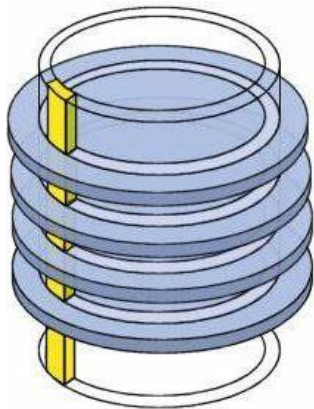




Architectures des Systèmes de Bases de Données

Disk Join Algorithms

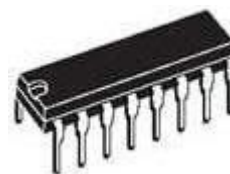
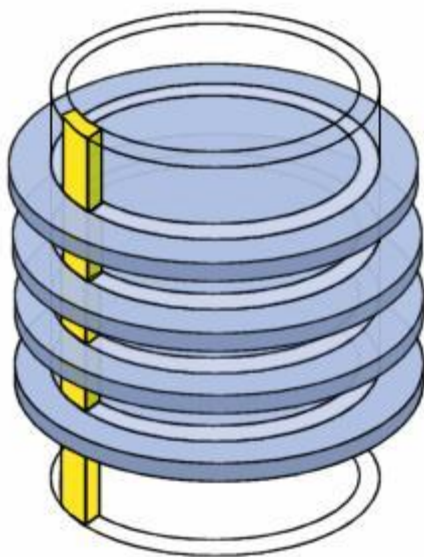


Traduction en cours



Disque

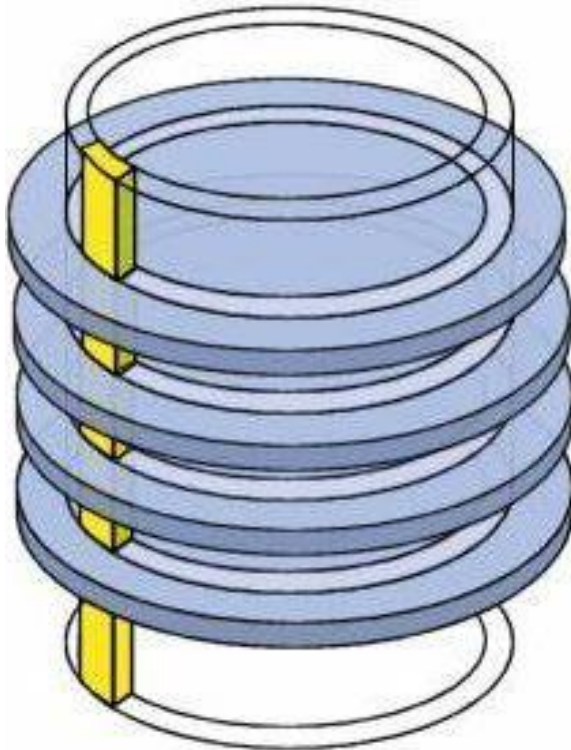
Mémoire



Problème.



- Que se passe-t-il si la taille d'une relation est plus grande que la taille de la mémoire ?



>

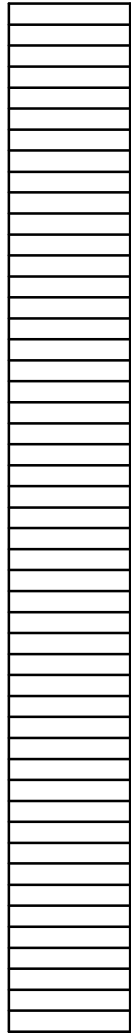
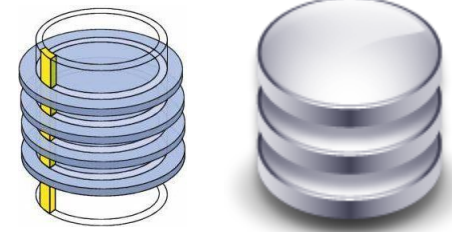


Problème.

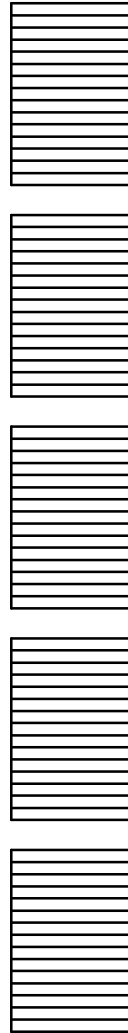


- Que se passe-t-il si la taille d'une relation est plus grande que la taille de la mémoire ?
- ***Il faut découper la relation pour réaliser les opérations par « segments »***
- Un SGBD gère lui-même l'espace disque comme, à la place, du système d'exploitation.
 - Les relations sont stockées sur disque sous forme de segments non contigus.

Relations sur disque disques

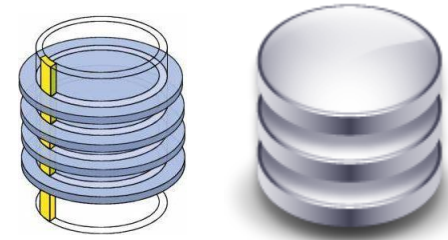


Relation



**Segments
De relation**

Relations sur disque



Relation



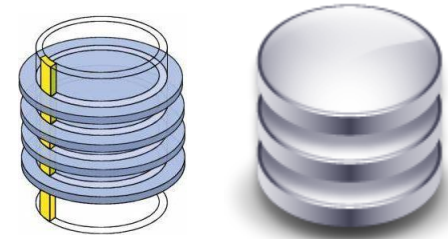
**Segments
De relation**



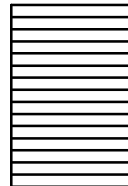
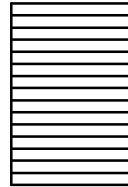
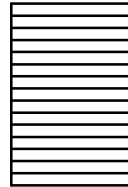
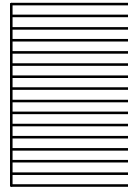
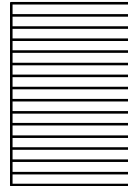
**Les opérations sont
réalisées sur les segments**



Relations sur disque



Relation



**Segments
De relation**

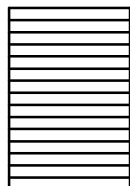
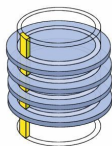
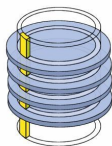
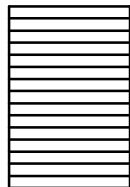
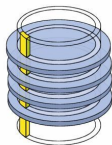
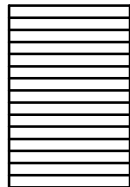
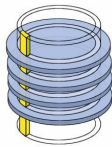
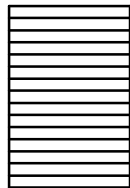
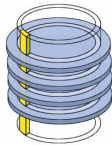
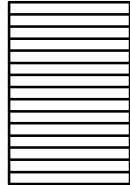
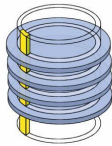
**Les opérations sont
réalisées sur les segments**



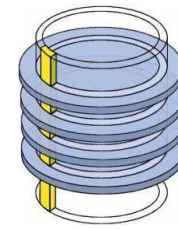
**Chaque segment
Est chargé en mémoire
Au cours de l'opération**

Relations sur disque

Relation



**Segments
De relation**

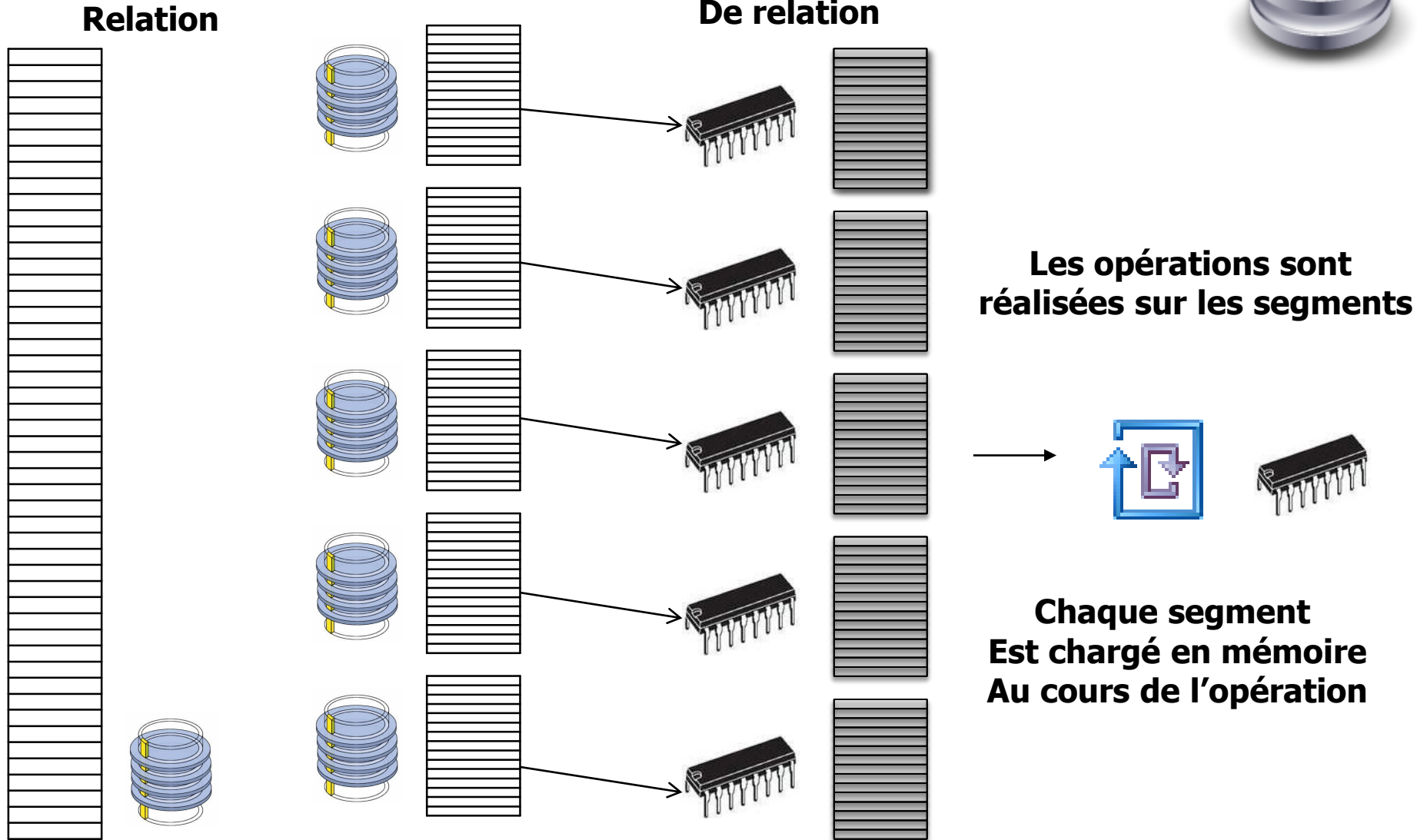


**Les opérations sont
réalisées sur les segments**



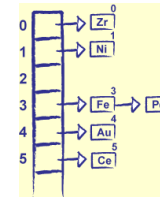
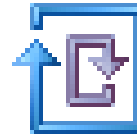
**Chaque segment
Est chargé en mémoire
Au cours de l'opération**

Relations sur disque



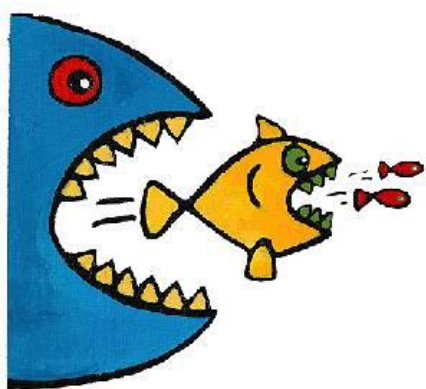
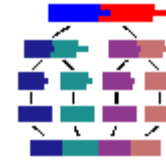
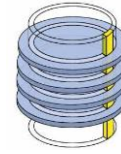
Memory join

- Nested loop
- Merge join
- Hash join

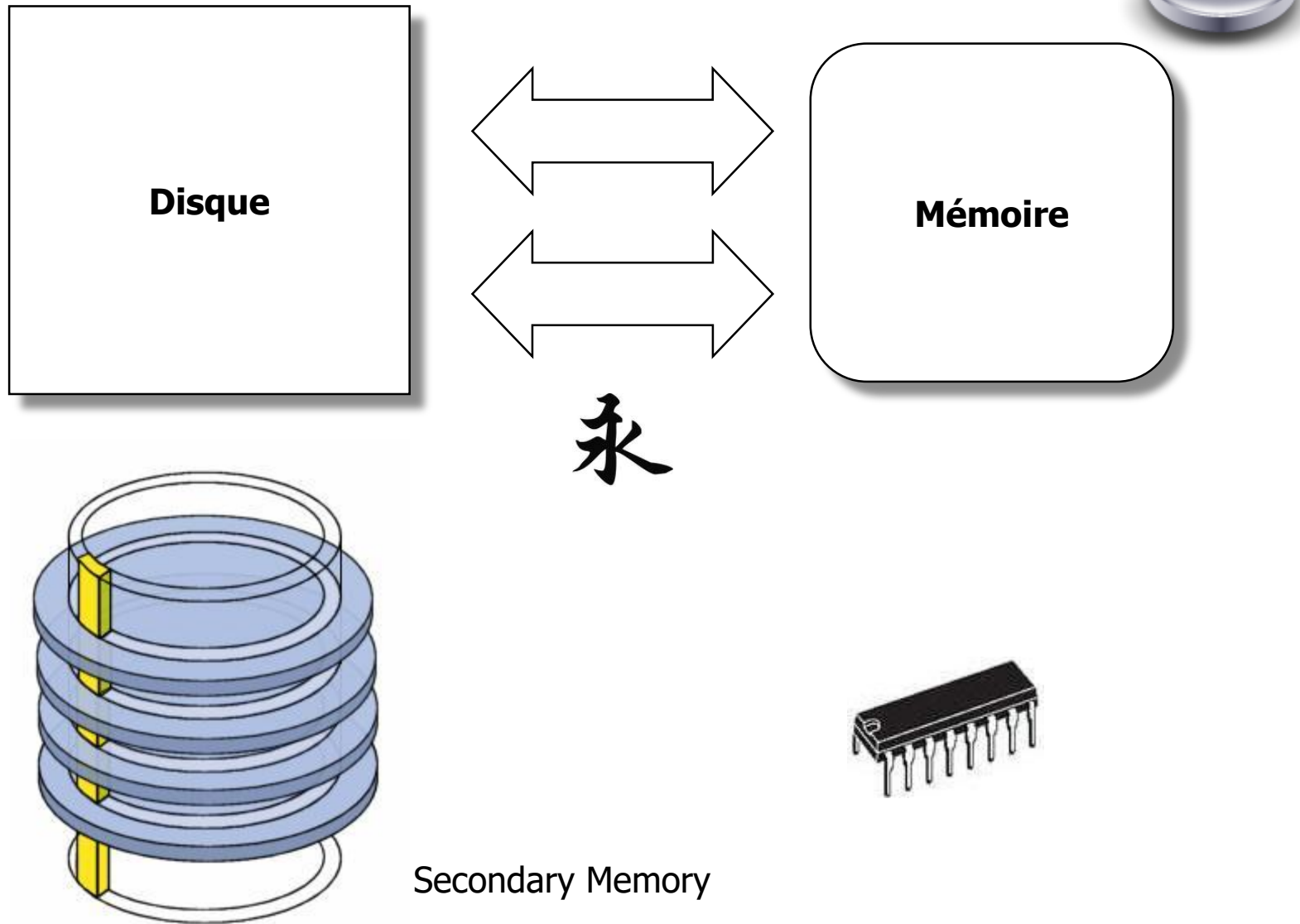


Disk algorithms

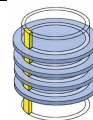
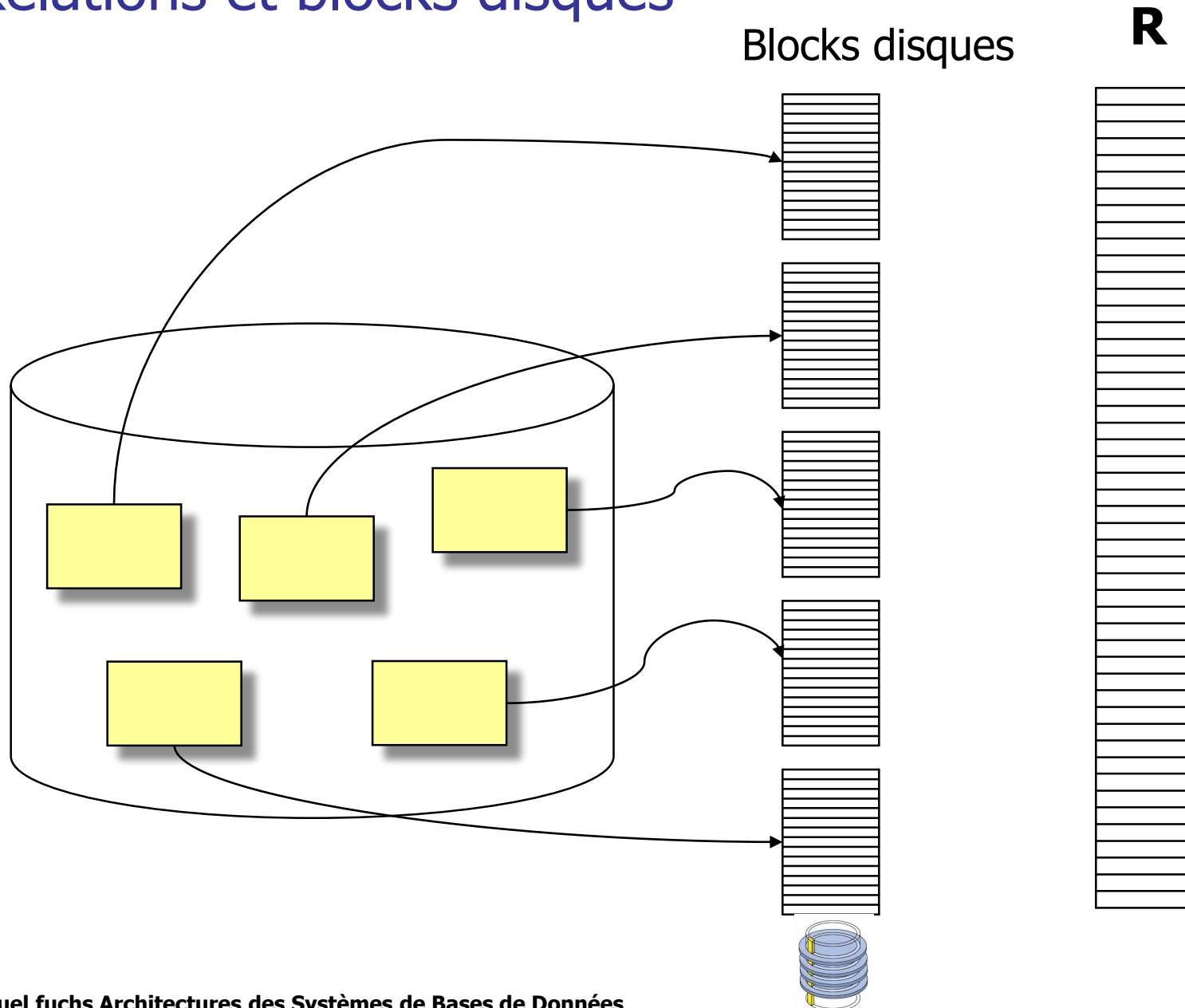
- Sort merge
- TBC



Mixed storage space

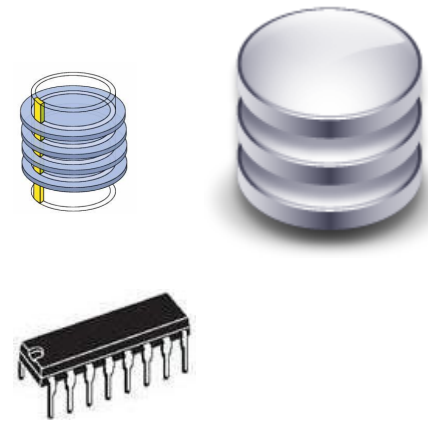
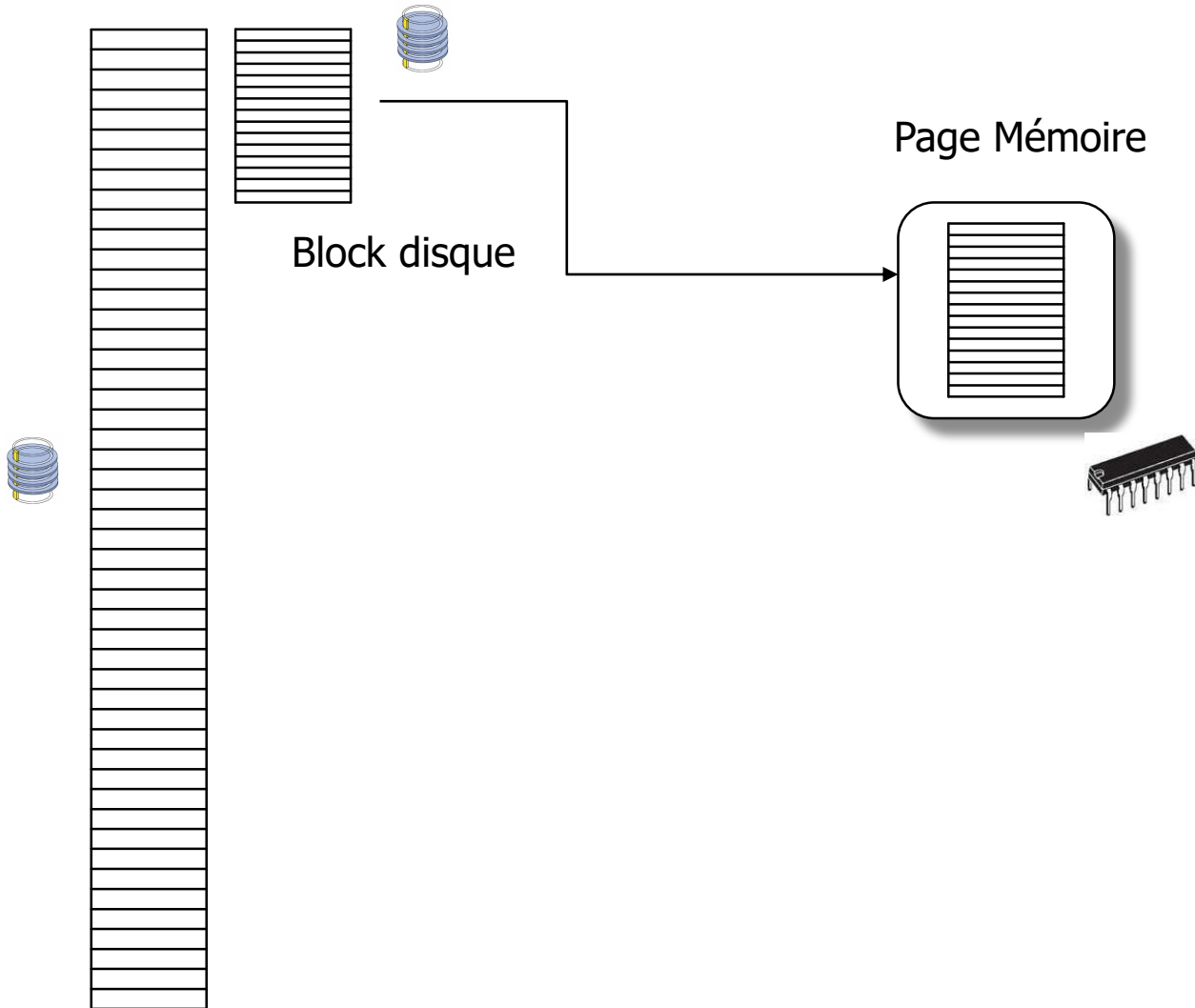


Relations et blocks disques



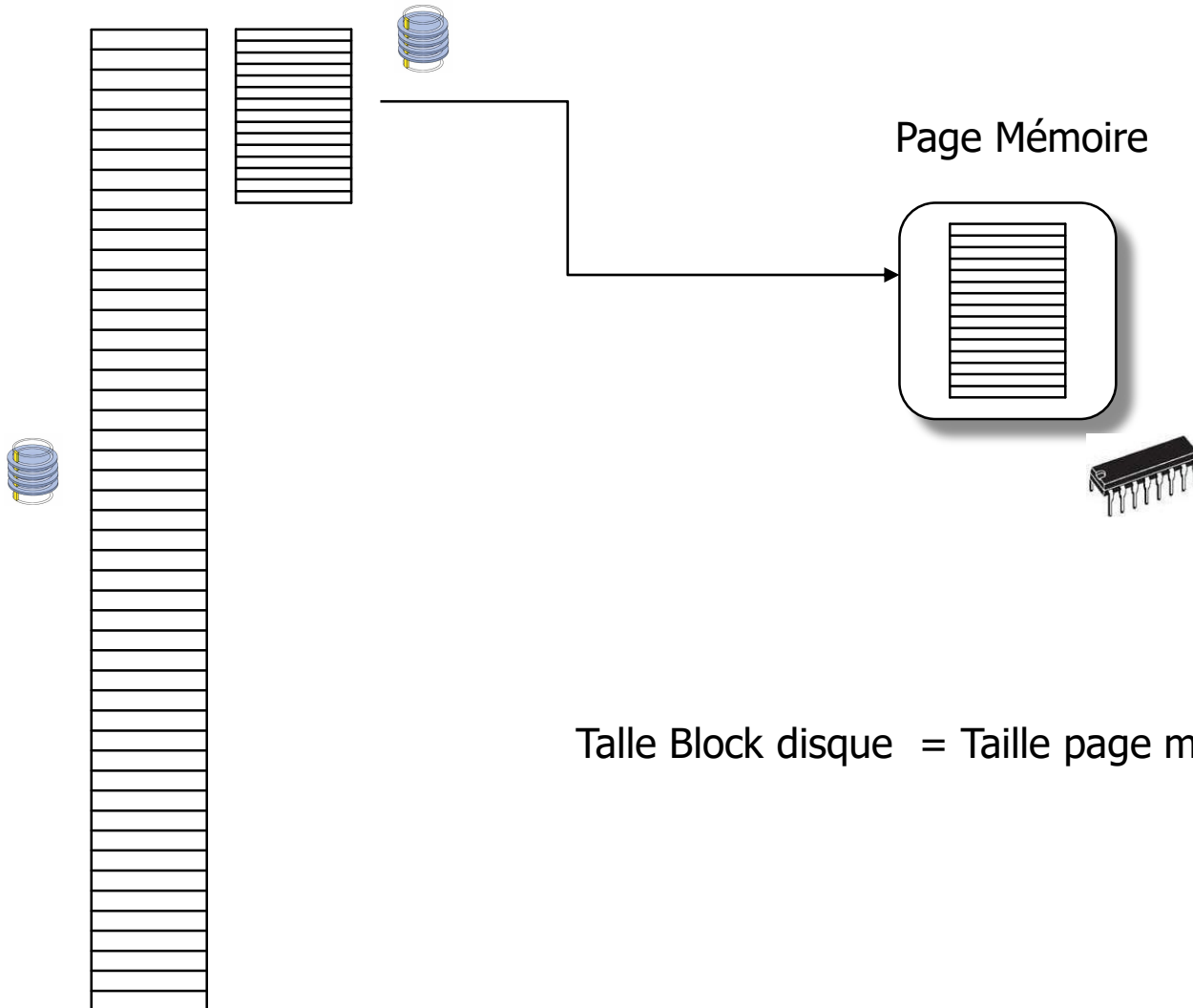
Relations sur disque et en mémoire

Relations
Sur Disque



Tailles blocs disques pages mémoires

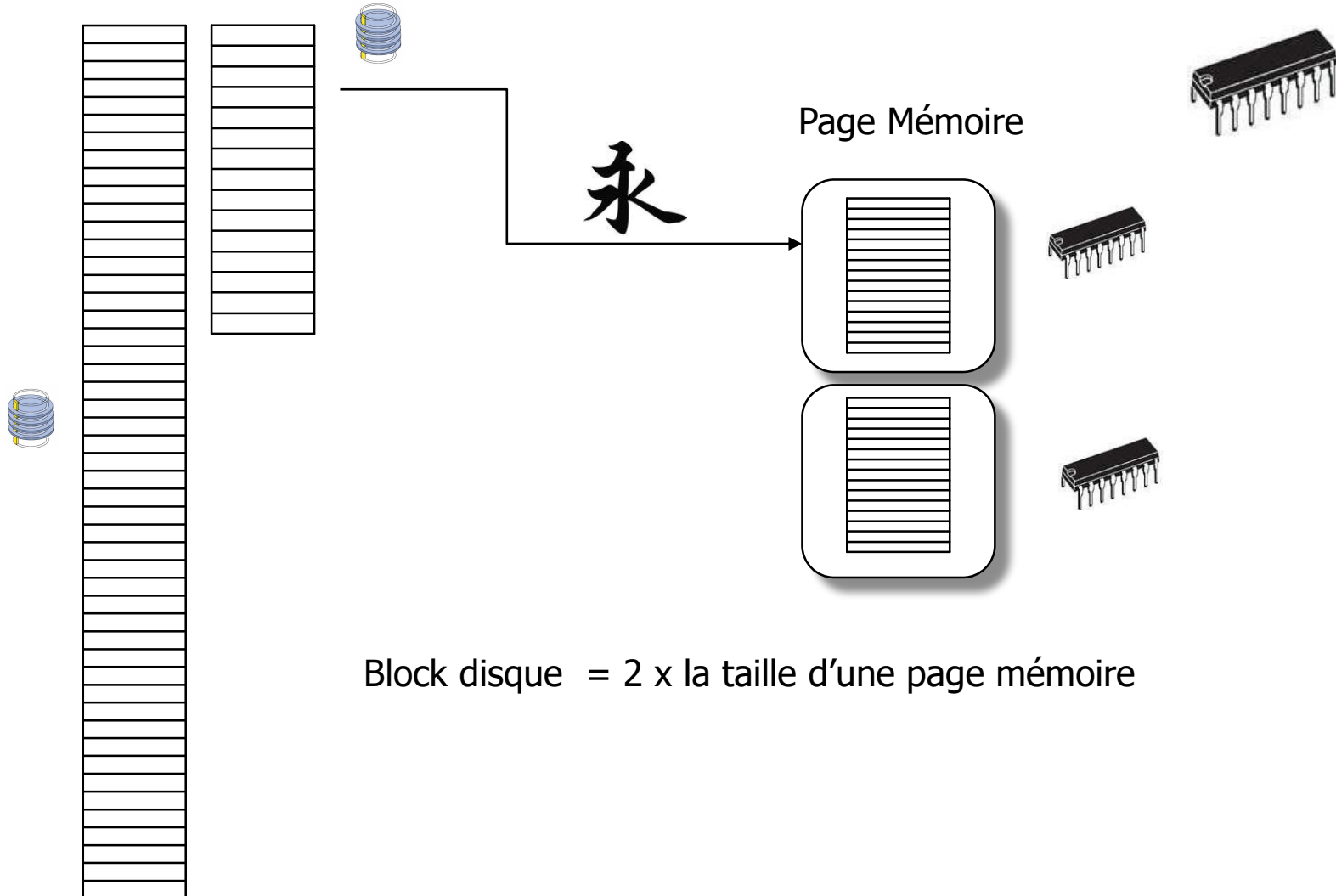
Relations
Sur Disque



Taille Block disque = Taille page mémoire

Tailles blocs disques pages mémoires

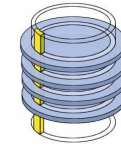
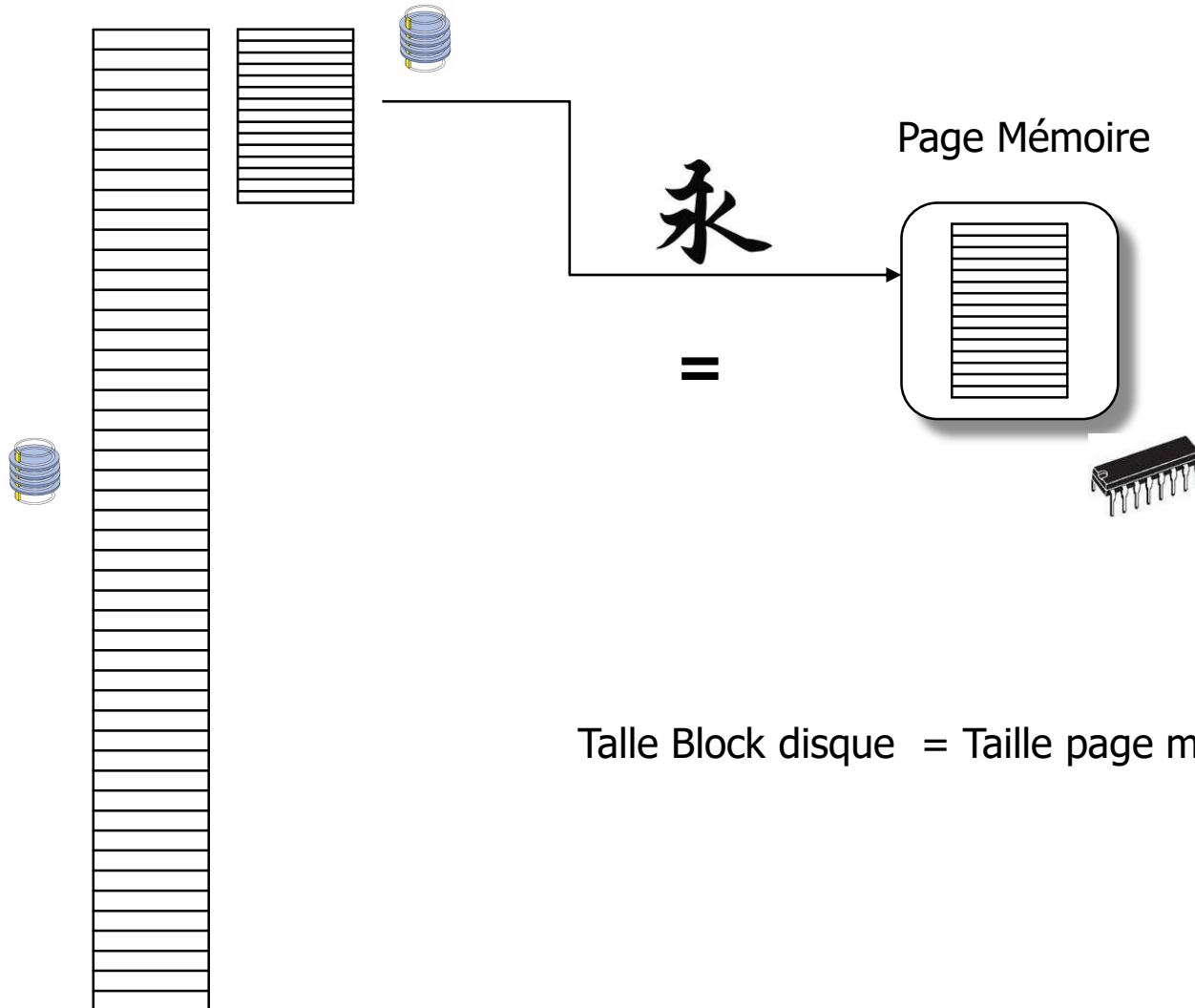
Relations
Sur Disque



Block disque = 2 x la taille d'une page mémoire

Tailles blocs disques pages mémoires

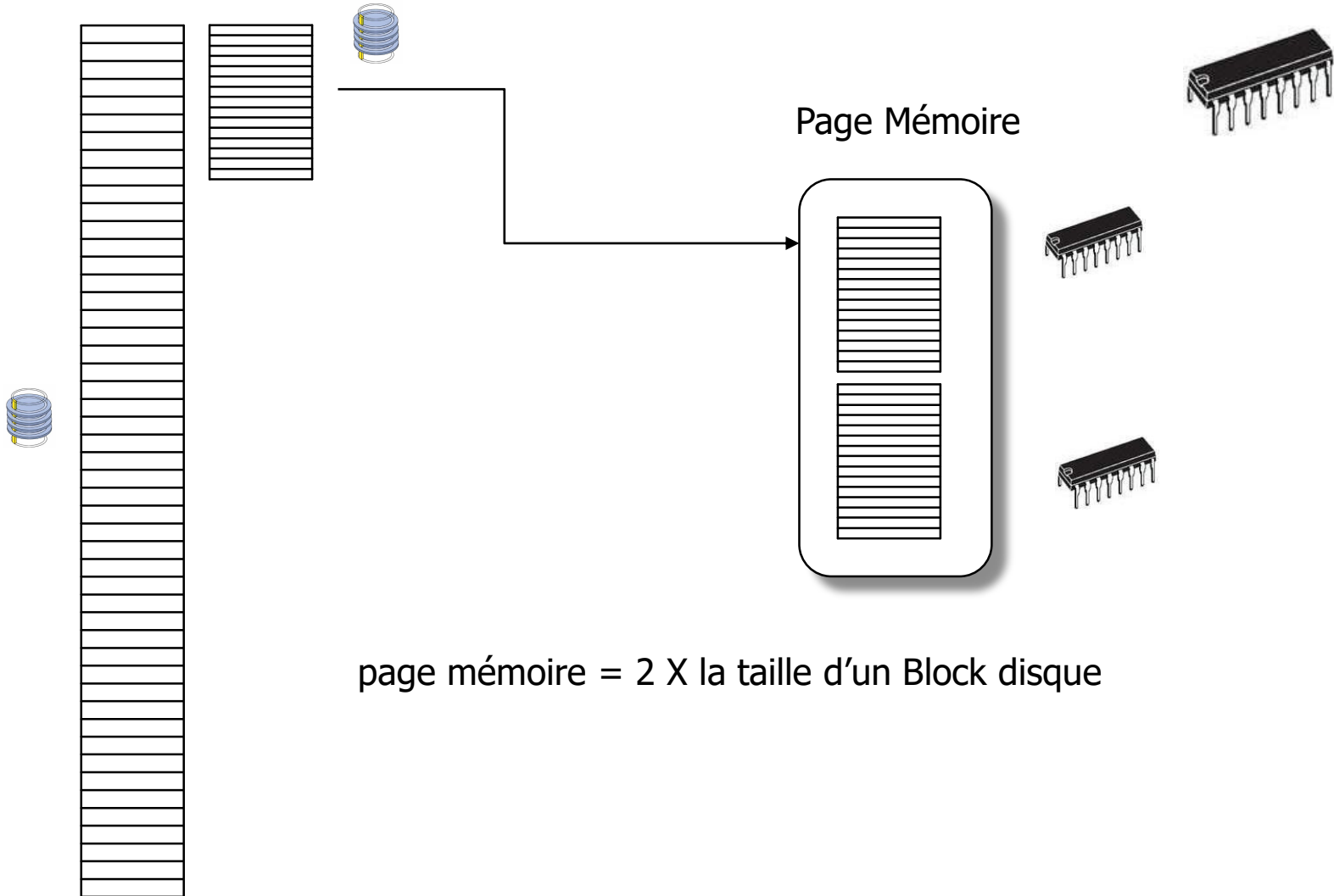
Relations
Sur Disque



Talle Block disque = Taille page mémoire

Tailles blocs disque page mémoire

Relations
Sur Disque



page mémoire = 2 X la taille d'un Block disque

