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ENTREGA 13 BDNR

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1 Exercici 1

1.1 Resolució apartat 1

Codi:

```
db.createCollection("products")
```

```
db.products.insert({
  _id: 'p1',
  categories: ['camisetas', 'verano'],
  createdAt: new Date('2020-02-01'),
  desc: 'Camiseta estampada 1',
  price: 19.99,
  sizesStock: {'xs': 2, 's': 2, 'm': 0, 'l': 2, 'xl': 0},
  cares: [
    {'iron': false},
    {'dryer': false},
    {'bleach': true}
  ],
  ratings: [
    { user: 1, rating: 3 },
    { user: 2, rating: 4 }
  ]
})
```

```
[...]
```

```
db.products.insert({
  _id: 'p5',
  categories: ['chaquetas', 'invierno'],
  createdAt: new Date('2020-02-28'),
  desc: '',
  price: 69.99,
  sizesStock: {'s': 5, 'm': 5, 'l': 2},
  cares: [
    {'iron': true},
    {'dryer': false},
    {'bleach': false}
  ],
  ratings: [
    { user: 3, rating: 3 },
    { user: 2, rating: 4 }
  ]
})
```

1.2 Resolució apartat 2

Codi:

```
db.products.aggregate([
  {$addFields:{"Preu amb descope":{"$multiply:["$price",0.9]}}}
])
```

Output:

▲ (1) p1	{9 fields}	Document
_id	p1	String
cares	Array[3]	Array
categories	Array[2]	Array
createdAt	1/2/2020 1:00:00 - 3 years ago	Date
desc	Camiseta estampada 1	String
Preu amb descope	17,991.0	Double
price	19,99.0	Double
ratings	Array[2]	Array
0	{ user : 1, rating : 3 }	Object
1	{ user : 2, rating : 4 }	Object
sizesStock	{ xs : 2, s : 2, m : 0, l : 2, xl : 0 } (5 fields)	Object
▶ (2) p2	{9 fields}	Document
▶ (3) p3	{9 fields}	Document
▶ (4) p4	{9 fields}	Document

1.3 Resolució apartat 3 i 4

Codi:

```
//ex3a i 4
db.products.aggregate([
  {$merge: {into: "products", on: "_id", whenMatched: "replace"}}
])
db.products.find({"_id": "p1"}, {"price": 1})

//ex3b i 4
db.products.aggregate([
  {$merge: {into: "products", on: "_id", whenMatched: "keepExisting"}}
])
db.products.find({"_id": "p1"}, {"price": 1})

//ex 3c i 4
db.products.aggregate([
  {$merge: {into: "products", on: "_id", whenMatched: "merge"}}
])
db.products.find({"_id": "p1"}, {"price": 1})

//ex 3d i 4
db.products.aggregate([
  {$merge: {into: "products", on: "_id", whenMatched: "fail"}}
])
db.products.find({"_id": "p1"}, {"price": 1})
```

Output per a tots:

Key	Value	Type
No records found		

Key	Value	Type
▶ (1) p1	{ price: 19.99 }	Document

2 Exercici 2

2.1 Resolució apartat 1

Execució comanda:

```
C:\Users\onasa>mongodump -d=book -c=books
2023-03-28T10:56:28.835+0200   writing book.books to dump\book\books.bson
2023-03-28T10:56:28.880+0200   done dumping book.books (6 documents)
```

2.2 Resolució apartat 2

Codi:

```
db.books.deleteMany({"author":"A1"})
```

Ooutput:

Key	Value	Type
(1)	{ acknowledged : true, deletedCount : 2 }	Object
acknowledged	true	Bool
deletedCount	2	Int32

2.3 Resolució apartat 3

Codi:

```
db.books.aggregate({ $addFields: {
  code: {
    $concat: [{ $toString: "$year"},
              "_",
              { $toString: "$edition" }]
  }
}})
```

Ooutput:

(1) 6422ab206dbfc24e22a9eb40	{ title : "Book 1" } (6 fields)	Document
_id	6422ab206dbfc24e22a9eb40	ObjectId
author	A2	String
code	2016-3rd	String
edition	3rd	String
title	Book 1	String
year	2016	Int32
(2) 6422ab206dbfc24e22a9eb42	{ title : "Book 3" } (6 fields)	Document
(3) 6422ab206dbfc24e22a9eb43	{ title : "Book 4" } (6 fields)	Document
(4) 6422ab216dbfc24e22a9eb44	{ title : "Book 5" } (6 fields)	Document

2.4 Resolució apartat 4

Execució comanda:

```
C:\Users\onasa>mongorestore --nsInclude bookjeje.books
2023-04-02T11:46:36.955+0200 using default 'dump' directory
2023-04-02T11:46:36.990+0200 preparing collections to restore from
2023-04-02T11:46:36.996+0200 reading metadata for bookjeje.books from dump\bookjeje\books.metadata.json
2023-04-02T11:46:36.997+0200 restoring to existing collection bookjeje.books without dropping
2023-04-02T11:46:36.997+0200 restoring bookjeje.books from dump\bookjeje\books.bson
2023-04-02T11:46:37.000+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_ dup key: { _id: ObjectId('64294ec54527539ba90d8385') }
2023-04-02T11:46:37.000+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_ dup key: { _id: ObjectId('64294ec54527539ba90d8387') }
2023-04-02T11:46:37.000+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_ dup key: { _id: ObjectId('64294ec54527539ba90d8388') }
2023-04-02T11:46:37.001+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_ dup key: { _id: ObjectId('64294ec54527539ba90d8389') }
2023-04-02T11:46:37.014+0200 finished restoring bookjeje.books (2 documents, 4 failures)
2023-04-02T11:46:37.016+0200 no indexes to restore for collection bookjeje.books
2023-04-02T11:46:37.016+0200 2 document(s) restored successfully. 4 document(s) failed to restore.
```

Base de dades:

	books	year	edition	year	author	id	id	id
(a) Abans del restore	(1) 64294ec54527539ba90d8385	(title: "Book 1")	(Document)					
	(2) 64294ec54527539ba90d8387	(title: "Book 2")	(Document)					
	(3) 64294ec54527539ba90d8388	(title: "Book 3")	(Document)					
	(4) 64294ec54527539ba90d8389	(title: "Book 4")	(Document)					
	(5) 64294ec54527539ba90d8390	(title: "Book 5")	(Document)					
(b) Després del restore	(1) 64294ec54527539ba90d8385	(title: "Book 1", year: 2017, edition: "1st", author: "AT1")	(Document)					
	(2) 64294ec54527539ba90d8387	(title: "Book 2", year: 2018, edition: "2nd", author: "AT2")	(Document)					
	(3) 64294ec54527539ba90d8388	(title: "Book 3", year: 2019, edition: "3rd", author: "AT3")	(Document)					
	(4) 64294ec54527539ba90d8389	(title: "Book 4", year: 2020, edition: "4th", author: "AT4")	(Document)					
	(5) 64294ec54527539ba90d8390	(title: "Book 5", year: 2021, edition: "5th", author: "AT5")	(Document)					
	(6) 64294ec54527539ba90d8391	(title: "Book 6", year: 2022, edition: "6th", author: "AT6")	(Document)					
	(7) 64294ec54527539ba90d8392	(title: "Book 7", year: 2023, edition: "7th", author: "AT7")	(Document)					

(a) Abans del restore

(b) Després del restore

Figure 1: Comparativa base de dades

Responem les preguntes de l'apartat comentat que s'ha recuperat la base de dades que hi disposabem quan es va efectuar la copia de seguretat (*mongodump*).

D'aquesta forma s'han sobreescrit aquelles col·leccions que s'han modificat (respecte al *backup*) i no s'han efectuat canvis en la resta de col·leccions.

2.5 Resolució apartat 5

Execució comanda:

```
C:\Users\onasa>mongoexport -d=bookjeje -c=books --type=json -o=tururu.json
2023-04-02T12:08:09.617+0200 connected to: mongodb://localhost/
2023-04-02T12:08:09.725+0200 exported 6 records
```

2.6 Resolució apartat 6

Codi:

```
db.books.aggregate([
  {$set: {pages: {$multiply: [{$rand : {}}, 1000]}}},
  {$set: {pages: {$floor : "$pages"}} }
])
```

Output:

(1) 64294ec54527539ba90d8385	{ title : "Book 1" } (6 fields)	Document
_id	64294ec54527539ba90d8385	ObjectId
author	A2	String
edition	3rd	String
pages	623.0	Double
title	Book 1	String
year	2016	Int32
(2) 64294ec54527539ba90d8387	{ title : "Book 3" } (6 fields)	Document
(3) 64294ec54527539ba90d8388	{ title : "Book 4" } (6 fields)	Document
(4) 64294ec54527539ba90d8389	{ title : "Book 5" } (6 fields)	Document
(5) 64294ec54527539ba90d8386	{ title : "Book 2" } (6 fields)	Document
(6) 64294ec54527539ba90d838a	{ title : "Book 6" } (6 fields)	Document

2.7 Resolució apartat 7

Execució comanda:

```
C:\Users\onasa>mongoimport -d=bookjeje -c=books --type=json --file=tururu.json
connected to: mongoddb://localhost/
2023-04-02T12:13:01.541+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8391') }
2023-04-02T12:13:01.638+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8394') }
2023-04-02T12:13:01.640+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8395') }
2023-04-02T12:13:01.641+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8396') }
2023-04-02T12:13:01.641+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8393') }
2023-04-02T12:13:01.642+0200 continuing through error: E11000 duplicate key error collection: bookjeje.books index:
id_dup key: { _id: ObjectId('642953d54527539ba90d8392') }
2023-04-02T12:13:01.643+0200 0 document(s) imported successfully. 6 document(s) failed to import.
```

Base de dades:

(1) 64294ec54527539ba90d8385	{ title : "Book 1", year : 2016, edition : "3rd", author : "A2" } (5 fields)	Document
_id	64294ec54527539ba90d8385	ObjectId
author	A2	String
edition	3rd	String
title	Book 1	String
year	2016	Int32
(2) 64294ec54527539ba90d8387	{ title : "Book 2", year : 2017, edition : "1st", author : "A1" } (5 fields)	Document
(3) 64294ec54527539ba90d8388	{ title : "Book 4", year : 2014, edition : "2nd", author : "A4" } (5 fields)	Document
(4) 64294ec54527539ba90d8389	{ title : "Book 5", year : 2016, edition : "1st", author : "A2" } (5 fields)	Document
(5) 64294ec54527539ba90d8386	{ title : "Book 3", year : 2019, edition : "1st", author : "A1" } (5 fields)	Document
(6) 64294ec54527539ba90d838a	{ title : "Book 6", year : 2019, edition : "1st", author : "A1" } (5 fields)	Document

Responem les preguntes de l'apartat comentat que quan és fa el *mongoimport* dona errors de claus duplicades.

Però, si és fa un *find* per visualitzar les dades s'observa que no s'afegeixen les dades a la base de dades sino que és sobreescrueixen i, per tant, recuperem les dades que hi teniem abans de afegir l'atribut *pages*.