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MPSI 2

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DS 09

1. SELECT idpatient FROM medical WHERE etat = "hernie discale"

2. SELECT nom, prenom FROM patient JOIN medical ON patient.id = medical.idpatient WHERE etat = "spondylolisthesis"

3. SELECT etat, COUNT(idpatient) FROM medical GROUP BY etat

4.

5. pour data : $N \times 6 = 600\,000$
   pour etat : $N \times 3 = 300\,000$

   On a besoin de $N \times 6 \times 6 + N = 2\,500\,000$

   donc de 2,5 Mo.

6.
```
def separationParGroupe(data, etat):
    retour = [[], [], []]
    N = len(data)
    for i in range(N):
        retour[etat[i]].append(data[i])
    return retour
```

7. ARGS1 = (n, n, (i+1) * (j+1))

ARGS2 = groupe[i], groupe[j], marker = mark[k]

ARGS3 = data[i]

TEST = i != j

8.

9. $x_{norm\,j} = \frac{x_j - min(X)}{max(X) - min(X)}$

10. min_max(X):

```
min, max = X[0], X[0]
for i in X:
    if i < min:
        min = i
    if i > max:
        max = i
return min, max
```