

SW N°4: QUERY OPTIMIZATION

RULE-BASED OPTIMIZATION

SOLUTION

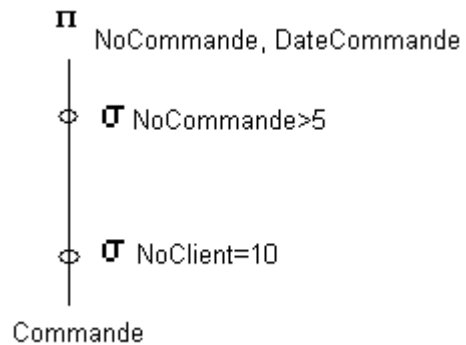
Rappel : les nœuds de l'arbre sont des tables, pas des attributs !!!!

Exercice 1

Question 1

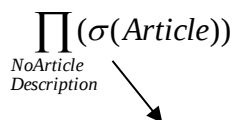
```
SELECT NoCommande, DateCommande
FROM Commande
WHERE
NoClient=10 AND NoCommande>5 ;
```

```
R1 <- SEL (Commande, N°Client=10)
R2 <- SEL (R1, NoCommande>5)
Res <- PROJ (R2, NoCommande, DateCommande)
```

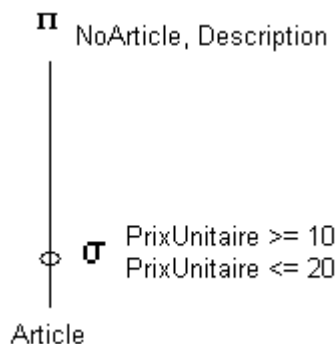


Question 2

```
SELECT NoArticle, Description
FROM Article
WHERE
PrixUnitaire BETWEEN (10, 20);
```



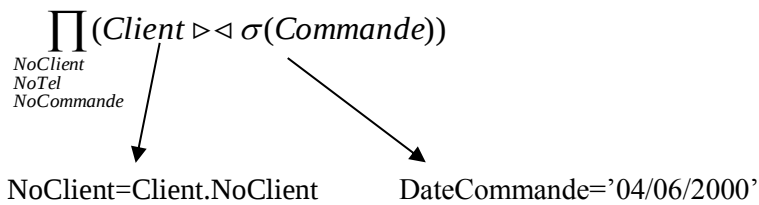
```
PrixUnitaire>=10
PrixUnitaire<=20
```



Question 3

```
SELECT DISTINCT NoClient, NoTel, NoCommande
FROM Client, Commande
WHERE
DateCommande=4/06/2000 AND Client.NoClient=Commande.NoClient;
```

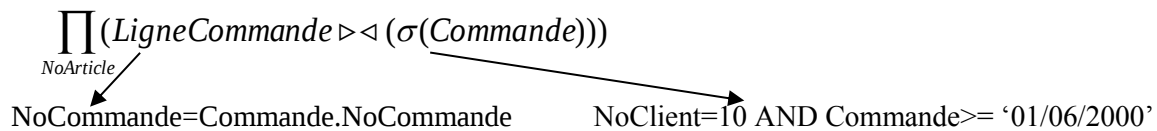
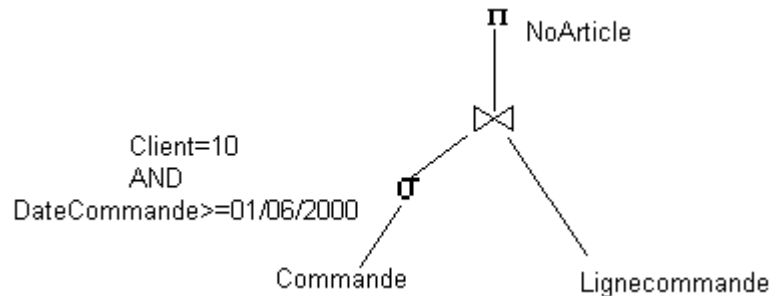
```
R1 <- SEL (Commande, DateCommande='04/06/2000')
R2 <- JOIN (R1, Client ; R1.NoClient=Client.NoClient)
RES <- PROJ (R2 ; NoClient, NoTel, NoCommande)
```



Question 4

```

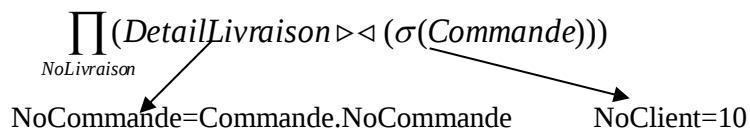
SELECT DISTINCT NoArticle
FROM LigneCommande
WHERE NoCommande
IN
(SELECT NoCommande
 FROM COMMANDE
 WHERE NoClient=10 AND Commande>= '01/06/2000') ;
  
```



Question 5

```

R1 <- SEL (Commande ; NoClient = 10)
R2 <- JOIN ( R1, DetailLivraison ; NoCommande)
RES <- PROJ (R2, NoLivraison)
  
```



Question 6

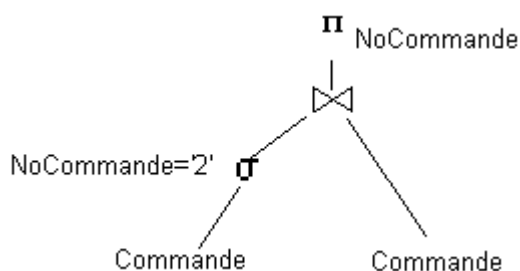
```

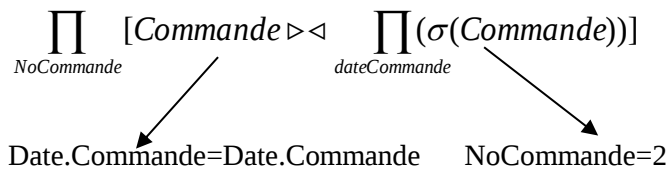
SELECT DISTINCT NoCommande
FROM Commande
WHERE NoCommande
IN
(SELECT DateCommande
 FROM Commande
 WHERE NoCommande='2') ;
  
```

Ou alors on fait une auto jointure comme suit

```

SELECT C1.NoCommande
FROM COMMANDE C1, COMMANDE C2
WHERE C1.DateCommande=C2.DateCommande
AND C2.NoCommande='2' ;
  
```



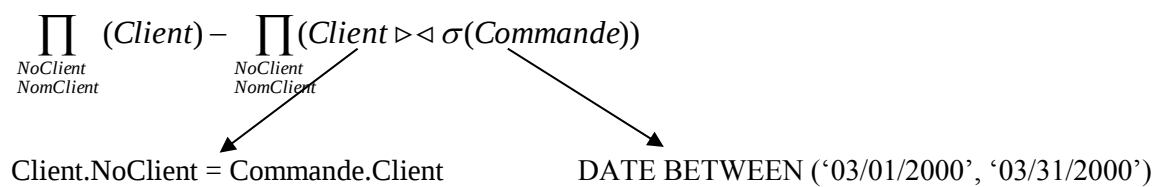
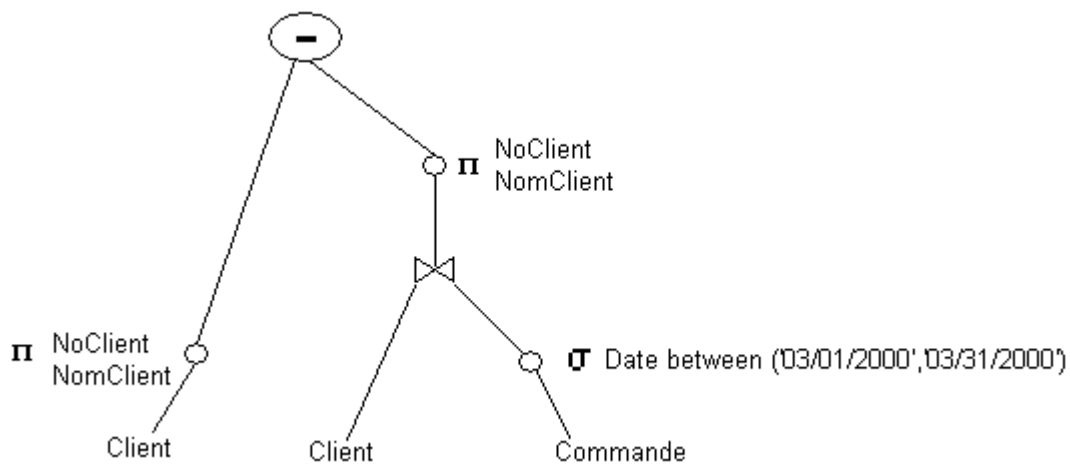


Question 7

```

SELECT NoClient, NomClient
FROM Client
MINUS
(SELECT NoClient, NomClient
FROM Client, Commande
WHERE
Client.NoClient = Commande.Client
AND DATE BETWEEN ('03/01/2000', '03/31/2000') ;

```

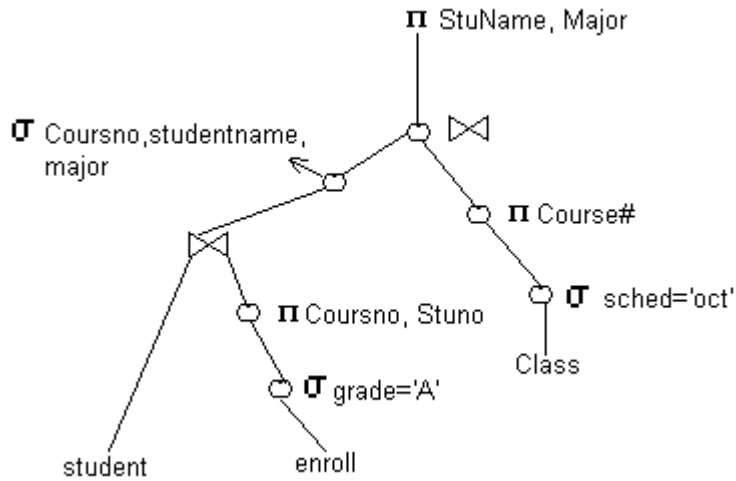


Exercise 2

Rule based optimisation

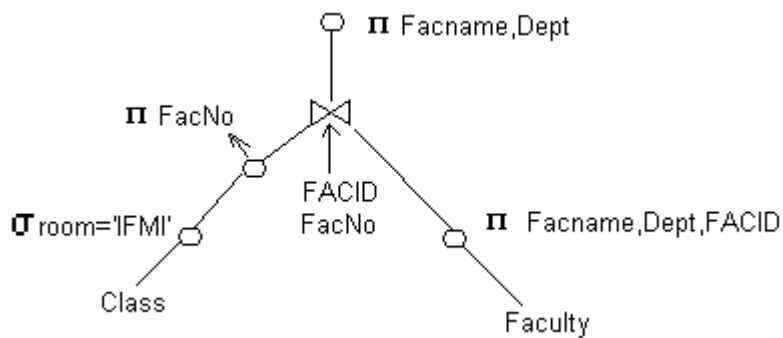
- Pushdown select and project
- Faire operation jointure

1)



2)

Q1=



Q2=

