

Universitat Autònoma de Barcelona
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ENTREGA 11 BDNR

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1 Resolució apartat 1

Codi:

```
db.products.aggregate([{$group: {_id: "$category"}}])
```

Output:

(1) Health	{}	Document
_id	Health	String
(2) Kids	{}	Document
_id	Kids	String

2 Resolució apartat 2

Codi:

```
db.products.aggregate([
  {$group: {_id: "$category", total: {$sum: "$stock"}}},
  {$sort: {total: -1}}
])
```

Output:

(1) Kids	{ total : 56 }	Document
_id	Kids	String
total	56	Int32
(2) Health	{ total : 39 }	Document

3 Resolució apartat 3

Codi:

```
db.products.aggregate([
  {$match: {"price": {$lte: 5}}},
  {$addFields: {"total": {$sum: "$ratings.rating"}}},
  {$addFields: {"miau": {$size: "$ratings"}}},
  {$addFields: {"guau": {$divide: ["$total", "$miau"]}}},
  {$group: { _id: "$category", n: {$sum: 1}, t: {$sum: "$guau"}},
  {$addFields: {"mitjana": {$divide: ["$t", "$n"]}}}
])
```

Output:

(1) Health	{ n : 4, t : 15, mitjana : 3.75 } (4 fields)	Document
_id	Health	String
mitjana	3.75	Double
n	4	Int32
t	15	Double
(2) Kids	{ n : 2, t : 7, mitjana : 3.5 } (4 fields)	Document

4 Resolució apartat 4

Codi:

```
db.products.aggregate([
  {$match: {$and: [{"price":{$gte:20}}, {"ratings":{$exists:true}}]}},
  {$addFields: {"total":{$sum:"$ratings.rating"}}},
  {$addFields: {"miau": {$size: "$ratings"}}},
  {$addFields: {"mitjana": {$divide: ["$total", "$miau"]}}},
  {$project: {"category":1, "name":1, "mitjana":1}}
])
```

Output:

▶ (1) 6417840709c9936f8cfe0e6	{ category : "Health", name : "dumbbells", mitjana : 5 } (4 fields)	Document
▶ (2) 6417840709c9936f8cfe0e7	{ category : "Health", name : "Sneakers", mitjana : 3.5 } (4 fields)	Document

5 Resolució apartat 5

Codi:

```
db.products.aggregate([
  {$group: { _id: "$category", n : {$sum: 1}, t: {$sum: "$price"} }},
  {$addFields: {"mitjana":{$divide: ["$t", "$n"]}}},
  {$addFields: {"sumaPreus":"$t"}},
  {$sort:{"mitjana":1}}
])
```

Output:

▶ (1) Kids	{ n : 4, t : 57.230000000000004, mitjana : 14.307500000000001, sumaPreus : 57.230000000000004 } (5 fields)	Document
▶ (2) Health	{ n : 4, t : 110.98, mitjana : 27.745, sumaPreus : 110.98 } (5 fields)	Document

6 Resolució apartat 6

Codi:

```
db.products.aggregate([
  {$match: {"price":{$lte:50}}},
  {$sortByCount: "$category"}
])
```

Output:

Key	Value	Type
▶ (1) Kids	{ count : 4 }	Document
▶ (2) Health	{ count : 3 }	Document

7 Resolució apartat 7

Codi:

```
db.products.aggregate([
  {$addFields: {
    "range":{
      $concat:[
        {$cond: [{ $lte:["$price", 10]}, " Entre 0 i 10"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 20]},
          { $gt:["$price", 10]}]}, " Entre 10 i 20"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 30]},
          { $gt:["$price", 20]}]}, " Entre 20 i 30"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 40]},
          { $gt:["$price", 30]}]}, " Entre 30 i 40"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 50]},
          { $gt:["$price", 40]}]}, " Entre 40 i 50"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 60]},
          { $gt:["$price", 50]}]}, " Entre 50 i 60"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 70]},
          { $gt:["$price", 60]}]}, " Entre 60 i 70"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 80]},
          { $gt:["$price", 70]}]}, " Entre 70 i 80"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 90]},
          { $gt:["$price", 80]}]}, " Entre 80 i 90"," "]},
        {$cond: [{ $and:[{ $lte:["$price", 100]},
          { $gt:["$price", 90]}]}, " Entre 90 i 100"," "]}
      ]
    }
  }},
  {$group: { _id: "$range", llista: {$addToSet: "$name"},
    categories : {$addToSet: "$category"}}
})
```

Output:

(1) Entre 0 i 10	{ llista : ["t-shirt", "band-aids", "Cards game", "Face Mask"], categories : ["Kids", "Health"] }	Document
_id	Entre 0 i 10	String
categories	Array[2]	Array
llista	Array[4]	Array
0	t-shirt	String
1	band-aids	String
2	Cards game	String
3	Face Mask	String
(2) Entre 70 i 80	{ llista : ["Sneakers"], categories : ["Health"] }	Document
(3) Entre 30 i 40	{ llista : ["jacket", "dumbbells"], categories : ["Health", "Kids"] }	Document
(4) Entre 10 i 20	{ llista : ["Soft toy"], categories : ["Kids"] }	Document

8 Resolució apartat 8

Codi:

```
db.products.aggregate([
  {$match: {"ratings":{"$exists:true"}}},
  {$addFields: {"total":{"$sum:"$ratings.rating"}}},
  {$addFields: {"miau": {"$size: "$ratings"}}},
  {$addFields: {"avgRating": {"$divide: ["$total", "$miau"]}}},
  {$project: {"category":1, "name":1, "avgRating":1}}
])
```

Output:

▶ (1) 64186e581c004a3c04399e79	{ category : "Health", name : "Face Mask", avgRating : 3.5 } (4 fields)	Document
▶ (2) 64186e581c004a3c04399e7a	{ category : "Health", name : "band-aids", avgRating : 4 } (4 fields)	Document
▶ (3) 64186e581c004a3c04399e7b	{ category : "Health", name : "dumbbells", avgRating : 5 } (4 fields)	Document
▶ (4) 64186e581c004a3c04399e7c	{ category : "Health", name : "Sneakers", avgRating : 3.5 } (4 fields)	Document
▶ (5) 64186e591c004a3c04399e7d	{ category : "Kids", name : "t-shirt", avgRating : 3.5 } (4 fields)	Document