DM3 - Base de données

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21 décembre 2020

1 Utilisation directe de la base

Question 1 :

```sql
SELECT ville
FROM Postes
WHERE region = "Québec"
```

Question 2 :

```sql
SELECT SUM(nbPeaux)
FROM Achats
WHERE annee = 1871 AND espece = "lynx"
```

Question 3 :

```sql
SELECT SUM(nbPeaux)
FROM Achats JOIN Postes ON Achats.idPoste = Postes.idPoste
WHERE annee = 1871 AND region = "Manitoba" AND espece = "lynx"
```

Question 4 :

```sql
SELECT annee, SUM(nbPeaux) AS Quantite
from Achats
WHERE espece = "lynx"
GROUP BY annee
```

Question 5 :

```sql
SELECT max(Quantite)
FROM (       SELECT annee, SUM(nbPeaux) AS Quantite
        from Achats
        WHERE espece = "lynx"
        GROUP BY annee
         )
```

Question 6 :

```
SELECT annee,SUM(QuantiteLievre) AS PeauxLievre,SUM(QuantiteLynx) AS PeauxLynx
FROM(
        SELECT annee, SUM(nbPeaux) AS QuantiteLievre,0 AS QuantiteLynx
        from Achats
        WHERE espece = "lievre"
        GROUP BY annee

        UNION

        SELECT annee, 0 AS QuantiteLievre,SUM(nbPeaux) AS QuantiteLynx
        from Achats
        WHERE espece = "lynx"
        GROUP BY annee
) group by annee
```

Question 7 :

```
SELECT Achats.idPoste, AVG(prix)
FROM Achats JOIN Postes on Achats.idPoste = Postes.idPoste
GROUP BY Achats.idPoste
```

Question 8 :

```
SELECT Achats.idPoste, MIN(prix)
FROM Achats JOIN Postes on Achats.idPoste = Postes.idPoste
```

2 Interfaçage Python

On suppose que la fonction **executeRequete** renvoie un tableau [1]

Question 1 :

```
def NombreDePeaux(année):
    t=executeRequete("""
    SELECT *
    FROM(
        SELECT annee,SUM(QuantitéLièvre) AS PeauxLièvre,SUM(QuantitéLynx) AS PeauxLynx
        FROM(
                SELECT annee, SUM(nbPeaux) AS QuantitéLièvre,0 AS QuantitéLynx
                from Achats
                WHERE espece = "lievre"
                GROUP BY annee

          UNION

        SELECT annee, 0 AS QuantitéLièvre,SUM(nbPeaux) AS QuantitéLynx
                from Achats
```

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[1]. ou un tableau de tableau si il y a plusieurs lignes

```
16                    WHERE espece = "lynx"
17                    GROUP BY annee
18          ) group by annee
19          WHERE annee="""+str(année)
20          )
21          lièvre,lynx = t[1],t[2]
22
23          return(lièvre, lynx)
```

Question 2 :

Afin d'effacer la table Achats, un pirate peut utiliser **NombreDePeaux("1871 ;DROP TABLE Achats")**

Question 3 :

```
1    def anneeManquante(T):
2        d=0
3        f=len(T)
4        trouvé=False
5        while not trouvé:
6            m=(d+f)//2
7            if d==f:
8                trouvé=True
9            elif T[m]==1845+m:
10                d=m+1
11            elif T[m]>1845+m:
12                f=m
13        return T[m]-1
```