

**8. For the product named "Ultimate Laptop Pro," decrement (\$inc) the stock quantity by 1 and set (\$set) its details.brand to "TechCo Elite".**

***Query***

```
db.products.updateOne(  
  { name: "Ultimate Laptop Pro" },  
  {  
    $inc: { stock: -1 },  
    $set: { "details.brand": "TechCo Elite" }  
  }  
)
```

***Result***

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

**9. Add the tag "Sale" to the tags array of the product "Adventure Backpack" only if it's not already present**

***Query***

```
db.products.updateOne(  
  { name: "Adventure Backpack" },  
  { $addToSet: { tags: "Sale" } }  
)
```

***Result***

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 1,  
  modifiedCount: 1,  
  upsertedCount: 0  
}
```

**10. Remove (\$pull) all instances of the tag "Sale" from the tags array for ALL documents in the collection.**

**Query**

```
db.products.updateMany(  
  { tags: "Sale" },  
  { $pull: { tags: "Sale" } }  
);
```

**Result**

```
{  
  acknowledged: true,  
  insertedId: null,  
  matchedCount: 2,  
  modifiedCount: 2,  
  upsertedCount: 0  
}
```

**11. Calculate the total inventory value (sum of price \* stock) for each category. (Hint: use \$group, \$sum, and \$multiply).**

**Query**

```
db.products.aggregate([  
  {  
    $group: {  
      _id: "$category",  
      totalInventoryValue: {  
        $sum: { $multiply: ["$price", "$stock"] }  
      }  
    }  
  },  
  {  
    $project: {  
      category: "$_id",  
      totalInventoryValue: { $round: ["$totalInventoryValue", 2] },  
      _id: 0  
    }  
  }  
]);
```

### **Result**

```
{  
  category: 'Books',  
  totalInventoryValue: 900  
}  
{  
  category: 'Apparel',  
  totalInventoryValue: 486  
}  
{  
  category: 'Electronics',  
  totalInventoryValue: 26499.42  
}  
{  
  category: 'Accessories',  
  totalInventoryValue: 180  
}  
{  
  category: 'Jewelry',  
  totalInventoryValue: 499.9  
}  
{  
  category: null,  
  totalInventoryValue: 0  
}
```

### **12. Count the total number of products supplied by each details.brand.**

#### **Query**

```
db.products.aggregate([  
  {  
    $group: {  
      _id: "$details.brand", productCount: { $sum: 1 }  
    }  
  },  
  {  
    $project: {  
      brand: "$_id", productCount: 1, _id: 0  
    }  
  }  
]);
```

## ***Result***

```
{  
  productCount: 2,  
  brand: 'EconomyBrand'  
}  
{  
  productCount: 1,  
  brand: 'TechCo Elite'  
}  
{  
  productCount: 3,  
  brand: null  
}  
{  
  productCount: 2,  
  brand: 'FashionInc'  
}  
{  
  productCount: 1,  
  brand: 'PublisherX'  
}  
{  
  productCount: 1,  
  brand: 'ShineCo'  
}  
{  
  productCount: 1,  
  brand: 'TechCo'  
}
```