

Database No SQL MongoDB

1. Create

a. Insert 5 operator

```
> db.operators.insert([{"id":1, "name":"Telkomsel", "created_at:new Date(), updated_at:new Date()}, {"id":2, "name":"Indosat", "created_at:new Date(), updated_at:new Date()}, {"id":3, "name":"XL Axista", "created_at:new Date(), updated_at:new Date()}, {"id":4, "name":"Trix", "created_at:new Date(), updated_at:new Date()}, {"id":5, "name":"Singtel", "created_at:new Date(), updated_at:new Date()}])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 5,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "nUpserted" : 0
})
> db.operators.find()
[{"_id" : ObjectId("62dec14527bd4e0c39e0dd85"), "id" : 1, "name" : "Telkomsel", "created_at" : ISODate("2022-07-25T16:13:57.429Z"), "updated_at" : ISODate("2022-07-25T16:13:57.429Z")}, {"_id" : ObjectId("62dec14527bd4e0c39e0dd86"), "id" : 2, "name" : "Indosat", "created_at" : ISODate("2022-07-25T16:13:57.429Z"), "updated_at" : ISODate("2022-07-25T16:13:57.429Z")}, {"_id" : ObjectId("62dec14527bd4e0c39e0dd87"), "id" : 3, "name" : "XL Axista", "created_at" : ISODate("2022-07-25T16:13:57.429Z"), "updated_at" : ISODate("2022-07-25T16:13:57.429Z")}, {"_id" : ObjectId("62dec14527bd4e0c39e0dd88"), "id" : 4, "name" : "Trix", "created_at" : ISODate("2022-07-25T16:13:57.429Z"), "updated_at" : ISODate("2022-07-25T16:13:57.429Z")}, {"_id" : ObjectId("62dec14527bd4e0c39e0dd89"), "id" : 5, "name" : "Singtel", "created_at" : ISODate("2022-07-25T16:13:57.429Z"), "updated_at" : ISODate("2022-07-25T16:13:57.429Z")}]
> db.operators.find().pretty()
{
  "_id" : ObjectId("62dec14527bd4e0c39e0dd85"),
  "id" : 1,
  "name" : "Telkomsel",
  "created_at" : ISODate("2022-07-25T16:13:57.429Z"),
  "updated_at" : ISODate("2022-07-25T16:13:57.429Z")
}
{
  "_id" : ObjectId("62dec14527bd4e0c39e0dd86"),
  "id" : 2,
  "name" : "Indosat",
  "created_at" : ISODate("2022-07-25T16:13:57.429Z"),
  "updated_at" : ISODate("2022-07-25T16:13:57.429Z")
}
{
  "_id" : ObjectId("62dec14527bd4e0c39e0dd87"),
  "id" : 3,
  "name" : "XL Axista",
  "created_at" : ISODate("2022-07-25T16:13:57.429Z"),
  "updated_at" : ISODate("2022-07-25T16:13:57.429Z")
}
{
  "_id" : ObjectId("62dec14527bd4e0c39e0dd88"),
  "id" : 4,
  "name" : "Trix",
  "created_at" : ISODate("2022-07-25T16:13:57.429Z"),
  "updated_at" : ISODate("2022-07-25T16:13:57.429Z")
}
{
  "_id" : ObjectId("62dec14527bd4e0c39e0dd89"),
  "id" : 5,
  "name" : "Singtel",
  "created_at" : ISODate("2022-07-25T16:13:57.429Z"),
  "updated_at" : ISODate("2022-07-25T16:13:57.429Z")
}
```

b. Insert 3 product type

```
> db.createCollection('product_types')
{ "ok" : 1 }
> db.product_types.insert([
  {
    "id":1,
    "name":"Tipe 1",
    "created_at:new Date(),
    "updated_at:new Date()"
  },
  {
    "id":2,
    "name":"Tipe 2",
    "created_at:new Date(),
    "updated_at:new Date()"
  },
  {
    "id":3,
    "name":"Tipe 3",
    "created_at:new Date(),
    "updated_at:new Date()"
  }
])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "nUpserted" : 0
})
> db.product_types.find().pretty()
{
  "_id" : ObjectId("62dec52427bd4e0c39e0dd8a"),
  "id" : 1,
  "name" : "Tipe 1",
  "created_at" : ISODate("2022-07-25T16:30:28.529Z"),
  "updated_at" : ISODate("2022-07-25T16:30:28.529Z")
}
{
  "_id" : ObjectId("62dec52427bd4e0c39e0dd8b"),
  "id" : 2,
  "name" : "Tipe 2",
  "created_at" : ISODate("2022-07-25T16:30:28.529Z"),
  "updated_at" : ISODate("2022-07-25T16:30:28.529Z")
}
{
  "_id" : ObjectId("62dec52427bd4e0c39e0dd8c"),
  "id" : 3,
  "name" : "Tipe 3",
  "created_at" : ISODate("2022-07-25T16:30:28.529Z"),
  "updated_at" : ISODate("2022-07-25T16:30:28.529Z")
}
```

c. Insert 2 product, type 1 and opr 3

```
> db.createCollection('products')
{ "ok" : 1 }
> db.products.insert([
...   {
...     id:1,
...     product_type_id:1,
...     operator_id:3,
...     code:"P-001",
...     name:"Produk 1",
...     status:"Status Produk 1",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:2,
...     product_type_id:1,
...     operator_id:3,
...     code:"P-001",
...     name:"Produk 2",
...     status:"Status Produk 2",
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 2,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "nUpserted" : 0
})
> db.products.find().pretty()
{
  "_id" : ObjectId("62df705b86661cfa77fa61c3"),
  "id" : 1,
  "product_type_id" : 1,
  "operator_id" : 3,
  "code" : "P-001",
  "name" : "Produk 1",
  "status" : "Status Produk 1",
  "created_at" : ISODate("2022-07-26T04:48:59.658Z"),
  "updated_at" : ISODate("2022-07-26T04:48:59.658Z")
}
{
  "_id" : ObjectId("62df705b86661cfa77fa61c4"),
  "id" : 2,
  "product_type_id" : 1,
  "operator_id" : 3,
  "code" : "P-002",
  "name" : "Produk 2",
  "status" : "Status Produk 2",
  "created_at" : ISODate("2022-07-26T04:48:59.658Z"),
  "updated_at" : ISODate("2022-07-26T04:48:59.658Z")
}
```

d. Insert 3 product, type 2 and opr 1

```
> db.products.insert([
...   {
...     id:3,
...     product_type_id:2,
...     operator_id:1,
...     code:"P-003",
...     name:"Produk 3",
...     status:"Status Produk 3",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:4,
...     product_type_id:2,
...     operator_id:1,
...     code:"P-004",
...     name:"Produk 4",
...     status:"Status Produk 4",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:5,
...     product_type_id:2,
...     operator_id:1,
...     code:"P-005",
...     name:"Produk 5",
...     status:"Status Produk 5",
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "nUpserted" : 0
})
```

e. Insert 3 product, type 3 and opr 4

```
> db.products.insert([
...   {
...     id:6,
...     product_type_id:3,
...     operator_id:4,
...     code:"P-006",
...     name:"Produk 6",
...     status:"Status Produk 6",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:7,
...     product_type_id:3,
...     operator_id:4,
...     code:"P-007",
...     name:"Produk 7",
...     status:"Status Produk 7",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:8,
...     product_type_id:3,
...     operator_id:4,
...     code:"P-008",
...     name:"Produk 8",
...     status:"Status Produk 8",
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
```

f. Insert product desc

```
> db.product_descriptions.insert([
...   {
...     id:1,
...     product_id:1,
...     description:"Description produk 1",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:2,
...     product_id:2,
...     description:"Description produk 2",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:3,
...     product_id:3,
...     description:"Description produk 3",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:4,
...     product_id:4,
...     description:"Description produk 4",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:5,
...     product_id:5,
...     description:"Description produk 5",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:6,
...     product_id:6,
...     description:"Description produk 6",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:7,
...     product_id:7,
...     description:"Description produk 7",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:8,
...     product_id:8,
...     description:"Description produk 8",
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 8,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
```

g. Insert 3 payments method

```
> db.payment_methods.insert([
...   {
...     id:1,
...     name:"Cash",
...     status:1,
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:2,
...     name:"Debit Card",
...     status:1,
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:3,
...     name:"Credit Card",
...     status:1,
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
```

h. Insert 5 user

```
> db.users.insert([
...   {
...     id:1,
...     status:1,
...     dob:new Date("1994-10-10"),
...     gender:"m",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:2,
...     status:2,
...     dob:new Date("1993-12-10"),
...     gender:"f",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:3,
...     status:1,
...     dob:new Date("1996-07-05"),
...     gender:"m",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:4,
...     status:1,
...     dob:new Date("1990-05-13"),
...     gender:"m",
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:5,
...     status:1,
...     dob:new Date("1994-12-12"),
...     gender:"f",
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 5,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
```

i. Insert 3 transaction each user

```
> db.orders.insert([
...   {
...     id:1,
...     user_id:1,
...     payment_method_id:1,
...     status:"Lunas",
...     total_qty:3,
...     total_price:150000,
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:2,
...     user_id:2,
...     payment_method_id:1,
...     status:"Lunas",
...     total_qty:3,
...     total_price:150000,
...     created_at:new Date(),
...     updated_at:new Date()
...   },
...   {
...     id:3,
...     user_id:3,
...     payment_method_id:1,
...     status:"Lunas",
...     total_qty:3,
...     total_price:150000,
...     created_at:new Date(),
...     updated_at:new Date()
...   }
... ],
... [
...   {
...     "writeErrors" : [ ],
...     "writeConcernErrors" : [ ],
...     "nInserted" : 3,
...     "nUpserted" : 0,
...     "nMatched" : 0,
...     "nModified" : 0,
...     "nRemoved" : 0,
...     "upserted" : [ ]
...   }
... ])
BulkWriteResult({
  "writeErrors" : [ ],
  "writeConcernErrors" : [ ],
  "nInserted" : 3,
  "nUpserted" : 0,
  "nMatched" : 0,
  "nModified" : 0,
  "nRemoved" : 0,
  "upserted" : [ ]
})
```

j. Insert 3 products each transaction

```

...
    {
      id:1,
      order_id:1,
      product_id:1,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:2,
      order_id:1,
      product_id:2,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:3,
      order_id:1,
      product_id:3,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:4,
      order_id:2,
      product_id:1,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:5,
      order_id:2,
      product_id:2,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:6,
      order_id:2,
      product_id:3,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:7,
      order_id:3,
      product_id:1,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:8,
      order_id:3,
      product_id:2,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    },
    {
      id:9,
      order_id:3,
      product_id:3,
      status:"Status det trans 1",
      qty:1,
      price:50000,
      created_at:new Date(),
      updated_at:new Date()
    }
  ],
  BulkWriteResult({
    "writeErrors" : [ ],
    "writeConcernErrors" : [ ],
    "nInserted" : 9,
    "nUpserted" : 0,
    "nMatched" : 0,
    "nModified" : 0,
    "nRemoved" : 0,
    "upserted" : [ ]
  })
}

```

2. Read

a. User gender M

b. Product id=3

```

-- db.products.find({id: 1})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c0\")",
  "id": 1,
  "product_type_id": 1,
  "operator_id": 3,
  "code": "P-001",
  "name": "Produk 1",
  "status": "Status Produk 1",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 2})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c1\")",
  "id": 2,
  "product_type_id": 2,
  "operator_id": 3,
  "code": "P-002",
  "name": "Produk 2",
  "status": "Status Produk 2",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 3})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c2\")",
  "id": 3,
  "product_type_id": 3,
  "operator_id": 3,
  "code": "P-003",
  "name": "Produk 3",
  "status": "Status Produk 3",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 4})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c3\")",
  "id": 4,
  "product_type_id": 2,
  "operator_id": 1,
  "code": "P-004",
  "name": "Produk 4",
  "status": "Status Produk 4",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 5})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c4\")",
  "id": 5,
  "product_type_id": 3,
  "operator_id": 4,
  "code": "P-005",
  "name": "Produk 5",
  "status": "Status Produk 5",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 6})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c5\")",
  "id": 6,
  "product_type_id": 3,
  "operator_id": 4,
  "code": "P-006",
  "name": "Produk 6",
  "status": "Status Produk 6",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 7})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c6\")",
  "id": 7,
  "product_type_id": 3,
  "operator_id": 4,
  "code": "P-007",
  "name": "Produk 7",
  "status": "Status Produk 7",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}
-- db.products.find({id: 8})
{
  "_id": "ObjectID(\"62d7f78b66661cfa77fe1c7\")",
  "id": 8,
  "product_type_id": 3,
  "operator_id": 4,
  "code": "P-008",
  "name": "Produk 8",
  "status": "Status Produk 8",
  "created_at": "ISODate(\"2022-07-26T08:46:59.650Z\")",
  "updated_at": "ISODate(\"2022-07-26T08:46:59.650Z\")"
}

```

c. Count user gender P/Female

```
2 db.users.find({})  
3 { "_id": "5e2df785a466161ca7f7af61d0c", "id": 1, "status": 1, "dob": ISODate("1994-10-10T00:00:00Z"), "gender": "m", "created_at": ISODate("2022-07-26T05:03:32.273Z"), "updated_at": ISODate("2022-07-26T05:03:32.273Z") },  
4 { "_id": "5e2df785a466161ca7f7af61d1b", "id": 2, "status": 1, "dob": ISODate("1996-07-05T00:00:00Z"), "gender": "m", "created_at": ISODate("2022-07-26T05:03:32.273Z"), "updated_at": ISODate("2022-07-26T05:03:32.273Z") },  
5 { "_id": "5e2df785a466161ca7f7af61d59", "id": 3, "status": 1, "dob": ISODate("1990-05-13T00:00:00Z"), "gender": "m", "created_at": ISODate("2022-07-26T05:03:32.273Z"), "updated_at": ISODate("2022-07-26T05:03:32.273Z") },  
6 { "_id": "5e2df785a466161ca7f7af61d7a", "id": 4, "status": 1, "dob": ISODate("1994-12-12T00:00:00Z"), "gender": "f", "created_at": ISODate("2022-07-26T05:03:32.273Z"), "updated_at": ISODate("2022-07-26T05:03:32.273Z") }  
2 db.users.find({gender:m}).count()  
3
```

d. Data user order ascending abjad

e. Show 5 data product

```
db.products.find({})  
[{"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 1, "operator_id": 3, "code": "+0981", "name": "Produk 1", "status": "Status Produk 1", "created_at": "2022-07-26T04:10:59.658Z", "updated_at": "2022-07-26T04:10:59.658Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 2, "operator_id": 3, "code": "+0982", "name": "Produk 2", "status": "Status Produk 2", "created_at": "2022-07-26T04:10:59.658Z", "updated_at": "2022-07-26T04:10:59.658Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 1, "operator_id": 1, "code": "+0983", "name": "Produk 3", "status": "Status Produk 3", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 2, "operator_id": 1, "code": "+0984", "name": "Produk 4", "status": "Status Produk 4", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 1, "operator_id": 2, "code": "+0985", "name": "Produk 5", "status": "Status Produk 5", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 2, "operator_id": 2, "code": "+0986", "name": "Produk 6", "status": "Status Produk 6", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 3, "operator_id": 1, "code": "+0987", "name": "Produk 7", "status": "Status Produk 7", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 4, "operator_id": 1, "code": "+0988", "name": "Produk 8", "status": "Status Produk 8", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 5, "operator_id": 2, "code": "+0989", "name": "Produk 9", "status": "Status Produk 9", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}, {"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 6, "operator_id": 2, "code": "+0990", "name": "Produk 10", "status": "Status Produk 10", "created_at": "2022-07-26T04:10:45.967Z", "updated_at": "2022-07-26T04:10:45.967Z"}]  
  
db.products.find({limit: 1})  
[{"_id": "ObjectID(627d798b8664cd7af77fe5c1d)", "product_type_id": 1, "operator_id": 3, "code": "+0981", "name": "Produk 1", "status": "Status Produk 1", "created_at": "2022-07-26T04:10:59.658Z", "updated_at": "2022-07-26T04:10:59.658Z"}]
```

3. Update

a. Update product id=1 dengan nama ‘product dummy’

b. Ubah qty=3 pada trans detail product 1

4. Delete

a. Delete product id=1

b. Delete product where type id=1

```

db.products.find()
{ "_id": ObjectId("62ad7f7986661cfef77fa5c4"), "id": 2, "product_type_id": 1, "operator_id": 3, "code": "#082", "name": "Produk 2", "status": "Status Produk 2", "created_at": ISODate("2022-07-26T08:45:59.658Z"), "updated_at": ISODate("2022-07-26T04:45:59.658Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c5"), "id": 3, "product_type_id": 2, "operator_id": 1, "code": "#084", "name": "Produk 4", "status": "Status Produk 4", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c6"), "id": 4, "product_type_id": 2, "operator_id": 1, "code": "#084", "name": "Produk 4", "status": "Status Produk 4", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c7"), "id": 5, "product_type_id": 2, "operator_id": 1, "code": "#085", "name": "Produk 5", "status": "Status Produk 5", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c8"), "id": 6, "product_type_id": 3, "operator_id": 4, "code": "#086", "name": "Produk 6", "status": "Status Produk 6", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c9"), "id": 7, "product_type_id": 3, "operator_id": 4, "code": "#087", "name": "Produk 7", "status": "Status Produk 7", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5ca"), "id": 8, "product_type_id": 3, "operator_id": 4, "code": "#088", "name": "Produk 8", "status": "Status Produk 8", "created_at": ISODate("2022-07-26T08:45:59.657Z"), "updated_at": ISODate("2022-07-26T04:45:59.657Z") }
]
writeResult: { "nRemoved": 1 }

db.products.find()
{ "_id": ObjectId("62ad7f7986661cfef77fa5c5"), "id": 3, "product_type_id": 2, "operator_id": 1, "code": "#083", "name": "Produk 3", "status": "Status Produk 3", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c6"), "id": 4, "product_type_id": 2, "operator_id": 1, "code": "#084", "name": "Produk 4", "status": "Status Produk 4", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c7"), "id": 5, "product_type_id": 2, "operator_id": 1, "code": "#085", "name": "Produk 5", "status": "Status Produk 5", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c8"), "id": 6, "product_type_id": 3, "operator_id": 4, "code": "#086", "name": "Produk 6", "status": "Status Produk 6", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5c9"), "id": 7, "product_type_id": 3, "operator_id": 4, "code": "#087", "name": "Produk 7", "status": "Status Produk 7", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") },
{ "_id": ObjectId("62ad7f7986661cfef77fa5ca"), "id": 8, "product_type_id": 3, "operator_id": 4, "code": "#088", "name": "Produk 8", "status": "Status Produk 8", "created_at": ISODate("2022-07-26T08:45:59.567Z"), "updated_at": ISODate("2022-07-26T04:45:59.567Z") }
]

```

Database Aggregation

1. Gabungkan data buku dari autho id 1 dan author id 2

```
> db.books.find()
{ "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 2, "title" : "Mata Air Keteladanan", "authorID" : 1, "publisherID" : 2, "price" : 186250, "stats" : { "page" : 600, "weight" : 600 }, "publishedAt" : ISODate("2017-09-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 3, "title" : "Revolusi Pancasila", "authorID" : 1, "publisherID" : 3, "price" : 54400, "stats" : { "page" : 220, "weight" : 500 }, "publishedAt" : ISODate("2015-05-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] }
{ "_id" : 5, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] }
```

2. Tampilkan daftar buku dan harga author id 1

```
> db.books.find()
{ "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 2, "title" : "Mata Air Keteladanan", "authorID" : 1, "publisherID" : 2, "price" : 186250, "stats" : { "page" : 672, "weight" : 650 }, "publishedAt" : ISODate("2017-09-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 3, "title" : "Revolusi Pancasila", "authorID" : 1, "publisherID" : 3, "price" : 54400, "stats" : { "page" : 220, "weight" : 500 }, "publishedAt" : ISODate("2015-05-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] }
> db.books.find({authorID:1},{title:1,price:1})
{ "_id" : 1, "title" : "Wawasan Pancasila", "price" : 71200 }
{ "_id" : 2, "title" : "Mata Air Keteladanan", "price" : 186250 }
{ "_id" : 3, "title" : "Revolusi Pancasila", "price" : 54400 }
```

3. Tampilkan total halaman buku author id 2

```
> db.books.find()
{ "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 2, "title" : "Mata Air Keteladanan", "authorID" : 1, "publisherID" : 2, "price" : 186250, "stats" : { "page" : 672, "weight" : 650 }, "publishedAt" : ISODate("2017-09-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 3, "title" : "Revolusi Pancasila", "authorID" : 1, "publisherID" : 3, "price" : 54400, "stats" : { "page" : 220, "weight" : 500 }, "publishedAt" : ISODate("2015-05-01T00:00:00Z"), "category" : [ "social", "politics" ] }
{ "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] }
{ "_id" : 5, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] }
> db.books.aggregate([
...   { $match: { "authorID": 2 } },
...   { $group: {
...     _id: "$authorID",
...     "Total Pages": { $sum: "$stats.page" }
...   }}
... ])
{ "_id" : 2, "Total Pages" : 686 }
```

4. Tampilkan semua field books and author terkait

```
> db.books.aggregate([
...   {
...     $lookup:
...       {
...         from: "authors",
...         localField: "authorID",
...         foreignField: "_id",
...         as: "author"
...       }
...   }
... ],
... [
...   { "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" } },
...   { "_id" : 2, "title" : "Mata Air Keteladanan", "authorID" : 1, "publisherID" : 2, "price" : 186200, "stats" : { "page" : 672, "weight" : 650 }, "publishedAt" : ISODate("2017-09-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" } },
...   { "_id" : 3, "title" : "Revolusi Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 54400, "stats" : { "page" : 220, "weight" : 500 }, "publishedAt" : ISODate("2015-05-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" } },
...   { "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "author" : { "_id" : 2, "firstName" : "Rhenald", "lastName" : "Kusal" } },
...   { "_id" : 5, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "author" : { "_id" : 2, "firstName" : "Rhenald", "lastName" : "Kusal" } }
... ])
```

```
> db.authors.aggregate([
...   {
...     $lookup:
...       {
...         from: "books",
...         localField: "_id",
...         foreignField: "authorID",
...         as: "books"
...       }
...   }
... ],
... [
...   { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif", "books" : [ { "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ], "book" : { "id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ] } ],
...   { "_id" : 2, "firstName" : "Rhenald", "lastName" : "Kusal", "books" : [ { "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "book" : { "id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] } ],
...   { "_id" : 6, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "book" : { "id" : 5, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ] } }
... ])
```

5. Tampilkan semua field books, author dan publisher terkait

```
> db.books.aggregate([
...   {
...     $lookup:
...       {
...         from: "authors",
...         localField: "authorID",
...         foreignField: "_id",
...         as: "author"
...       }
...   },
...   {
...     $lookup:
...       {
...         from: "publishers",
...         localField: "publisherID",
...         foreignField: "_id",
...         as: "publisher"
...       }
...   }
... ],
... [
...   { "_id" : 1, "title" : "Wawasan Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 71200, "stats" : { "page" : 324, "weight" : 300 }, "publishedAt" : ISODate("2018-10-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" }, "publisher" : { "_id" : 1, "name" : "Pustaka" } },
...   { "_id" : 2, "title" : "Mata Air Keteladanan", "authorID" : 1, "publisherID" : 2, "price" : 186250, "stats" : { "page" : 672, "weight" : 650 }, "publishedAt" : ISODate("2017-09-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" }, "publisher" : { "_id" : 2, "name" : "Pustaka" } },
...   { "_id" : 3, "title" : "Revolusi Pancasila", "authorID" : 1, "publisherID" : 1, "price" : 54400, "stats" : { "page" : 220, "weight" : 500 }, "publishedAt" : ISODate("2015-05-01T00:00:00Z"), "category" : [ "social", "politics" ], "author" : { "_id" : 1, "firstName" : "Yudi", "lastName" : "Latif" }, "publisher" : { "_id" : 1, "name" : "Pustaka" } },
...   { "_id" : 4, "title" : "Self Driving", "authorID" : 2, "publisherID" : 1, "price" : 58650, "stats" : { "page" : 286, "weight" : 300 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "author" : { "_id" : 2, "firstName" : "Rhenald", "lastName" : "Kusal" }, "publisher" : { "_id" : 1, "name" : "Pustaka" } },
...   { "_id" : 5, "title" : "Self Disruption", "authorID" : 2, "publisherID" : 2, "price" : 83300, "stats" : { "page" : 400, "weight" : 800 }, "publishedAt" : ISODate("2018-05-01T00:00:00Z"), "category" : [ "self-development" ], "author" : { "_id" : 2, "firstName" : "Rhenald", "lastName" : "Kusal" }, "publisher" : { "_id" : 2, "name" : "Pustaka" } }
... ])
```

6. Tampilkan summary data authors, books, dan publishers

```
> db.books.aggregate([
...   {
...     $group:
...       {
...         name: "Author",
...         localField: "authorID",
...         foreignField: "_id",
...         as: "author"
...       }
...   },
...   {
...     $group:
...       {
...         name: "Publisher",
...         localField: "publisherID",
...         foreignField: "_id",
...         as: "publisher"
...       }
...   },
...   {
...     $group:
...       {
...         name: "Books",
...         localField: "title",
...         foreignField: "title",
...         as: "listBooks"
...       }
...   },
...   {
...     $group:
...       {
...         name: "BooksSummary",
...         localBooks: "$listBooks",
...         listBooks: "$listBooks.$title"
...       }
...   }
... ],
... [
...   { "name" : "Author" },
...   { "localBooks" : 2,
...     "listBooks" : [
...       "Wawasan Pancasila",
...       "Mata Air Keteladanan",
...       "Revolusi Pancasila"
...     ]
...   },
...   { "name" : "Publisher" },
...   { "localBooks" : 2,
...     "listBooks" : [
...       "Self Driving",
...       "Self Disruption"
...     ]
...   }
... ])
```

7. Diskon

```
> db.books.aggregate([
...   {
...     $project:
...       {
...         title: 1,
...         price: 1,
...         promo: {
...           $cond:
...             [
...               { if: { $lt: ['$price', 60000] }, then: '5%' },
...               { if: { $lt: ['$price', 90000] }, then: '10%' },
...               { if: { $gt: ['$price', 90000] }, then: '15%' },
...               { else: '2%' }
...             ]
...         }
...       }
...   }
... ])
{
  "_id": 1, "title": "Wawasan Pancasila", "price": 71200, "promo": "10%"},
  {"_id": 2, "title": "Mata Air Keteladanan", "price": 106250, "promo": "15%"},
  {"_id": 3, "title": "Revolusi Pancasila", "price": 54400, "promo": "5%"},
  {"_id": 4, "title": "Self Driving", "price": 58650, "promo": "2%"},
  {"_id": 5, "title": "Self Disruption", "price": 83300, "promo": "2%"}]
```

8. Tampilkan semua nama buku, harga, nama author dan nama publisher, urutkan dari harga termahal ke termurah

```
> db.books.aggregate([
...   {
...     $lookup:
...       {
...         from: "authors",
...         localField: "authorID",
...         foreignField: "_id",
...         as: "author"
...       }
...   },
...   {
...     $lookup:
...       {
...         from: "publishers",
...         localField: "publisherID",
...         foreignField: "_id",
...         as: "publisher"
...       }
...   },
...   {
...     $project:
...       {
...         title: 1,
...         price: 1,
...         author: "$author.firstName",
...         publisher: "$publisher.publisherName"
...       }
...   },
...   {
...     $sort:
...       {
...         price: -1
...       }
...   }
... ])
{
  "_id": 2, "title": "Mata Air Keteladanan", "price": 106250, "author": [ "Yudi" ], "publisher": [ "Mizan" ] },
  {"_id": 5, "title": "Self Disruption", "price": 83300, "author": [ "Rhenald" ], "publisher": [ "Mizan" ] },
  {"_id": 1, "title": "Wawasan Pancasila", "price": 71200, "author": [ "Yudi" ], "publisher": [ "Expose" ] },
  {"_id": 4, "title": "Self Driving", "price": 58650, "author": [ "Rhenald" ], "publisher": [ "Expose" ] },
  {"_id": 3, "title": "Revolusi Pancasila", "price": 54400, "author": [ "Yudi" ], "publisher": [ "Expose" ] }
```

9. Tampilkan data nama buku harga dan publisher, kemudian tampilkan hanya data ke 3 dan ke 4

```
> db.books.aggregate([
...   {
...     $lookup:
...       {
...         from: "authors",
...         localField: "authorID",
...         foreignField: "_id",
...         as: "author"
...       }
...   },
...   {
...     $lookup:
...       {
...         from: "publishers",
...         localField: "publisherID",
...         foreignField: "_id",
...         as: "publisher"
...       }
...   },
...   {
...     $project:
...       {
...         title: 1,
...         price: 1,
...         publisher: "$publisher.publisherName"
...       }
...   },
...   {
...     $skip: 2
...   },
...   {
...     $limit:2
...   }
... ])
{ "_id" : 3, "title" : "Revolusi Pancasila", "price" : 54400, "publisher" : [ "Expose" ] }
{ "_id" : 4, "title" : "Self Driving", "price" : 58650, "publisher" : [ "Expose" ] }
> █
```