

Output:

```
mongosh mongodb://127.0.0.1:27017/?directConnection=true&serverSelectionTimeoutMS=2000
test> use comp
switched to db comp
comp>

comp> // Step 2: Create the 'sales' collection

comp> db.createCollection("sales")
{ ok: 1 }
comp>

comp> // Step 3: Insert sample documents into 'sales' collection

comp> db.sales.insertMany([
...   { _id: 1, product: "Laptop", price: 70000, quantity: 2 },
...   { _id: 2, product: "Mouse", price: 500, quantity: 5 },
...   { _id: 3, product: "Keyboard", price: 1500, quantity: 3 },
...   { _id: 4, product: "Laptop", price: 70000, quantity: 1 },
...   { _id: 5, product: "Mouse", price: 500, quantity: 2 }
... ])
Uncaught:
MongoBulkWriteError: E11000 duplicate key error collection: comp.sales index: _id_ dup key: { _id: 1 }
Result: BulkWriteResult {
  insertedCount: 0,
  matchedCount: 0,
  modifiedCount: 0,
  deletedCount: 0,
  upsertedCount: 0,
  upsertedIds: {},
  insertedIds: {}
}
Write Errors: [
  WriteError {
    err: {
      index: 0,
      code: 11000,
      errmsg: 'E11000 duplicate key error collection: comp.sales index: _id_ dup key: { _id: 1 }',
      errInfo: undefined,
      op: { _id: 1, product: 'Laptop', price: 70000, quantity: 2 }
    }
  }
]
comp>
```

```
comp> // Step 4: MapReduce - Total Sales per Product

comp> var mapTotal = function() {
...   emit(this.product, this.price * this.quantity);
... };

comp>

comp> // Reduce function sums all total sales for the same product

comp> var reduceTotal = function(key, values) {
...   return Array.sum(values);
... };

comp>
```

```
comp> // Execute MapReduce and store results in 'total_sales_per_product' collection
comp> db.sales.mapReduce(
...   mapTotal,
...   reduceTotal,
...   { out: "total_sales_per_product" }
... );
DeprecationWarning: Collection.mapReduce() is deprecated. Use an aggregation instead.
See https://mongodb.com/docs/manual/core/map-reduce for details.
{ result: 'total_sales_per_product', ok: 1 }
comp>
comp> // View Total Sales per Product results
comp> db.total_sales_per_product.find()
[
  { _id: 'Keyboard', value: 4500 },
  { _id: 'Laptop', value: 210000 },
  { _id: 'Mouse', value: 3500 }
]
comp>
comp> // Step 5: MapReduce - Count Sales per Product
comp> var mapCount = function() {
...   emit(this.product, 1);
... };
comp>
comp> // Reduce function sums all counts for the same product
comp> var reduceCount = function(key, values) {
...   return Array.sum(values);
... };
comp>
```

```
comp> // Execute MapReduce and store results in 'sales_count' collection
comp> db.sales.mapReduce(
...   mapCount,
...   reduceCount,
...   { out: "sales_count" }
... );
{ result: 'sales_count', ok: 1 }
comp>
comp> // View Sales Count per Product results
comp> db.sales_count.find()
[
  { _id: 'Mouse', value: 2 },
  { _id: 'Laptop', value: 2 },
  { _id: 'Keyboard', value: 1 }
]
comp>
```

