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# **TP N°1**

## **(SQL Prerequisites)**

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## Database Exploration:

### view the tables of the Database:

```
SELECT *  
FROM information_schema."tables";
```

#### ***products*** table:

view columns :

```
SELECT * FROM  
information_schema.columns isc  
WHERE isc.table_name = 'products'
```

view constraints :

```
SELECT *  
FROM information_schema.table_constraints a,  
information_schema.key_column_usage b  
WHERE a.table_name = 'products'  
AND a.table_name = b.table_name  
AND a.table_schema = b.table_schema  
AND a.constraint_name = b.constraint_name;
```

#### ***purchases*** table

view columns :

```
SELECT * FROM  
information_schema.columns isc  
WHERE isc.table_name = 'purchases'
```

view constraints :

```
SELECT *  
FROM information_schema.table_constraints a,  
information_schema.key_column_usage b  
WHERE a.table_name = 'purchases'  
AND a.table_name = b.table_name  
AND a.table_schema = b.table_schema  
AND a.constraint_name = b.constraint_name;
```

#### ***purchases\_items*** table

view columns :

```
SELECT * FROM  
information_schema.columns isc  
WHERE isc.table_name = 'purchases_items'
```

view constraints :

```
SELECT *
FROM    information_schema.table_constraints a,
information_schema.key_column_usage b
WHERE   a.table_name = 'purchases_items'
AND     a.table_name = b.table_name
AND     a.table_schema = b.table_schema
AND     a.constraint_name = b.constraint_name;
```

### **Users table**

view columns :

```
SELECT * FROM
information_schema.columns isc
WHERE isc.table_name = 'users'
```

view constraints :

```
SELECT *
FROM    information_schema.table_constraints a,
information_schema.key_column_usage b
WHERE   a.table_name = 'users'
AND     a.table_name = b.table_name
AND     a.table_schema = b.table_schema
AND     a.constraint_name = b.constraint_name;
```

### **1- Afficher les produit vendus pendant le mois de Septembre 2011**

```
SELECT count(pr.title),pr.title FROM products pr
JOIN purchase_items pi ON pr.id = pi.product_id
JOIN purchases pu ON pu.id = pi.purchase_id
WHERE pu.created_at BETWEEN '2011-09-01' AND '2011-10-01'
GROUP BY pr.title
```

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### **2-Afficher le nombre de produit vendus pendant le mois d'octobre 2011**

```
SELECT sum(pi.quantity) AS "nombre de produit vendus", EXTRACT( MONTH FROM
pu.created_at) AS "Month" FROM purchases pu
JOIN purchase_items pi ON pi.purchase_id = pu.id
WHERE pu.created_at BETWEEN '2011-10-1' AND '2011-11-1'
GROUP BY "Month"
```

\*\*\*\*\*

### **3-Afficher le nombre de produit vendus pour chaque mois durant l'année 2011**

```
SELECT SUM(pi.quantity) AS "nombre de produit vendus", EXTRACT( MONTH from
pu.created_at) AS "Month" FROM purchases pu
JOIN purchase_items pi on pi.purchase_id = pu.id
WHERE pu.created_at BETWEEN '2011-01-01' AND '2012-01-01'
GROUP BY EXTRACT( MONTH from pu.created_at)
ORDER BY "Month"
```

\*\*\*\*\*

### **4-Afficher le nombre de produit vendus dans chaque état (exemple NY)**

```
SELECT sum(pi.quantity) as "nombre de produit vendus", pu.state FROM purchases pu
JOIN purchase_items pi on pi.purchase_id = pu.id
GROUP BY pu.state
ORDER BY sum(pi.quantity) DESC
```

\*\*\*\*\*

### **5-Afficher le nombre de produit vendus dans chaque état au mois d'Octobre 2011**

```
SELECT SUM(pi.quantity) AS "nombre de produit vendus", pu.state FROM purchases pu
JOIN purchase_items pi ON pi.purchase_id = pu.id
WHERE pu.created_at BETWEEN '2011-10-1' AND '2011-11-1'
GROUP BY pu.state
ORDER BY SUM(pi.quantity) DESC
```