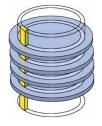
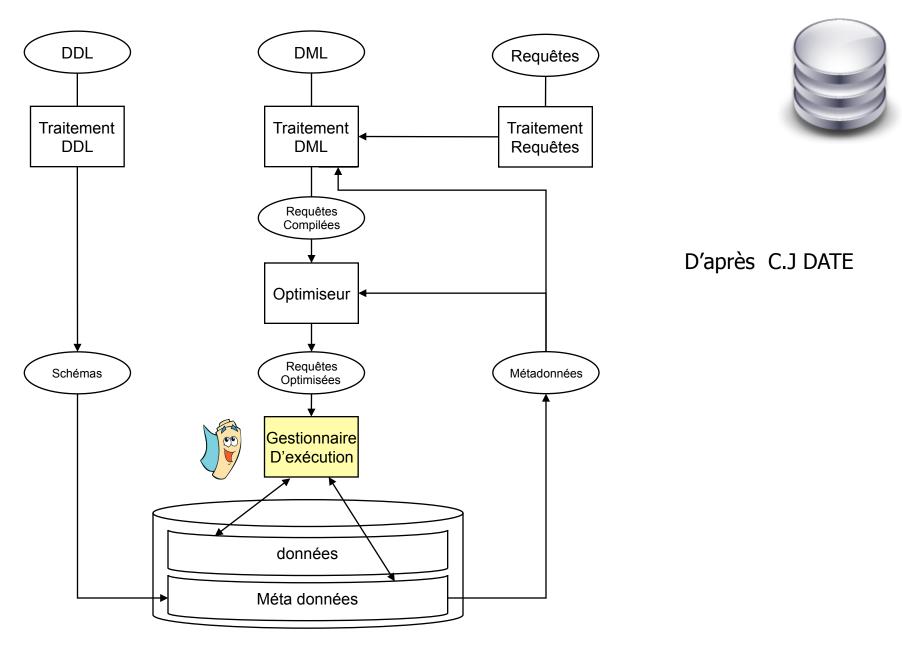


Conception Avancée de Bases de Données



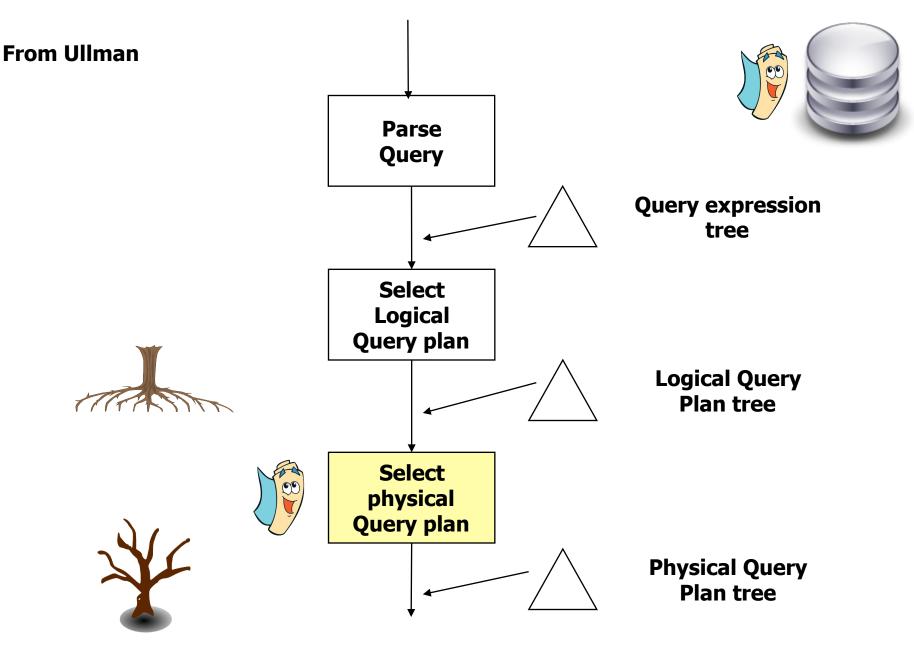
"Disk" Nested Loop Join
"External" Nested Loop Join
Jointure en "mémoire externe"





DDL : langage de définition des données; DML : langage de manipulation des données

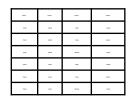
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Du modèle au code



Modèle



Algèbre

 σ owner1=owner2 (Cats \otimes Dogs) = Cat \bowtie Dogs

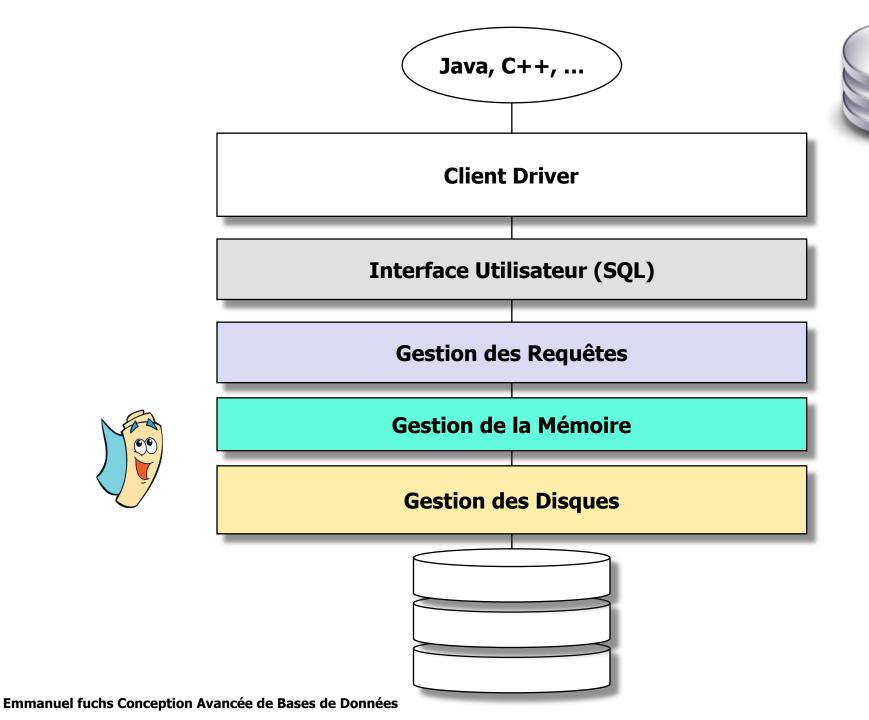


Logiciel



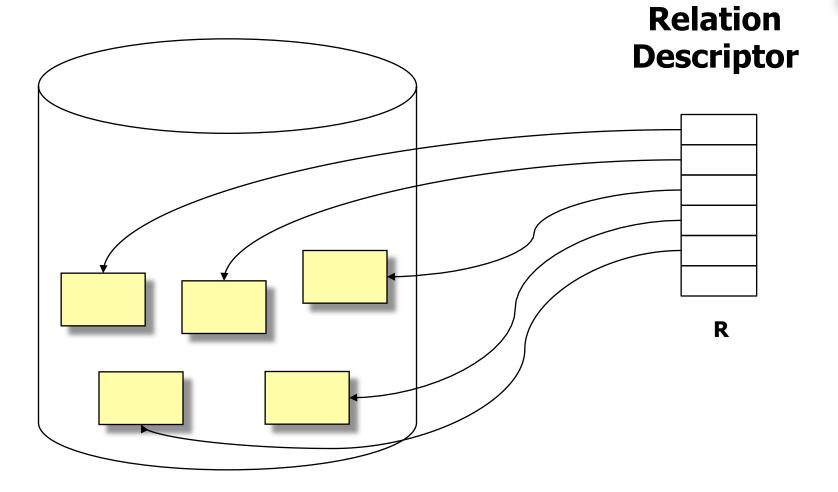
Java, C++,..

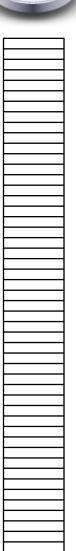




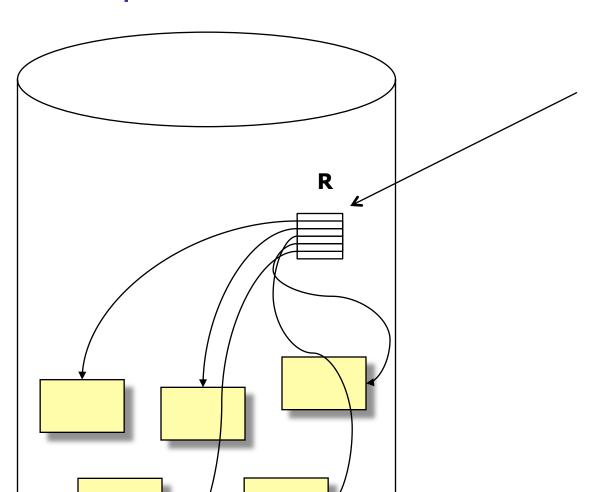
Descripteur de Relation







Descripteur de Relation



Relation Descriptor On Disk



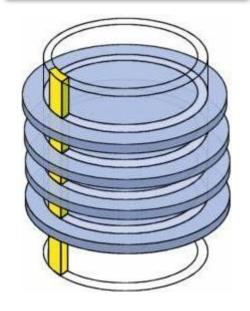


Légende



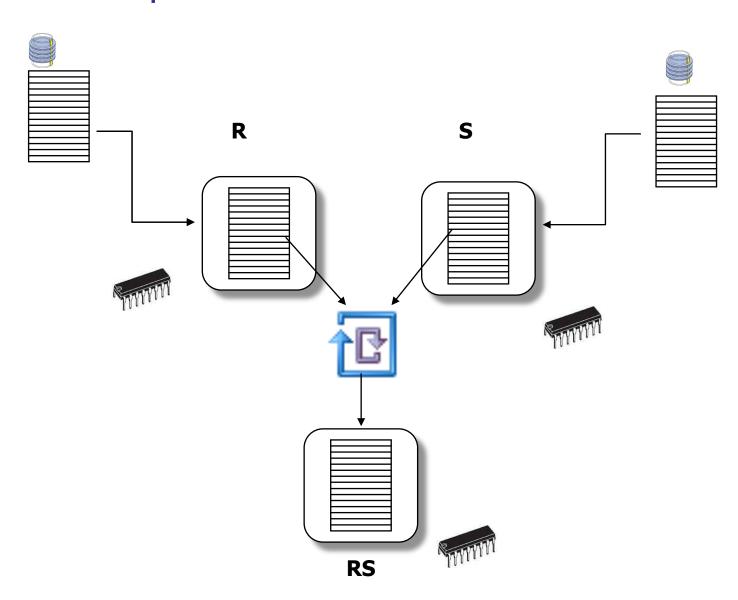
Disque

Mémoire









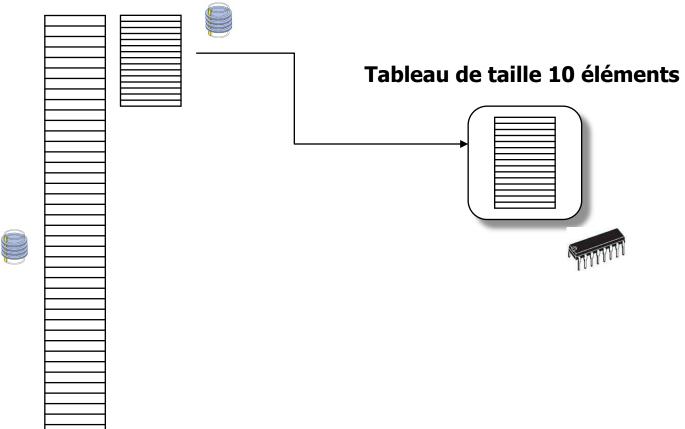
Lecture de R et S





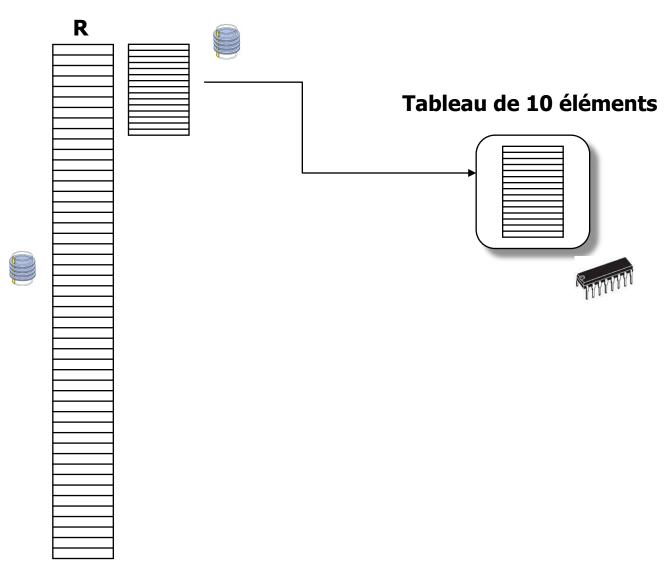




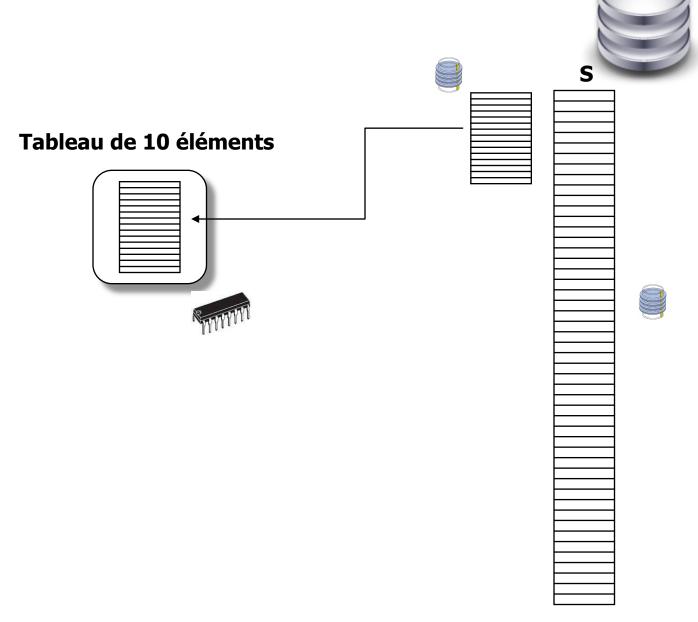


Lecture de R

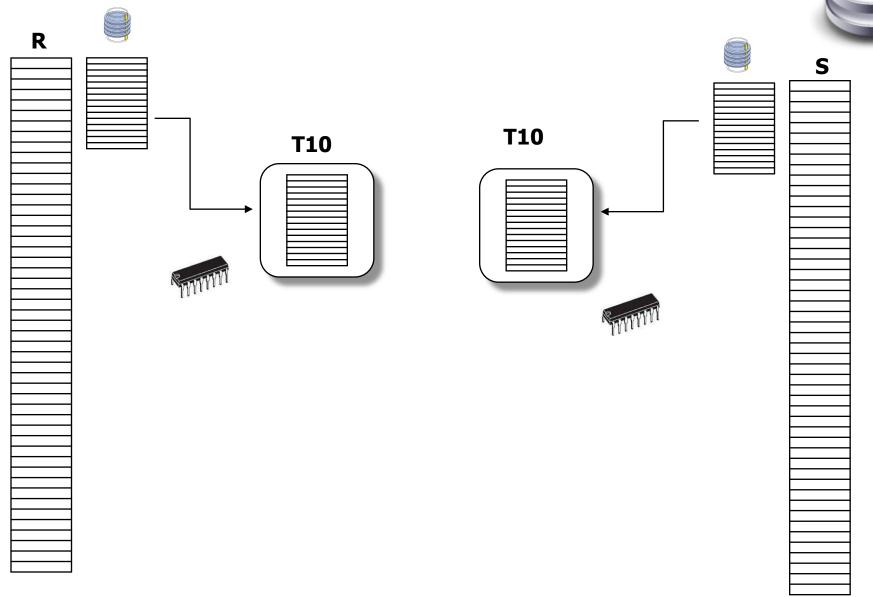




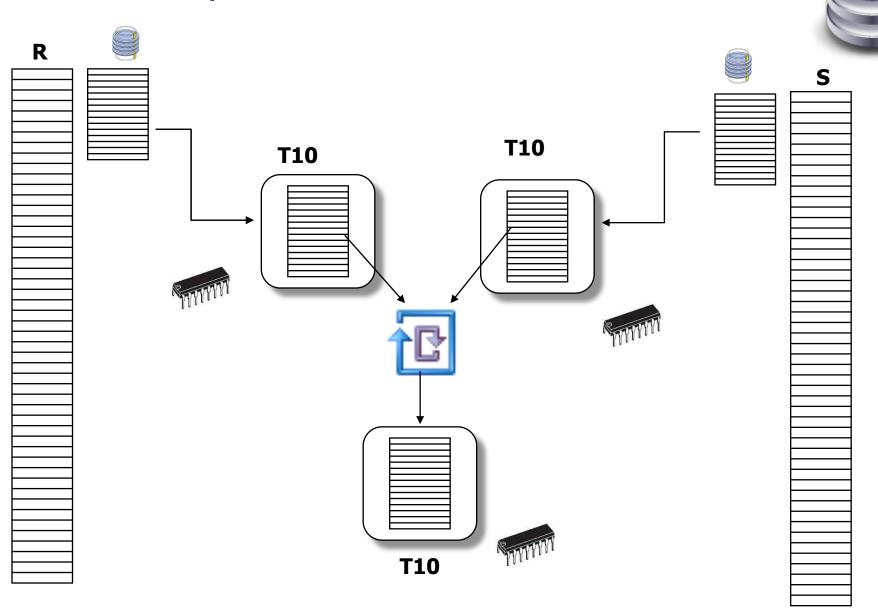
Lecture de S



Lecture de R et S en mémoire centrale









External nested loop join





```
For each block in (R)

Read block r;

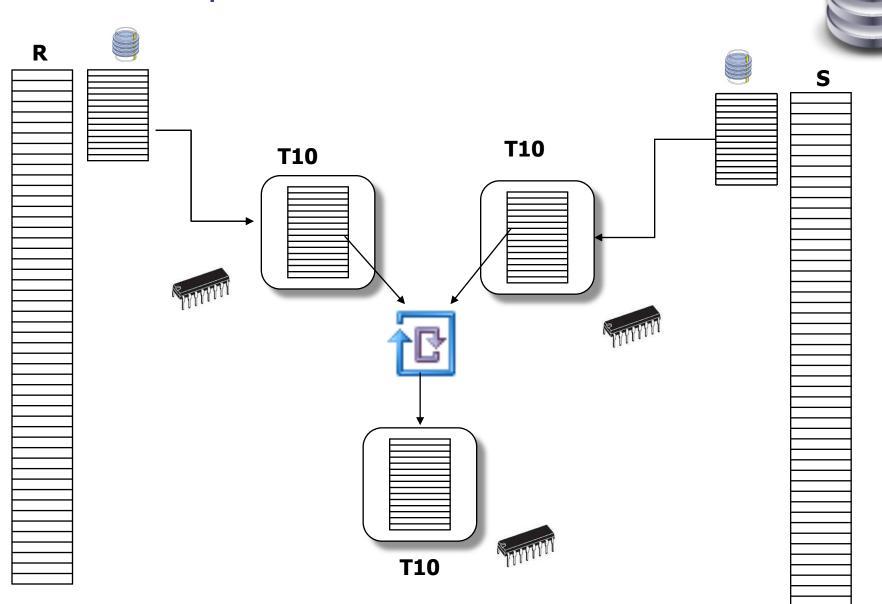
For each block in (S)

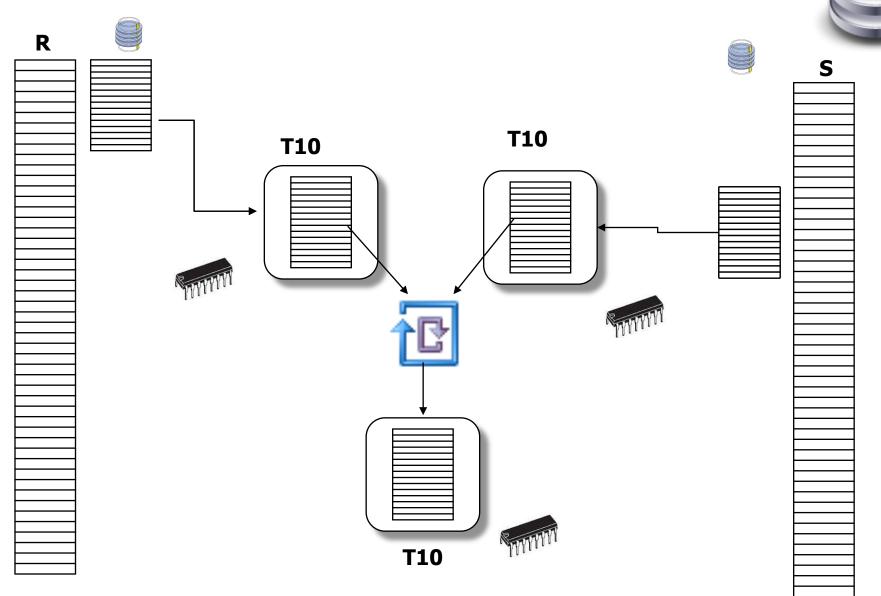
Read block s;

NestedLoop (r,s);

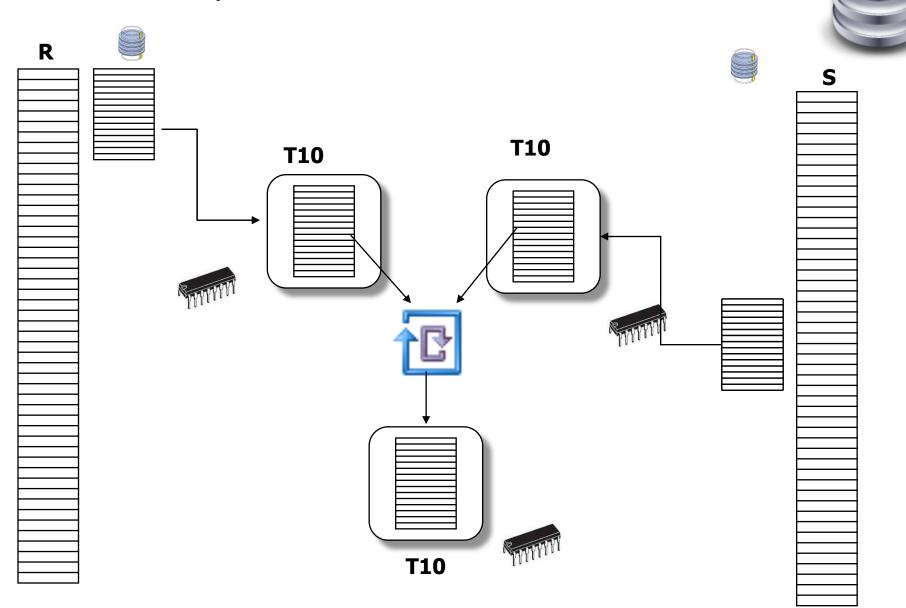
end for;

End for;
```

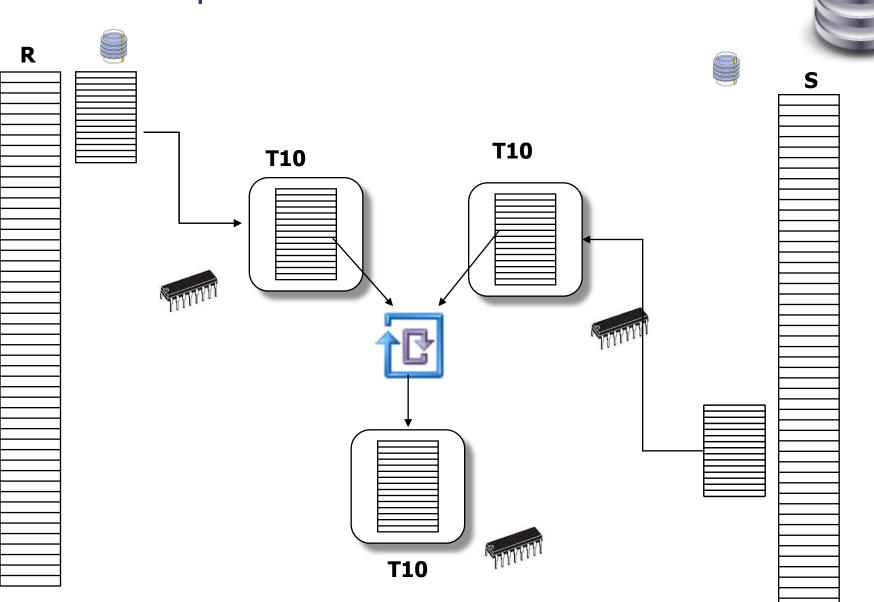


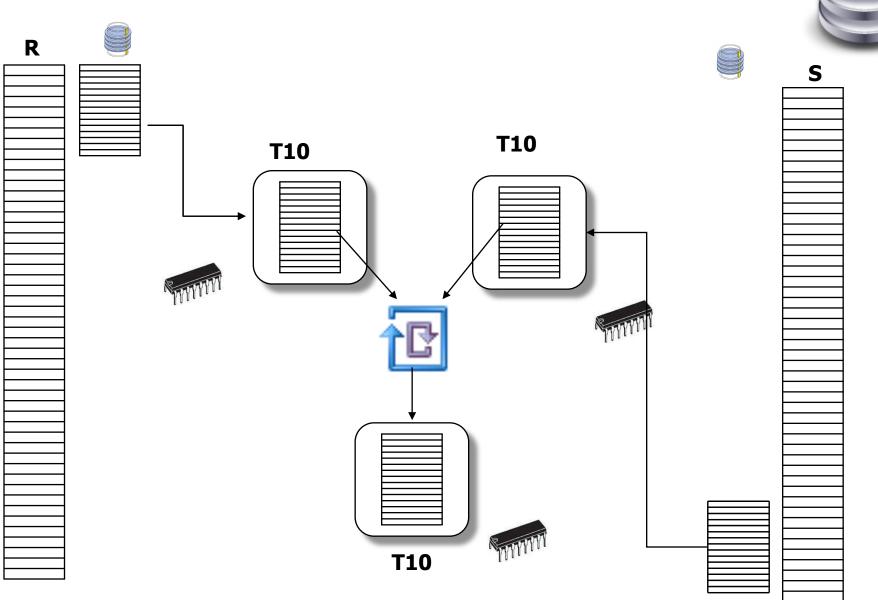




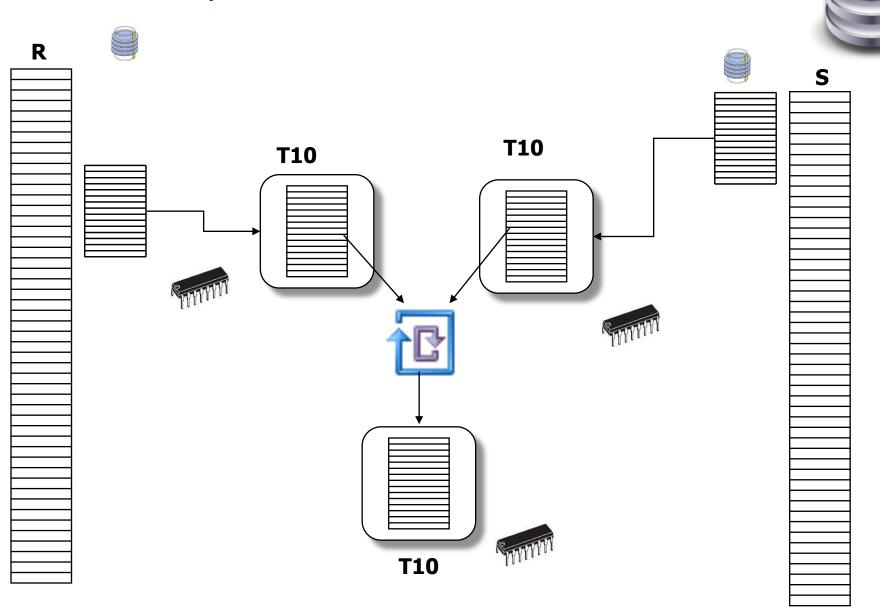


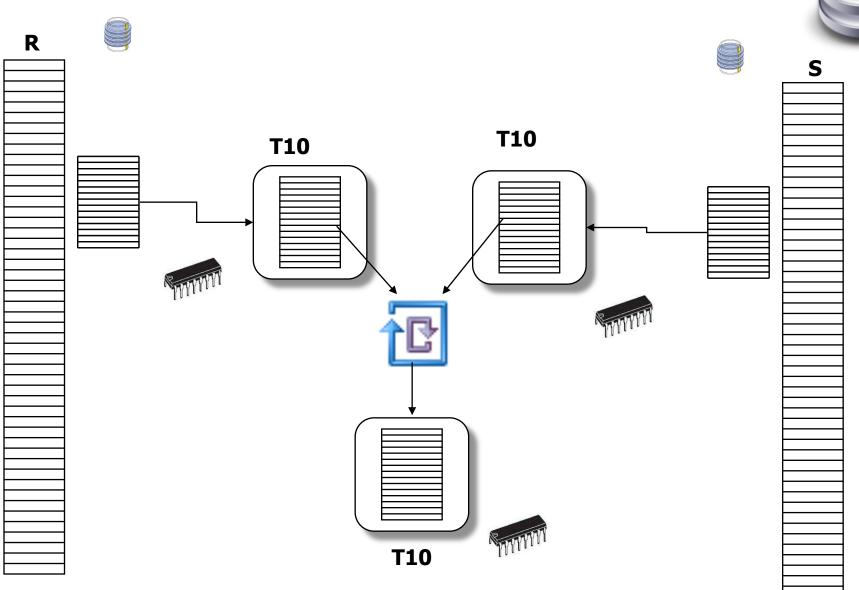


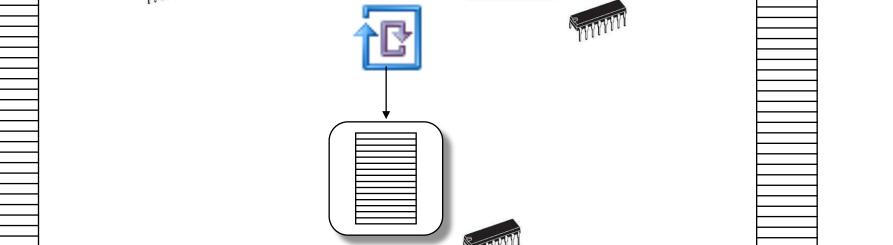


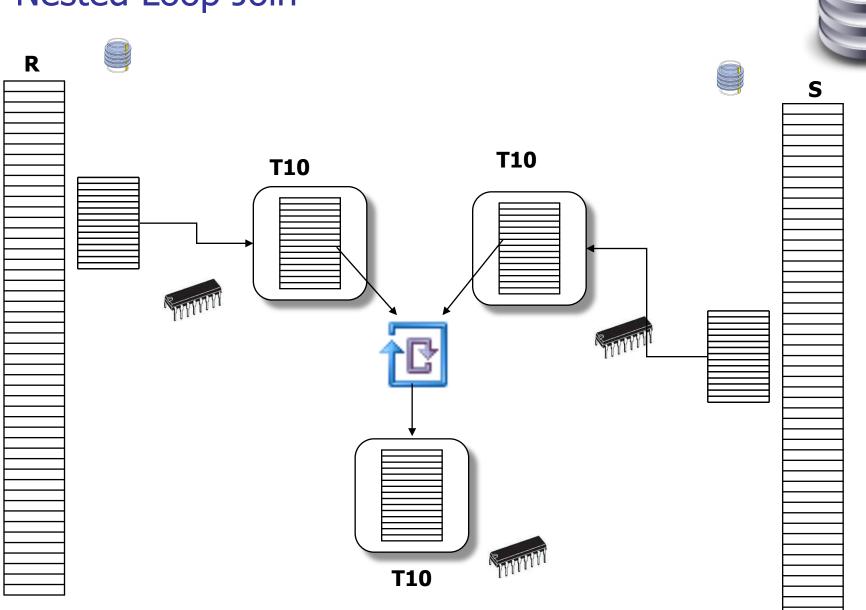




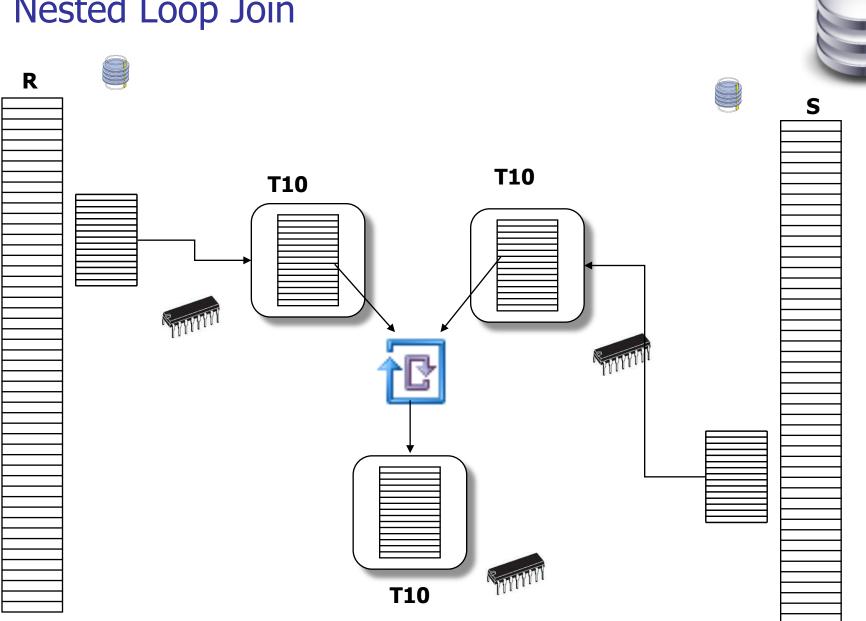




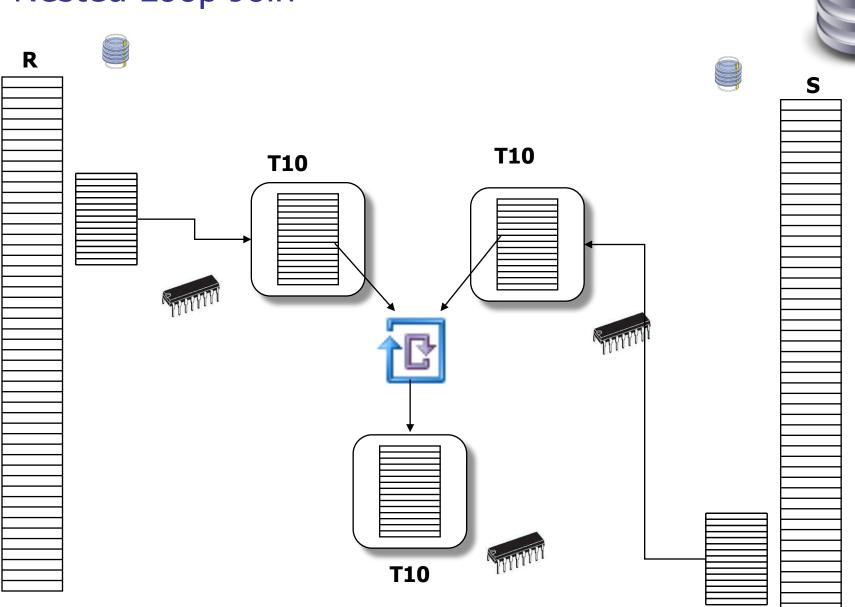




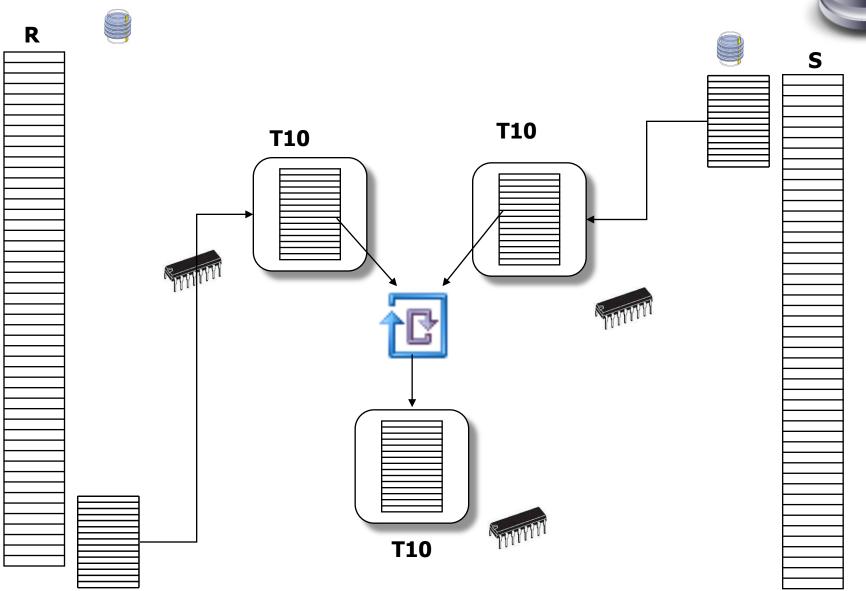




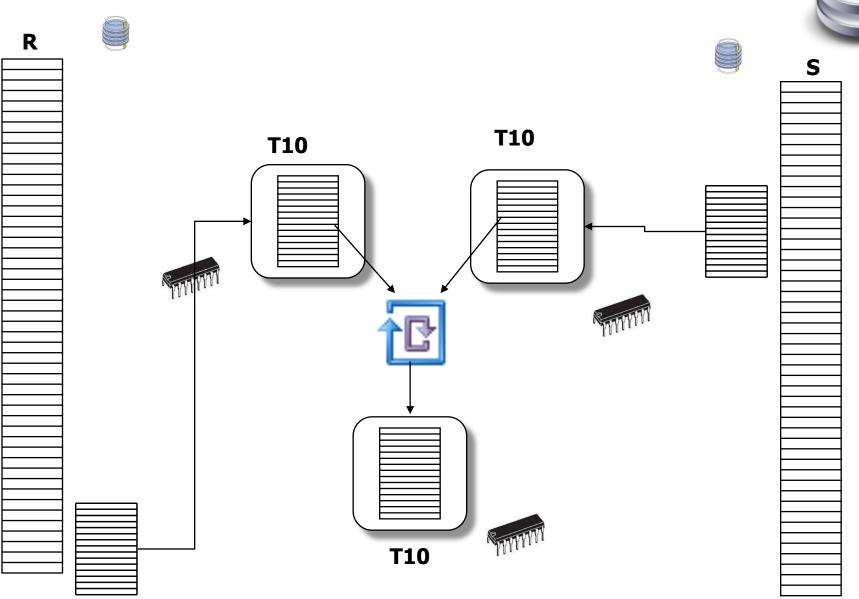




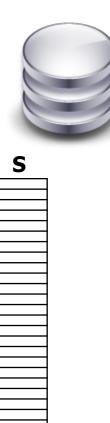


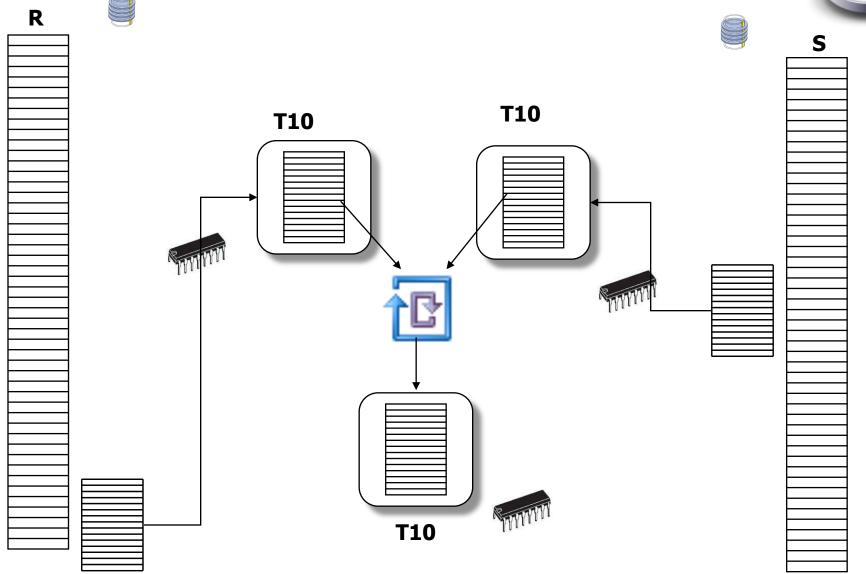




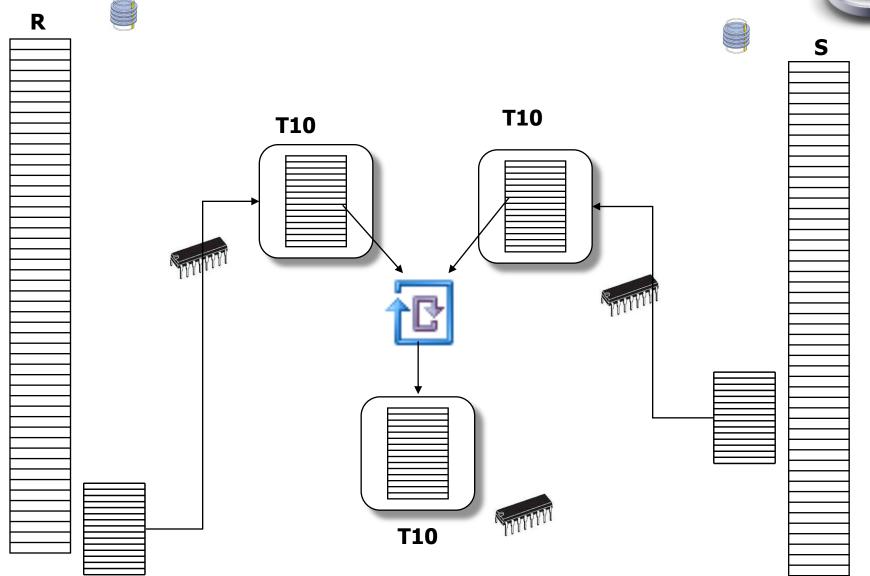




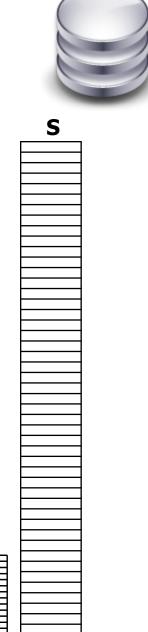


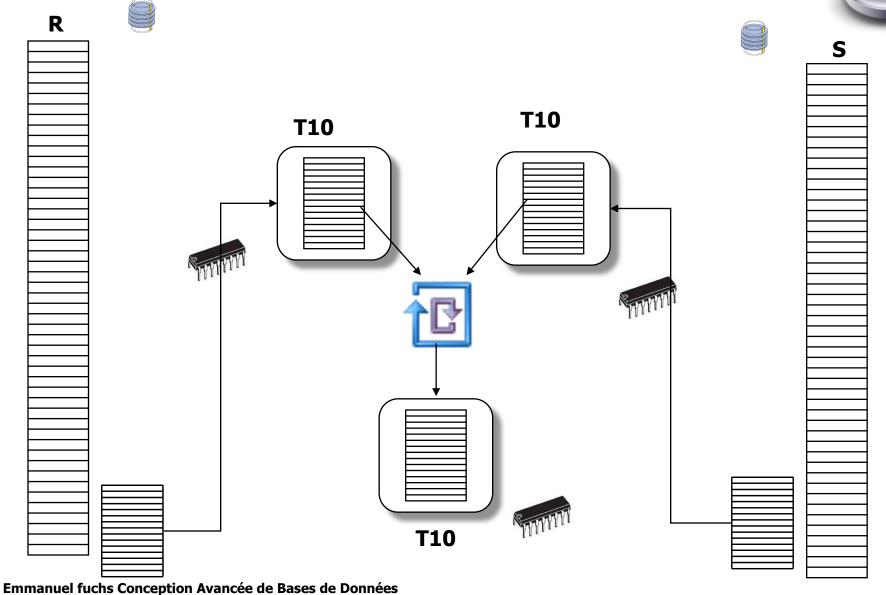






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Coût de « external nested loop »





- Nombre de lectures disques
 - Nombre de blocks de R * Nombre de blocks de S.
 - BR : Nombre de blocks de R
 - BS : Nombre de blocks de S

- ?

