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Tugas Basis Data 2

A. Query Modifier

1.

```
> db.products.find({}).count()  
< 8
```

2.

```
> db.products.find({}).limit(4)  
< [  
  {  
    _id: 1,  
    name: 'Indomie Ayam Bawang',  
    price: 2000  
  },  
  {  
    _id: 2,  
    name: 'Mie Sedap Soto',  
    price: 2000  
  },  
  {  
    _id: 3,  
    name: 'Pop Mie Rasa Bakso',  
    price: 2500,  
    category: 'food'  
  },  
  {  
    _id: 4,  
    name: 'Samsung Galaxy S9+',  
    price: 10080000,  
    category: 'handphone'  
  }  
]
```

3.

```
> db.products.find({}).skip(2)
< {
  _id: 3,
  name: 'Pop Mie Rasa Bakso',
  price: 2500,
  category: 'food'
}
{
  _id: 4,
  name: 'Samsung Galaxy S9+',
  price: 10080000,
  category: 'handphone'
}
{
  _id: 5,
  name: 'Acer Precator XXI',
  price: 25000000,
  category: 'laptop'
}
{
```

```
    _id: 6,  
    name: 'Logitech M235 Wireless Mouse',  
    price: 175000,  
    category: 'laptop',  
    tags: [  
      'logitech',  
      'mouse',  
      'accessories'  
    ]  
  }  
  {  
    _id: 7,  
    name: 'Havit Cooler Pad Gaming 5Fan Blue led F2082',  
    price: 200000,  
    category: 'laptop',  
    tags: [  
      'cooler',  
      'laptop',  
      'accessories',  
      'fan'  
    ]  
  }  
  {  
    _id: 8,  
    name: 'Samsung LC24F390FHXXD Curved Monitor ',  
    price: 1750000,  
    category: 'computer',  
    tags: [  
      'samsung',  
      'monitor',  
      'computer'  
    ]  
  }  
}
```

4.

```
> db.products.find({}).limit(4).skip(2)
```

```
< {
  _id: 3,
  name: 'Pop Mie Rasa Bakso',
  price: 2500,
  category: 'food'
}
{
  _id: 4,
  name: 'Samsung Galaxy S9+',
  price: 10080000,
  category: 'handphone'
}
{
  _id: 5,
  name: 'Acer Precator XXI',
  price: 25000000,
  category: 'laptop'
}
{
  _id: 6,
```

5.

```
> db.products.find({}).sort({
```

```
  category: 1,
```

```
  name:-1
```

```
});
```

```
< {
```

```
  _id: 2,
```

```
  name: 'Mie Sedap Soto',
```

```
  price: 2000
```

```
}
{
```

```
  _id: 1,
```

```
  name: 'Indomie Ayam Bawang',
```

```
  price: 2000
```

```
}
{
```

```
  _id: 8,
```

```
  name: 'Samsung LC24F390FHXXD Curved Monitor ',
```

```
  price: 1750000,
```

```
  category: 'computer',
```

```
  tags: [
```

```
    'samsung',
```

B. Update Document

1. updateOne

```
> db.products.updateOne({
  id: 1
}, {
  $set: {
    category: "food"
  }
})
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
> db.products.updateOne({
  id: 2
}, {
  $set: {
    category: "food"
  }
})
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```

2. UpdateMany

```
> db.products.updateMany(  
  {category: {  
    _id: "food"  
  }},  
  {  
    $set: {  
      tags: ["food"]  
    }  
  }  
);  
< {  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 0,  
  modifiedCount: 0,  
  upsertedCount: 0  
}
```

3. replaceOne

```
> db.products.insertOne({  
  _id: 9,  
  name: "Ups Salah",  
  wrong: "Salah Lagi"  
});  
< {  
  acknowledged: true,  
  insertedId: 9  
}
```

```

> db.products.replaceOne({

  _id: 9,
  name: "Adidas Sepatu lari Pria",
  price: new NumberLong("1100000"),
  category: "shoes",
  tags: ["adidas", "shoes", "running"]
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}

```

C. Field Update Operator

1. \$set

```

> db.products.updateMany({}, {
  $set: {
    stock: 0
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 9,
  modifiedCount: 9,
  upsertedCount: 0
}

```

2. \$inc

```
> db.products.updateMany({}, {
  $set: {
    stock: 10
  }

});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 9,
  modifiedCount: 9,
  upsertedCount: 0
}
```

3. \$rename

```
> db.customers.updateMany({}, {
  $rename: {
    name: "full_name"
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 0,
  upsertedCount: 0
}
```


4. \$unset

```
> db.customers.updateMany({}, {
  $set: {
    wrong: "ups"
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

5. \$currentDate

```
> db.products.updateMany({}, {
  $set: {
    lastModifiedDate: new Date()
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 9,
  modifiedCount: 9,
  upsertedCount: 0
}
```

D. Array Update Operator

1. Array \$ Operator

```
> // update products set ratings = [90, 80, 70]
db.products.updateMany({}, {
  $set: {
    ratings: [90, 80, 70]
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

```
> // update first element of array, query must include array fields
db.products.updateMany ({
  ratings: 90
}, {
  $set: {
    "ratings.$": 100
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

2. Array \$[] Operator

```
> db.products.updateMany({}, {
  $set: {
    "ratings.$[]": 100
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

3. Array \$[<identifier>] Operator

```
> db.products.updateMany({}, {
  $set: {
    ratings: [90,80,70]
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

```

> db.products.updateMany({}, {
  $set: {
    "ratings.$[element]": 100
  }
}, {
  arrayFilters: [
    {
      element: {
        $gte: 80
      }
    }
  ]
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}

```

4. Array <index> Operator

```

> db.products.updateMany({}, {
  $set: {
    "ratings.0": 50,
    "ratings.1": 60
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}

```

5. Array \$addToSet Operator

```
> // add "popular" to array if not exists
db.products.updateOne({
  _id: 1
}, {
  $addToSet: {
    tags: "popular"
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
```

6. Array \$pop Operator

```
> // remove first element of array
db.products.updateOne({
  id: 1
}, {
  $pop: {
    ratings: -1
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}
```

```

> // remove last element of array
db.products.updateOne({
  id: 2
}, {
  $pop: {
    ratings: 1
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 0,
  modifiedCount: 0,
  upsertedCount: 0
}

```

7. Array \$pull dan \$push Operator

```

> db.products.updateMany({}, {
  $pull: {
    ratings: {
      $gte: 80
    }
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 0,
  upsertedCount: 0
}
> // add 100 to ratings
db.products.updateMany({}, {
  $push: {
    ratings: 100
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}

```

Array Update Operator Modifier

8. \$each

```
> // add "trending", "popular" to tags
db.products.updateMany({}, {
  $addToSet: {
    tags: {
      $each: ["trending", "popular"]
    }
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

9. \$position

```
> db.products.updateMany({}, {
  $push: {
    tags: {
      $position: 1,
      value: "hot"
    }
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```

10. \$slice

```
> db.products.updateMany({}, {
  $set: {
    ratings: {
      $slice: [-3],
      value: [100,200,300,400,500]
    }
  }
});
< {
  acknowledged: true,
  insertedId: null,
  matchedCount: 8,
  modifiedCount: 8,
  upsertedCount: 0
}
```