Mongo DB Assignment

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1) Kinsmen: Full name and address of UK clients with 2nd surname.

```
db.land.aggregate(
        {$match:

                {"contract.country":"United Kingdom","Client.Surname":{$size:2}}
        },
        {$project:{

                "contract.address":1, fullname: {

                        $concat:["$Client.Name"," ",

                                {$arrayElemAt:

                                ["$Client.Surname", 0 ] }

                                ," "

                                ,

                                {$arrayElemAt: [ "$Client.Surname", 1 ]}

                        ]}

                        , _id: 0

                }

        }
)
```

2) Bargains: Contract ID and month(s) of invoices with at most one tap.

```
db.land.find({$or:
[{$and:[{"Series":{$exists:false}},{"Movies":{$size:1}}]},{$and:[{"Series":{$size:1}},{"Movies":
{$exists:false}}]},{$and:[{"Series":{$exists:false}},{"Movies":{$exists:false}}]}]},{"contract.con
tract ID":1,"billing":1,_id:0})
```

3) Non valid emails (a string, with one 'at' char (@) and one period '.').

```
db.land.find({"Client.Email": {$regex: /.*@[^.]+\.+[^.]+$/}}, {_id:0, "Client.Email":1})
```

4) Dud-land: for each country, how many taps of films produced there
have been laudable attempts (above 30% of its duration seen) but not
achieved (displayed less than 50% of its running time).

```
db.land.aggregate({ $match:{"Movies.Viewing PCT":{$gte: 30, $lte:50}} }, {
$group:{_id:"$contract.country", "TAPS":{$sum:1}} } )
```

5) Yearly total: report every client (DNI, full name), with totals (amount,
#taps, traffic in minutes displayed)

```
db.land.aggregate({$project:{"TAPS":{$concatArrays:["$Movies","$Series"]}
                                           ,"TOTAL":1
                                           ,"Movies.Viewing PCT":1
                                           ,"Series.Viewing PCT":1
                                           ,MDuration:"$Movies.Details.Duration"
                                           ,SDuration:"$Series.Avg duration"
                                           ,DNI:"$Client.DNI"
                                           ,fullname:
{$concatArrays:[["$Client.Name"],["$Client.Surname"]]}}},
                             {$unwind:"$TAPS"},
                             {$group:{_id:{_id:"$_id"},
                                           "TotalAmount":{$addToSet:"$TOTAL"},
                                           "DNI":{$addToSet:"$DNI"},
                                           "FullName":{$addToSet:"$fullname"},
                                           "TAPS":{$sum:1},
                                           "Min
Series":{$sum:{$multiply:["$TAPS.Avg duration",{$divide:["$TAPS.Viewing PCT",100]}]} },
                                           "Min
Movies":{$sum:{$multiply:["$TAPS.Details.Duration",{$divide:["$TAPS.Viewing PCT",100]}]} } }
}},{$project:{"DNI":1,"FullName":1,"TotalAmount":1,"TAPS":1,TOTALMIN:{$add:["$Min
Series","$Min Movies"]}}}})
```