

Universitat Autònoma de Barcelona
Facultat de Ciències



ENTREGA 9 BDNR

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1 Inicialització de la base de dades

Codi:

```
import csv
from pymongo import MongoClient

# En execució remota
Host = 'localhost' # localhost per connexions a la màquina main
Port = 27017

##### CONNEXIÓ #####

DSN = "mongodb://{host}:{port}".format(Host,Port)

conn = MongoClient(DSN)
bd = conn['comtrade']

#Lectura del csv
comtrade = {}
with open('comtrade.csv', mode='r') as f: # r for read, U for unicode
    reader = csv.reader(f, delimiter=',')
    for n, row in enumerate(reader):
        if not n:
            # Skip header row (n = 0).
            continue
        year, flow, reporter, reporter_iso, partner, partner_iso,
        commodity, unit, wty, value = row

        if partner not in comtrade:
            comtrade[partner] = list()

        comtrade[partner].append({"year":year, "flow": flow,
                                   "reporter": reporter,
                                   "reporter_iso": reporter_iso,
                                   "partner_iso": partner_iso,
                                   "commodity": commodity,
                                   "unit": unit, "wty": wty, "value": value})

    print(comtrade)

if 'comtrade' not in bd.list_collection_names():
    coll = bd.create_collection('comtrade')
else:
    coll = bd['comtrade']

for i in comtrade:
    coll.insert_one({'Partner':i, "info": comtrade[i]})
```

2 Resolució apartat 1

Codi:

```
db.comtrade.find({}, {"comtrade.Partner":1,
                      "value":{$slice: ["$info.value",0,7]},
                      "reporter":{$slice: ["$info.reporter",0,7]},
                      "year":{$slice: ["$info.year",0,7]}})
```

Output:

Key	Value	Type
(1) 64103466aa363868e241d8c8	{ value : ["53737148", "52346017"], reporter : ["Mexico", "Mexico"], year : ["2018", "2019"] } (4 fields)	Document
_id	64103466aa363868e241d8c8	ObjectId
reporter	Array[2]	Array
0	Mexico	String
1	Mexico	String
value	Array[2]	Array
0	53737148	String
1	52346017	String
year	Array[2]	Array
0	2018	String
1	2019	String
(2) 64103466aa363868e241d8c9	{ value : ["425369", "492147"], reporter : ["Mexico", "Mexico"], year : ["2018", "2019"] } (4 fields)	Document
(3) 64103466aa363868e241d8ca	{ value : ["29976"], reporter : ["Mexico"], year : ["2018"] } (4 fields)	Document
(4) 64103466aa363868e241d8cb	{ value : ["195582", "292368"], reporter : ["Mexico", "Mexico"], year : ["2018", "2019"] } (4 fields)	Document
(5) 64103466aa363868e241d8cc	{ value : ["30671270", "28565040"], reporter : ["Mexico", "Mexico"], year : ["2018", "2019"] } (4 fields)	Document
(6) 64103466aa363868e241d8cd	{ value : ["115180", "124605"], reporter : ["Mexico", "Mexico"], year : ["2018", "2019"] } (4 fields)	Document

3 Resolució apartat 2

Codi:

```
db.comtrade.updateMany({"info":{$elemMatch: {"unit": {$ne:"litres"}}}},
                        {$set:{"info.$unit":"litres"}})
```

Output:

Key	Value	Type
(1)	{ acknowledged : true, matchedCount : 34, modifiedCount : 34 }	Object
acknowledged	true	Bool
matchedCount	34	Int32
modifiedCount	34	Int32

4 Resolució apartat 3

Codi:

```
db.comtrade.deleteMany({"Partner":"Italy"})
```

Output:

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

5 Resolució apartat 4

Codi:

```
db.comtrade.update({"info.value":{"$eq:0}},  
                  {$set:{"info.$[element].value":1000}},  
                  {arrayFilters:[{"element":{"$eq:0}}]})
```

Output:

Key	Value	Type
(1)	{ acknowledged : true, matchedCount : 0, modifiedCount : 0 }	Object
acknowledged	true	Bool
matchedCount	0	Int32
modifiedCount	0	Int32