],
  "badges" : [
    "Picasso",
    "black"
  ],
  "points" : [
    {
      "points" : 53,
      "bonus" : 15
    },
  ],
}
```

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```
{
  "points" : 51,
  "bonus" : 15
}
]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e2"),
  "name" : "Steve",
  "age" : 23,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "8253"
  },
  "privileges" : "user",
  "favorites" : {
    "artist" : "Noguchi",
    "food" : "nougat"
  },
  "finished" : [
    14,
    6
  ],
  "badges" : [
    "orange"
  ],
}
```

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```
"points" : [
  {
    "points" : 71,
    "bonus" : 20
  }
]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e3"),
  "name" : "Martin",
  "age" : 43,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "5623"
  },
  "privileges" : "user",
  "favorites" : {
    "food" : "pizza",
    "artist" : "Picasso"
  },
  "finished" : [
    18,
    12
  ],
  "badges" : [
    "black",
```

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```
    "blue"
  ],
  "points" : [
    {
      "points" : 78,
      "bonus" : 8
    },
    {
      "points" : 57,
      "bonus" : 7
    }
  ]
}
```

=====

2) Find the employee with whose name is Steve.

==> db.Employees.find({name:{seq:"Steve"}}).pretty();

```
db.Employees.find({name:{seq:"Steve"}}).pretty()
```

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e2"),
  "name" : "Steve",
  "age" : 23,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "8253"
```

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```
    },  
    "privileges" : "user",  
    "favorites" : {  
      "artist" : "Noguchi",  
      "food" : "nougat"  
    },  
    "finished" : [  
      14,  
      6  
    ],  
    "badges" : [  
      "orange"  
    ],  
    "points" : [  
      {  
        "points" : 71,  
        "bonus" : 20  
      }  
    ]  
  }  
}
```

```
=====
```

3) Find all employees whose age is greater than 30.

==> db.Employees.find({age:{>:30}}).pretty()

db.Employees.find({age:{>:30}}).pretty()

```
{
```


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```
"_id" : ObjectId("6321cf84907dac32b18ed9df"),
"name" : "Bob",
"age" : 42,
"phone" : {
  "personal" : "555-123-123",
  "work" : "555-456-456",
  "ext" : "7673"
},
"privileges" : "admin",
"favorites" : {
  "artist" : "Miro",
  "food" : "meringue"
},
"finished" : [
  11,
  25
],
"badges" : [
  "green"
],
"points" : [
  {
    "points" : 85,
    "bonus" : 20
  },
  {
    "points" : 64,
```

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```
        "bonus" : 12
      }
    ]
  }
  {
    "_id" : ObjectId("6321cf84907dac32b18ed9e1"),
    "name" : "John",
    "age" : 34,
    "phone" : {
      "personal" : "555-123-123",
      "work" : "555-456-456",
      "ext" : "2143"
    },
    "privileges" : "admin",
    "favorites" : {
      "artist" : "Chagall",
      "food" : "chocolate"
    },
    "finished" : [
      5,
      11
    ],
    "badges" : [
      "Picasso",
      "black"
    ],
    "points" : [
```

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```
{
  {
    "points" : 53,
    "bonus" : 15
  },
  {
    "points" : 51,
    "bonus" : 15
  }
]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e3"),
  "name" : "Martin",
  "age" : 43,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "5623"
  },
  "privileges" : "user",
  "favorites" : {
    "food" : "pizza",
    "artist" : "Picasso"
  },
  "finished" : [
    18,
    12
```

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```
],  
  "badges" : [  
    "black",  
    "blue"  
  ],  
  "points" : [  
    {  
      "points" : 78,  
      "bonus" : 8  
    },  
    {  
      "points" : 57,  
      "bonus" : 7  
    }  
  ]  
}
```

```
=====
```

4) Find the employee whose extension is 2143.

```
==> db.Employees.find({"phone.ext":"2143"}).pretty()
```

```
> db.Employees.find({"phone.ext":"2143"}).pretty()
```

```
{  
  "_id" : ObjectId("6321cf84907dac32b18ed9e1"),  
  "name" : "John",  
  "age" : 34,  
  "phone" : {
```

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```
"personal" : "555-123-123",
"work" : "555-456-456",
"ext" : "2143"
},
"privileges" : "admin",
"favorites" : {
  "artist" : "Chagall",
  "food" : "chocolate"
},
"finished" : [
  5,
  11
],
"badges" : [
  "Picasso",
  "black"
],
"points" : [
  {
    "points" : 53,
    "bonus" : 15
  },
  {
    "points" : 51,
    "bonus" : 15
  }
]
```

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```
}
```

```
=====
=====
```

5) Find all employees that are over 30.

```
==> db.Employees.find({age:{$gt:30}}).pretty()
```

```
db.Employees.find({age:{$gt:30}}).pretty()
```

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9df"),
  "name" : "Bob",
  "age" : 42,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "7673"
  },
  "privileges" : "admin",
  "favorites" : {
    "artist" : "Miro",
    "food" : "meringue"
  },
  "finished" : [
    11,
    25
  ],
  "badges" : [
    "green"
  ]
}
```

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```
],
"points" : [
  {
    "points" : 85,
    "bonus" : 20
  },
  {
    "points" : 64,
    "bonus" : 12
  }
]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e1"),
  "name" : "John",
  "age" : 34,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "2143"
  },
  "privileges" : "admin",
  "favorites" : {
    "artist" : "Chagall",
    "food" : "chocolate"
  },
  "finished" : [
```

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```
        5,
        11
    ],
    "badges" : [
        "Picasso",
        "black"
    ],
    "points" : [
        {
            "points" : 53,
            "bonus" : 15
        },
        {
            "points" : 51,
            "bonus" : 15
        }
    ]
}
{
    "_id" : ObjectId("6321cf84907dac32b18ed9e3"),
    "name" : "Martin",
    "age" : 43,
    "phone" : {
        "personal" : "555-123-123",
        "work" : "555-456-456",
        "ext" : "5623"
    },
}
```


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```
"privileges" : "user",
"favorites" : {
  "food" : "pizza",
  "artist" : "Picasso"
},
"finished" : [
  18,
  12
],
"badges" : [
  "black",
  "blue"
],
"points" : [
  {
    "points" : 78,
    "bonus" : 8
  },
  {
    "points" : 57,
    "bonus" : 7
  }
]
}

=====
=====
```

6) Find all employees that are less than or equal to 30.

==> db.Employees.find({age:{\$lte:30}}).pretty()

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```
> db.Employees.find({age:{$lte:30}}).pretty()
{
  "_id" : ObjectId("6321cf84907dac32b18ed9de"),
  "name" : "Sue",
  "age" : 19,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "2342"
  },
  "privileges" : "user",
  "favorites" : {
    "artist" : "Picasso",
    "food" : "pizza"
  },
  "finished" : [
    17,
    3
  ],
  "badges" : [
    "blue",
    "black"
  ],
  "points" : [
    {
      "points" : 85,
```

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```
        "bonus" : 20
      },
      {
        "points" : 85,
        "bonus" : 10
      }
    ]
  }
  {
    "_id" : ObjectId("6321cf84907dac32b18ed9eo"),
    "name" : "Willy",
    "age" : 22,
    "phone" : {
      "personal" : "555-123-123",
      "work" : "555-456-456",
      "ext" : "8263"
    },
    "privileges" : "user",
    "favorites" : {
      "artist" : "Cassatt",
      "food" : "cake"
    },
    "finished" : [
      6
    ],
    "badges" : [
      "blue",
```

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```
    "Picasso"
  ],
  "points" : [
    {
      "points" : 81,
      "bonus" : 8
    },
    {
      "points" : 55,
      "bonus" : 20
    }
  ]
}
{
  "_id" : ObjectId("6321cf84907dac32b18ed9e2"),
  "name" : "Steve",
  "age" : 23,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "8253"
  },
  "privileges" : "user",
  "favorites" : {
    "artist" : "Noguchi",
    "food" : "nougat"
  },
}
```

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```
"finished" : [
  14,
  6
],
"badges" : [
  "orange"
],
"points" : [
  {
    "points" : 71,
    "bonus" : 20
  }
]
}
```

```
=====
=====
```

7) Find all the employees whose favorite food is pizza.

```
==> db.Employees.find({"favorites.food":{"$eq: "pizza"}}).pretty()
```

```
db.Employees.find({"favorites.food":{"$eq: "pizza"}}).pretty()
```

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9de"),
  "name" : "Sue",
  "age" : 19,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
```

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```
"ext" : "2342"
},
"privileges" : "user",
"favorites" : {
  "artist" : "Picasso",
  "food" : "pizza"
},
"finished" : [
  17,
  3
],
"badges" : [
  "blue",
  "black"
],
"points" : [
  {
    "points" : 85,
    "bonus" : 20
  },
  {
    "points" : 85,
    "bonus" : 10
  }
]
}
{
```

Iamsspm07-(MongoDB)

```
"_id" : ObjectId("6321cf84907dac32b18ed9e3"),
"name" : "Martin",
"age" : 43,
"phone" : {
  "personal" : "555-123-123",
  "work" : "555-456-456",
  "ext" : "5623"
},
"privileges" : "user",
"favorites" : {
  "food" : "pizza",
  "artist" : "Picasso"
},
"finished" : [
  18,
  12
],
"badges" : [
  "black",
  "blue"
],
"points" : [
  {
    "points" : 78,
    "bonus" : 8
  },
  {
```

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```
"points" : 57,
"bonus" : 7
}
]
}
```

=====

8) Change Willy's personal phone number to "93-123-45-67".

```
=> db.Employees.update({name:"Willy"},{$set :{"phone.personal":"92-123-45-67"}})
```

```
db.Employees.update({name:"Willy"},{$set :{"phone.personal":"92-123-45-67"}})
```

```
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
> db.Employees.find({name:"Willy"}).pretty()
```

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9eo"),
  "name" : "Willy",
  "age" : 22,
  "phone" : {
    "personal" : "92-123-45-67",
    "work" : "555-456-456",
    "ext" : "8263"
  },
  "privileges" : "user",
  "favorites" : {
    "artist" : "Cassatt",
```


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```
"food" : "cake"
},
"finished" : [
  6
],
"badges" : [
  "blue",
  "Picasso"
],
"points" : [
  {
    "points" : 81,
    "bonus" : 8
  },
  {
    "points" : 55,
    "bonus" : 20
  }
]
}
```

```
=====
=====
```

9) Change Bob's privilege to normal user.

==> db.Employees.update({name:"Bob"},{\$set:{privilege:"normal user"}})

db.Employees.update({name:"Bob"},{\$set:{privilege:"normal user"}})

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```
WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })
```

```
> db.Employees.find({name:"Bob"}).pretty()
```

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9df"),
  "name" : "Bob",
  "age" : 42,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "7673"
  },
  "privileges" : "admin",
  "favorites" : {
    "artist" : "Miro",
    "food" : "meringue"
  },
  "finished" : [
    11,
    25
  ],
  "badges" : [
    "green"
  ],
  "points" : [
    {
      "points" : 85,
```

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```
        "bonus" : 20
      },
      {
        "points" : 64,
        "bonus" : 12
      }
    ],
    "privilege" : "normal user"
  }
}
```

=====

10) Find all employees whose favorite artist is equal to Picasso.

==> db.Employees.find({"favorites.artist":"Picasso"}).pretty()

> db.Employees.find({"favorites.artist":"Picasso"}).pretty()

```
{
  "_id" : ObjectId("6321cf84907dac32b18ed9de"),
  "name" : "Sue",
  "age" : 19,
  "phone" : {
    "personal" : "555-123-123",
    "work" : "555-456-456",
    "ext" : "2342"
  },
  "privileges" : "user",
  "favorites" : {
    "artist" : "Picasso",
```

Iamsspm07-(MongoDB)

```
    "food" : "pizza"
  },
  "finished" : [
    17,
    3
  ],
  "badges" : [
    "blue",
    "black"
  ],
  "points" : [
    {
      "points" : 85,
      "bonus" : 20
    },
    {
      "points" : 85,
      "bonus" : 10
    }
  ]
}

{
  "_id" : ObjectId("6321cf84907dac32b18ed9e3"),
  "name" : "Martin",
  "age" : 43,
  "phone" : {
    "personal" : "555-123-123",
```

Iamsspm07-(MongoDB)

```
"work" : "555-456-456",
"ext" : "5623"
},
"privileges" : "user",
"favorites" : {
  "food" : "pizza",
  "artist" : "Picasso"
},
"finished" : [
  18,
  12
],
"badges" : [
  "black",
  "blue"
],
"points" : [
  {
    "points" : 78,
    "bonus" : 8
  },
  {
    "points" : 57,
    "bonus" : 7
  }
]
}
```

Iamsspm07-(MongoDB)

=====

11) Delete the user John.

==> db.Employees.remove({name:"John"})

> db.Employees.remove({name:"John"})

WriteResult({ "nRemoved" : 1 })

=====