

These slides are for use with

Database Systems

Concepts, Languages and Architectures

Paolo Atzeni • Stefano Ceri • Stefano Paraboschi • Riccardo Torlone
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Concepts,
Languages
and
Architectures

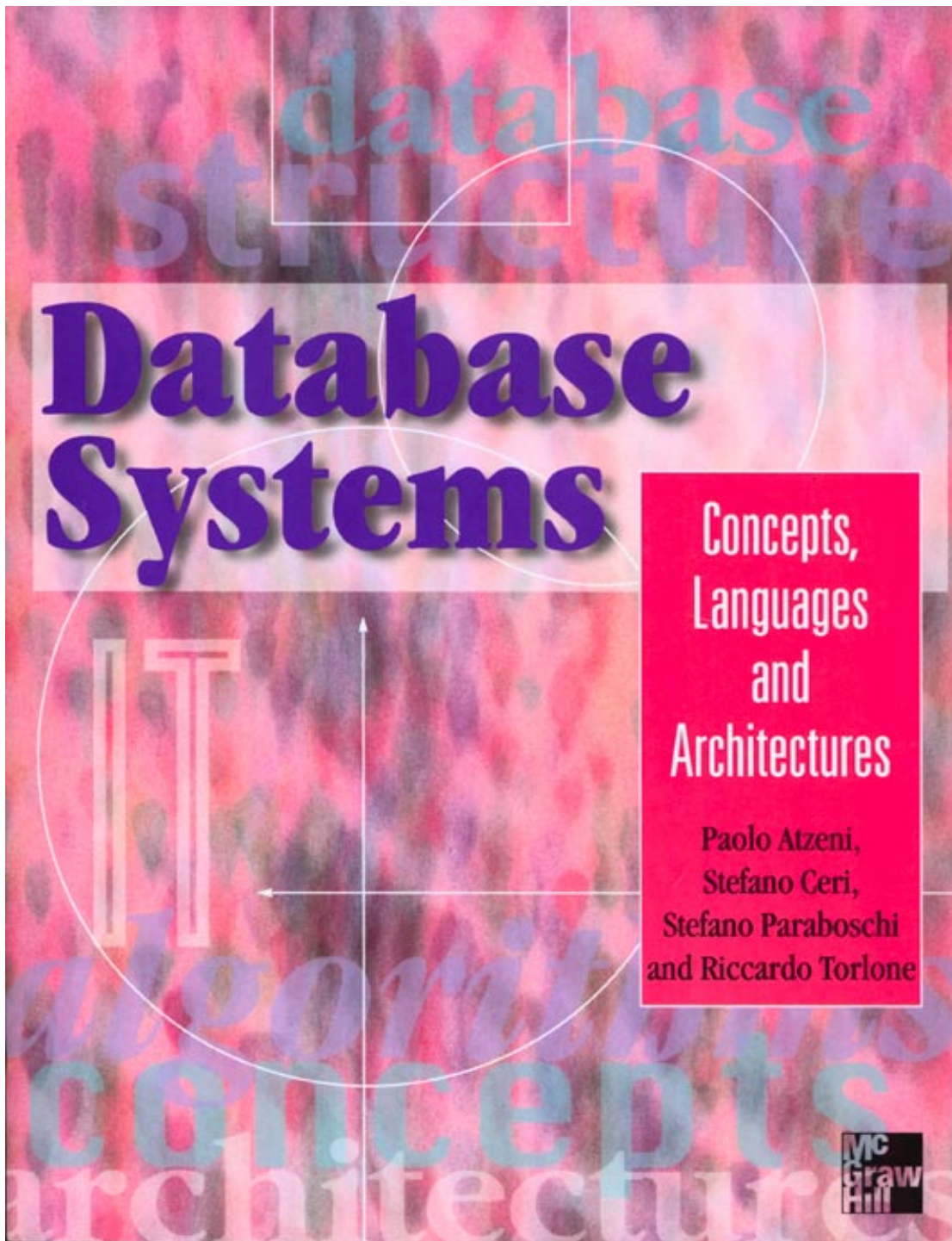
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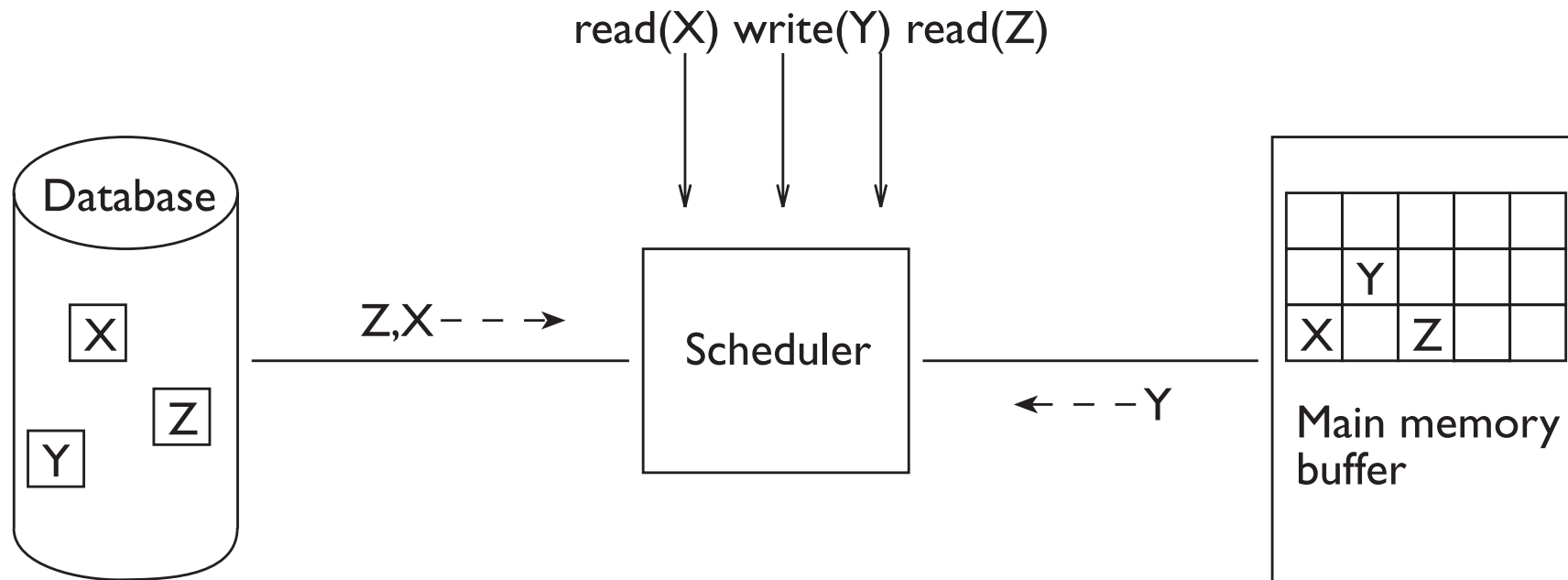
Press the 'return' or 'enter' key to continue . . .



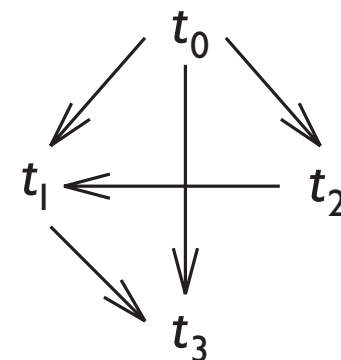
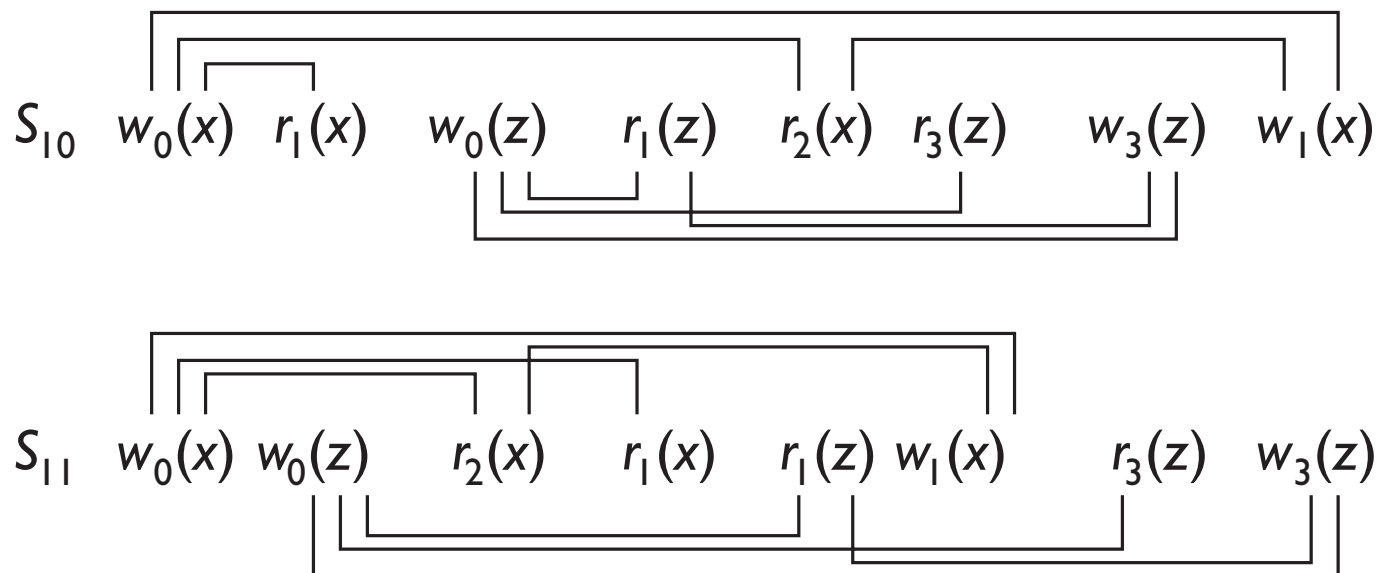
Chapter 9

Technology of a database server

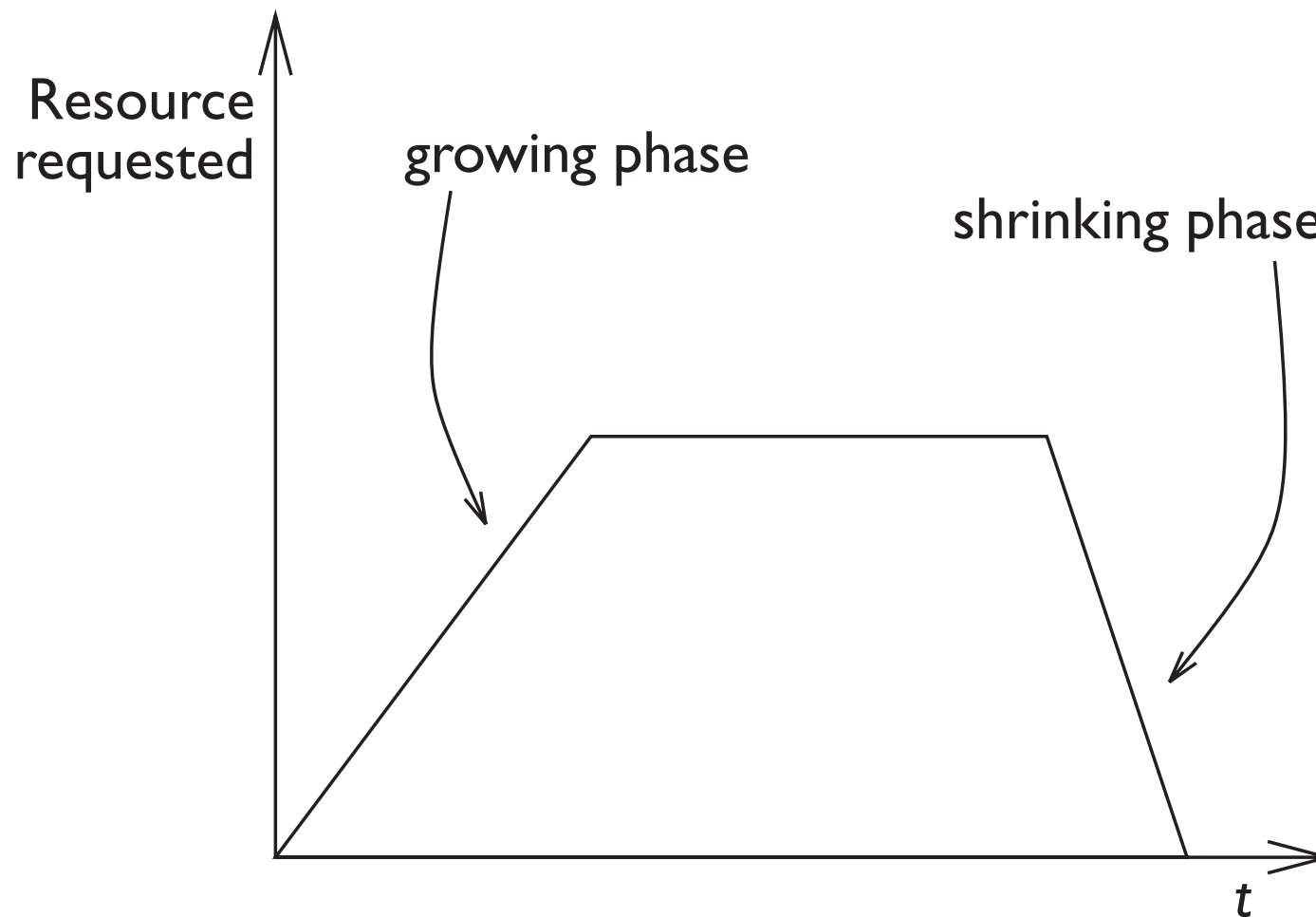
Architecture of the concurrency control system



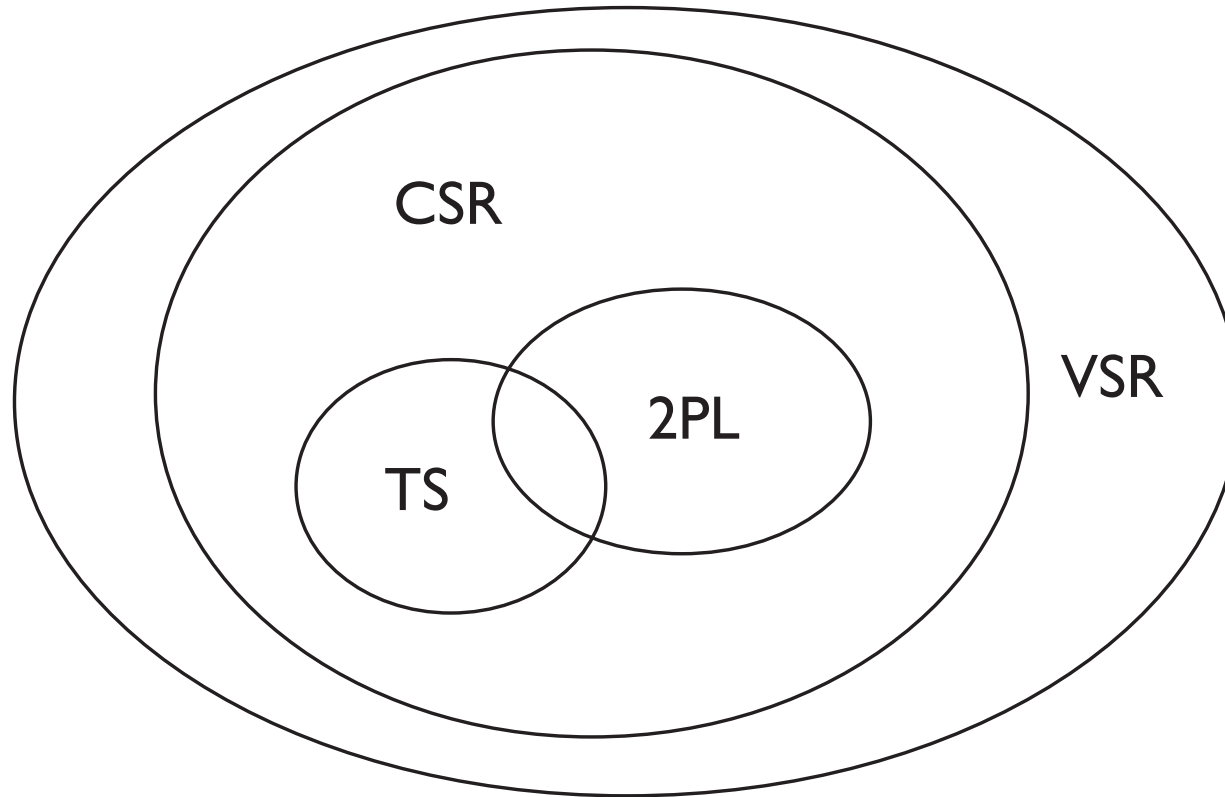
A schedule S_{10} conflict-equivalent to a serial schedule S_{11}



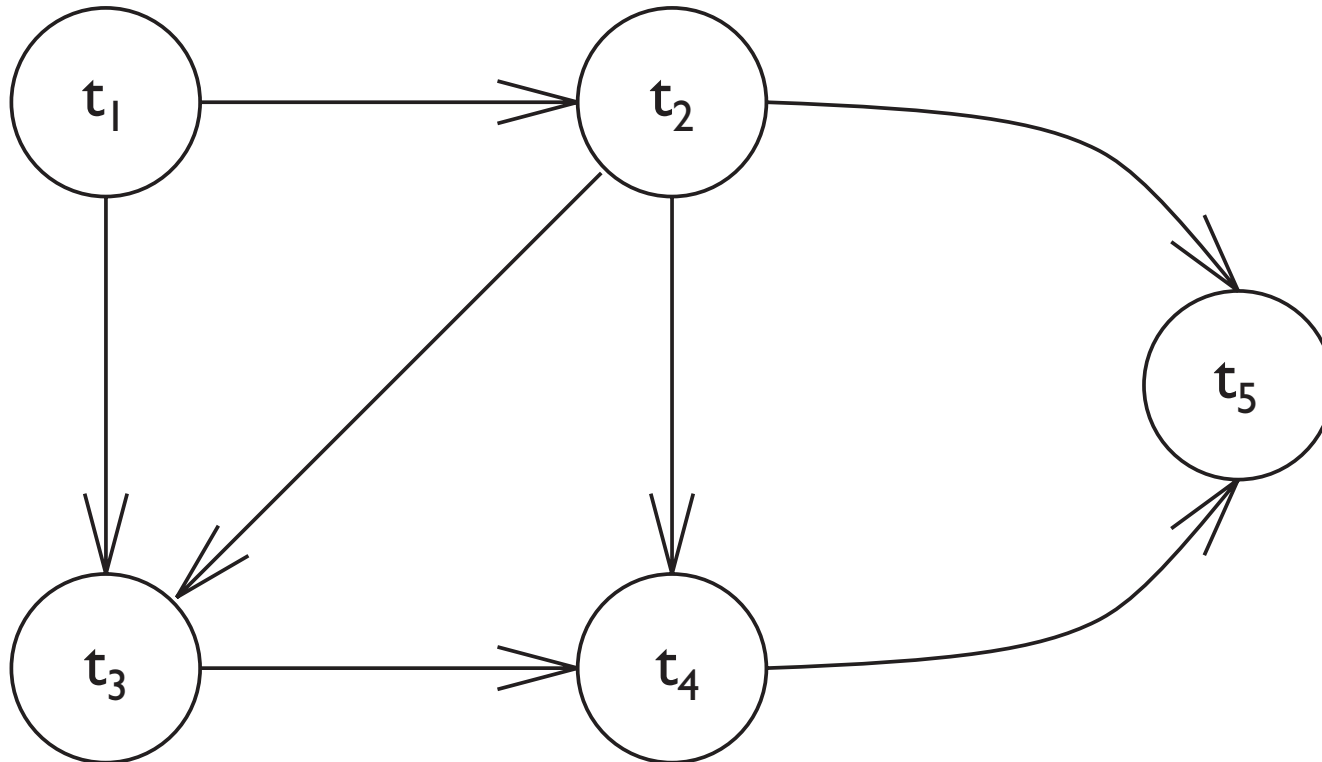
Representation of allocated resources for 2PL



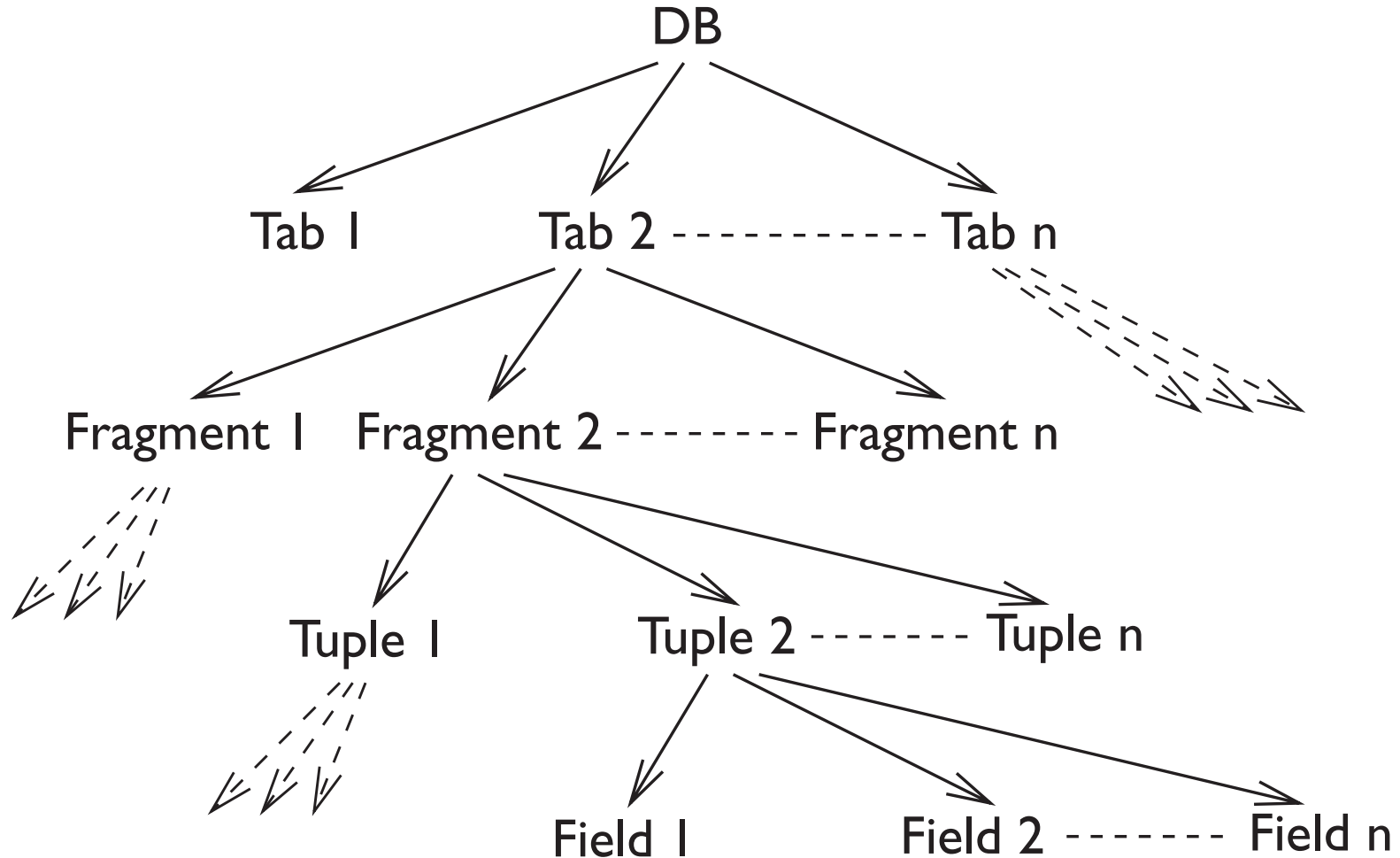
Taxonomy of the classes of schedule accepted by the methods VSR, CSR, 2PL and TS



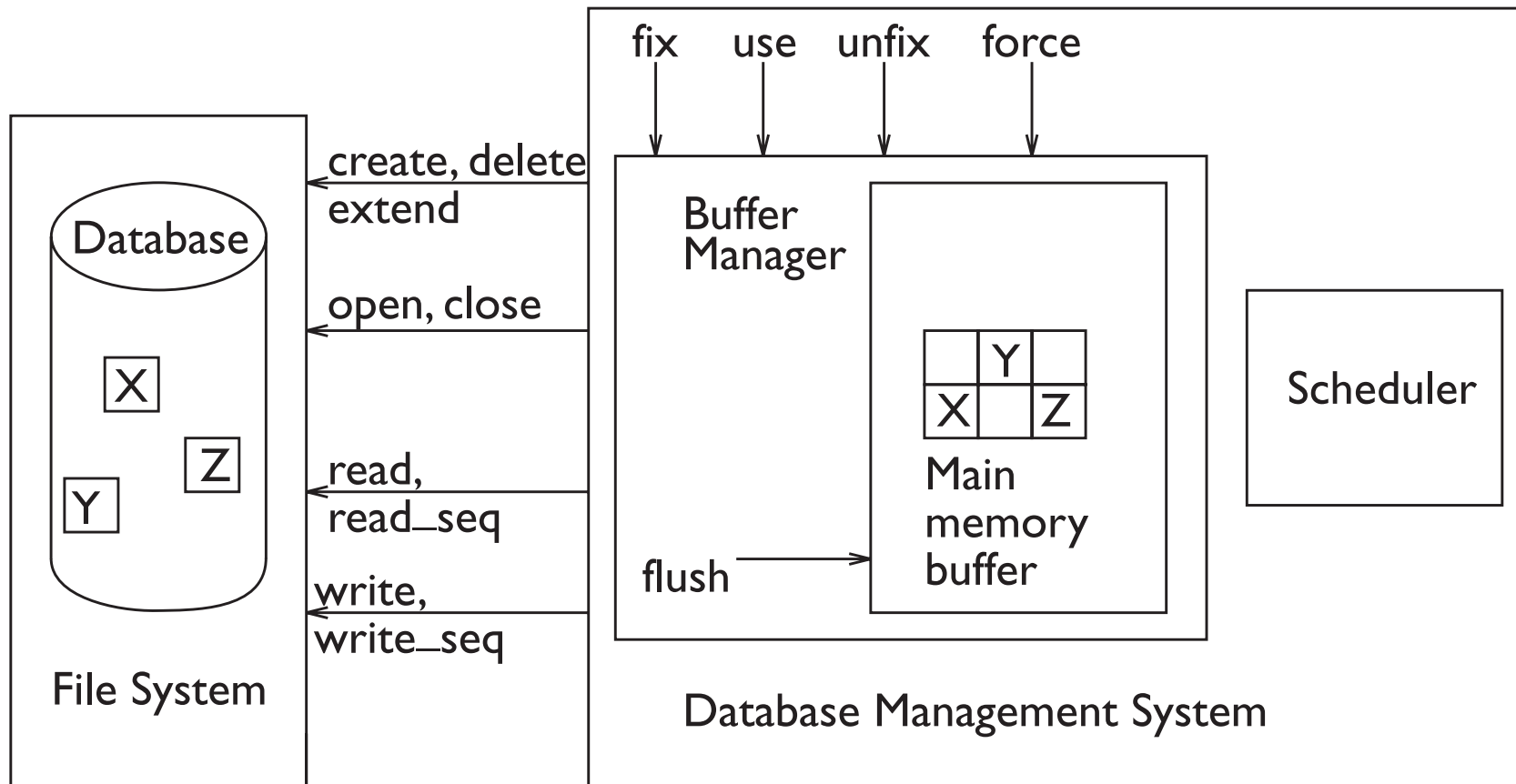
Conflict graph for a schedule



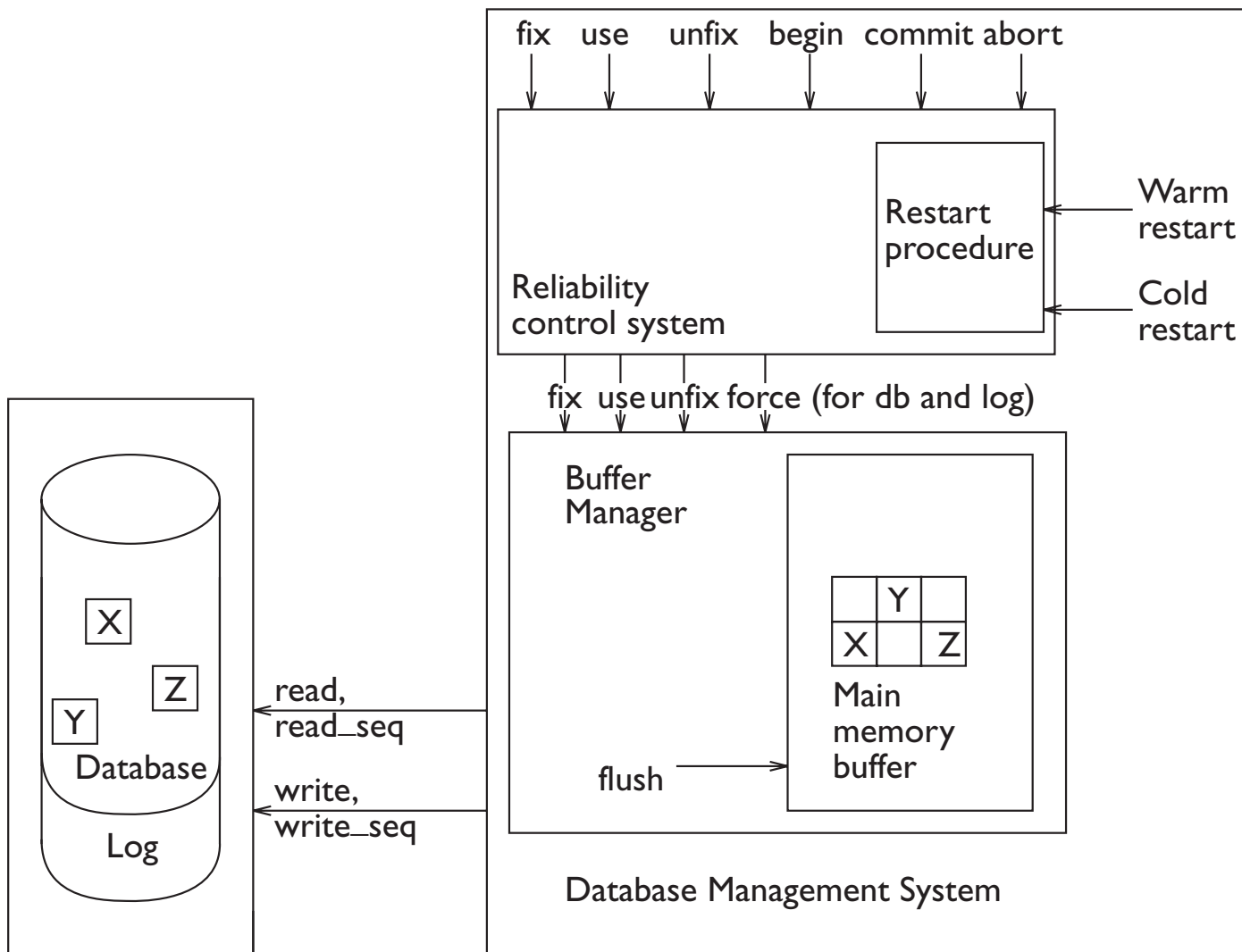
The hierarchy of resources



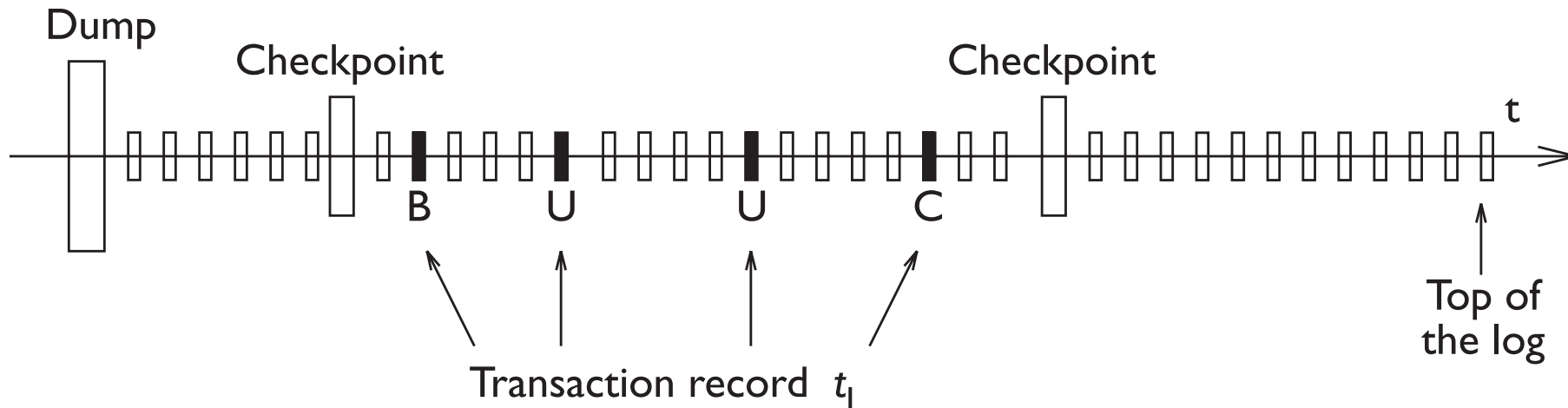
Architecture of the buffer manager



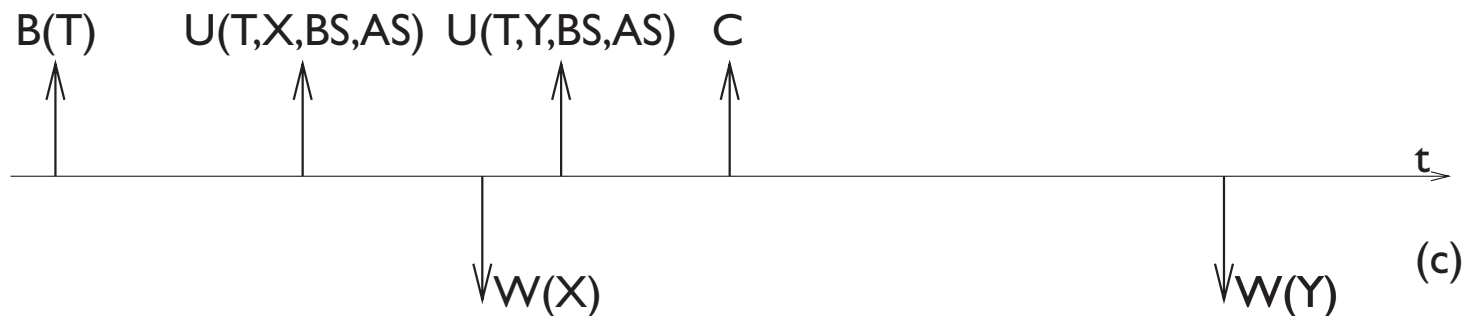
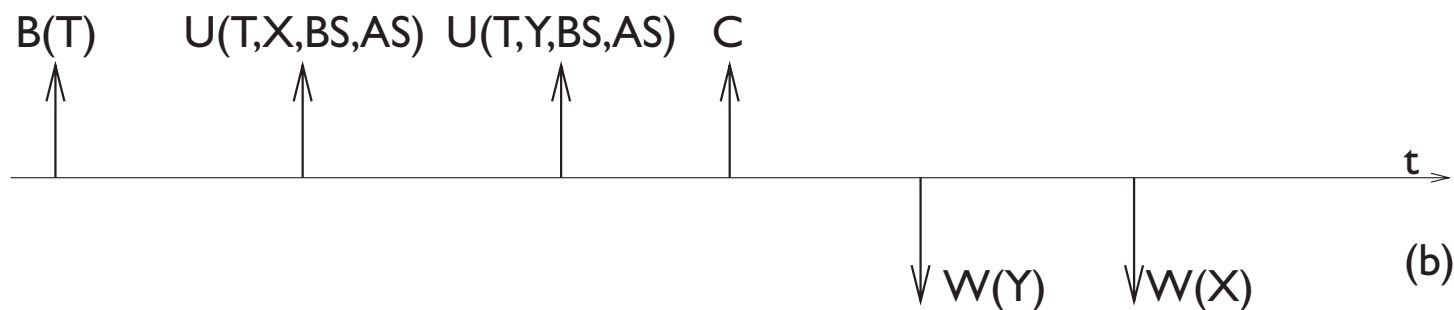
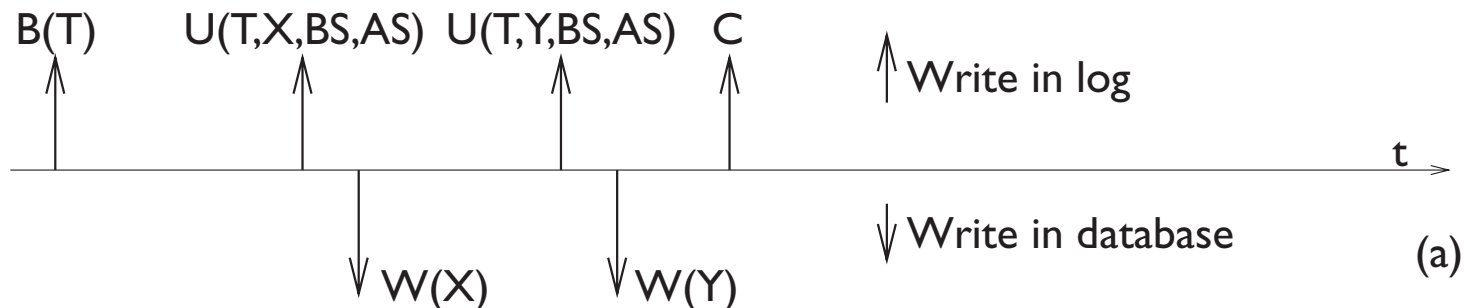
Architecture of the reliability control system



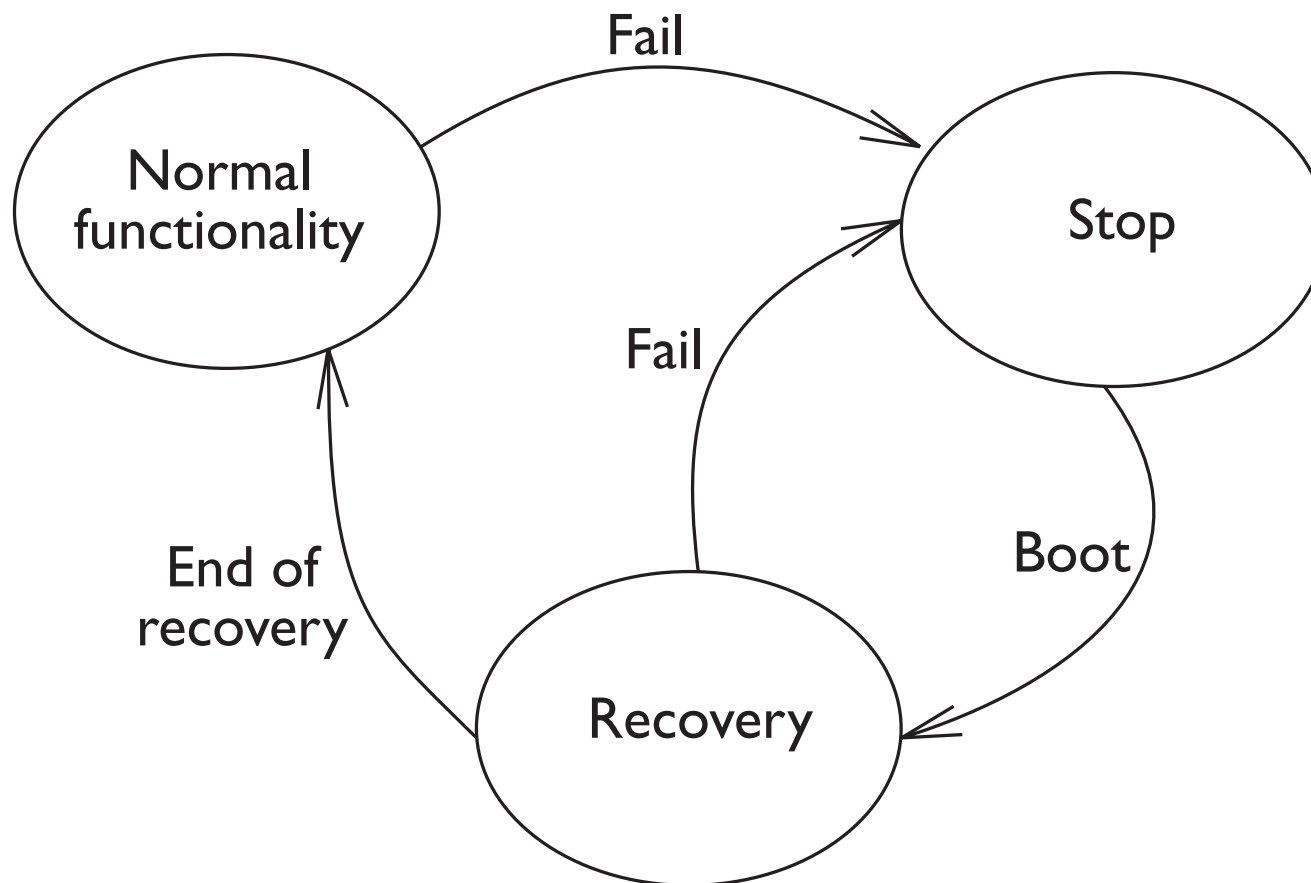
Description of a log



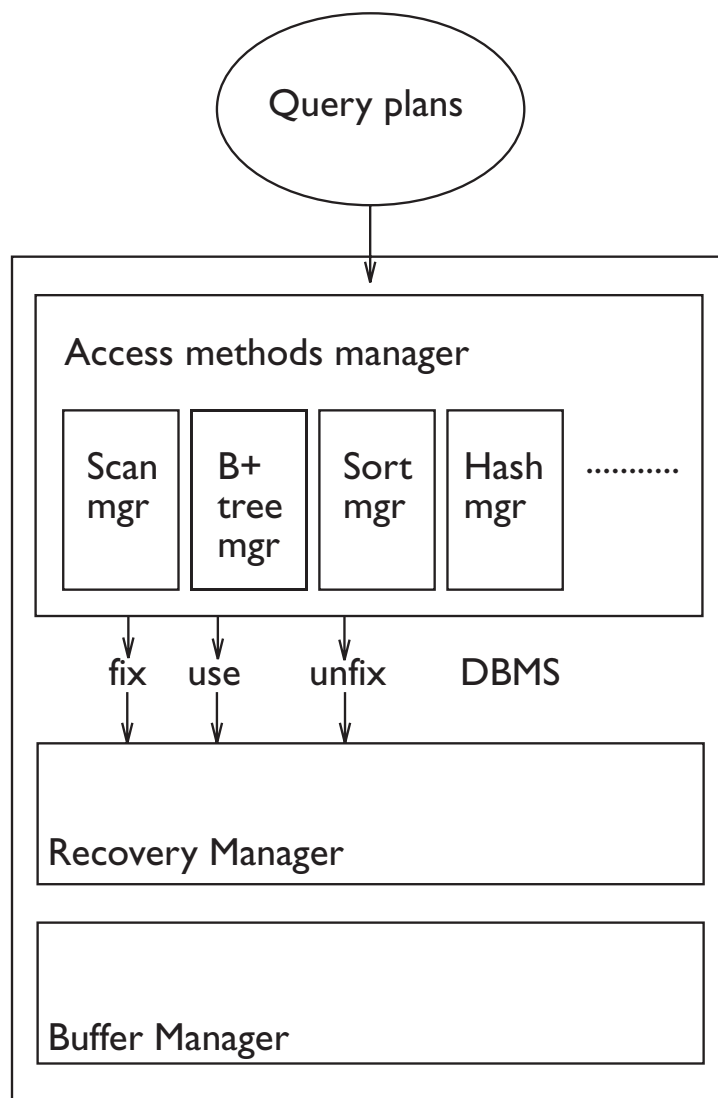
Protocols for the joint writing of log and database



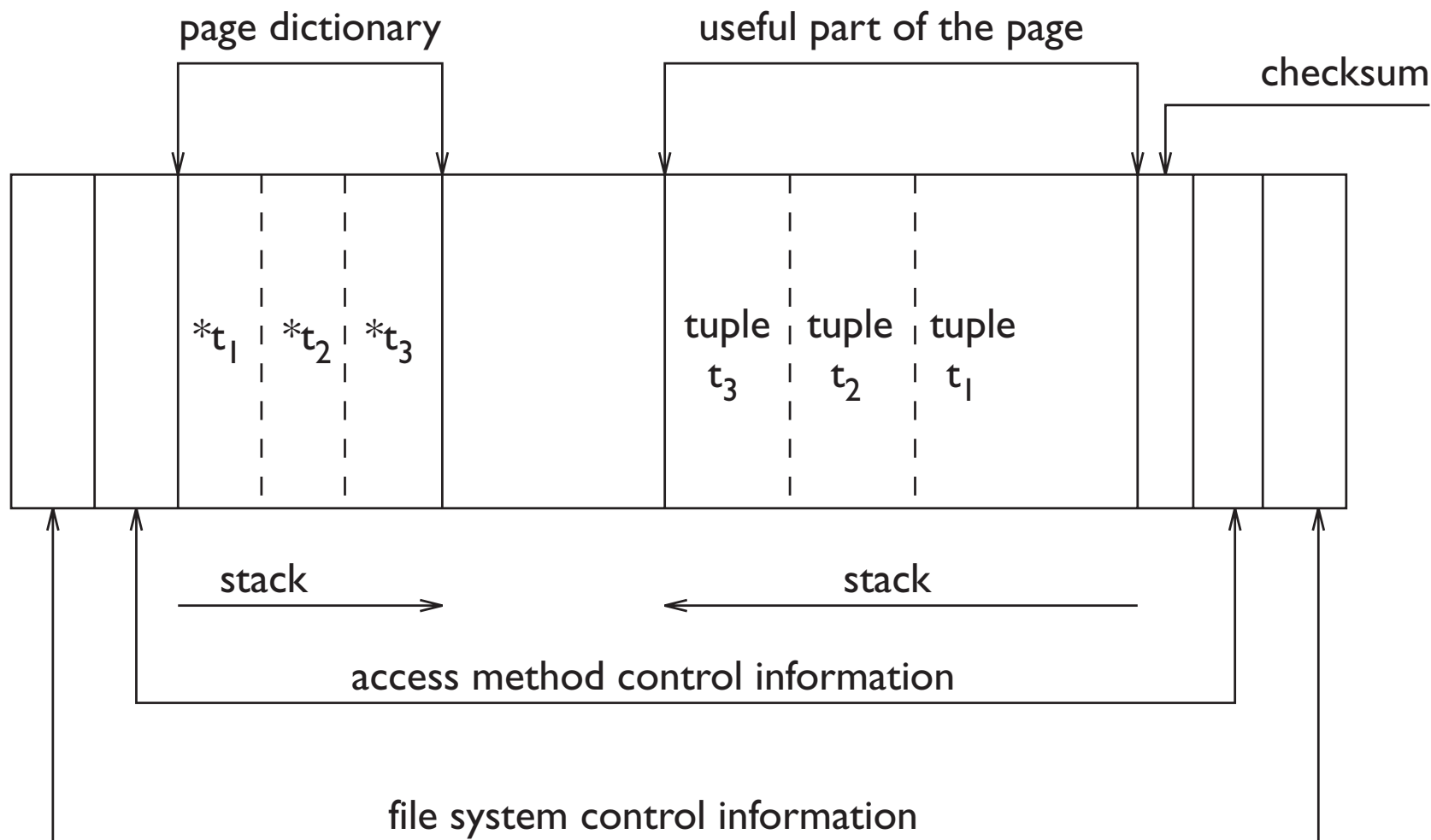
Fail-stop model of the functioning of a DBMS



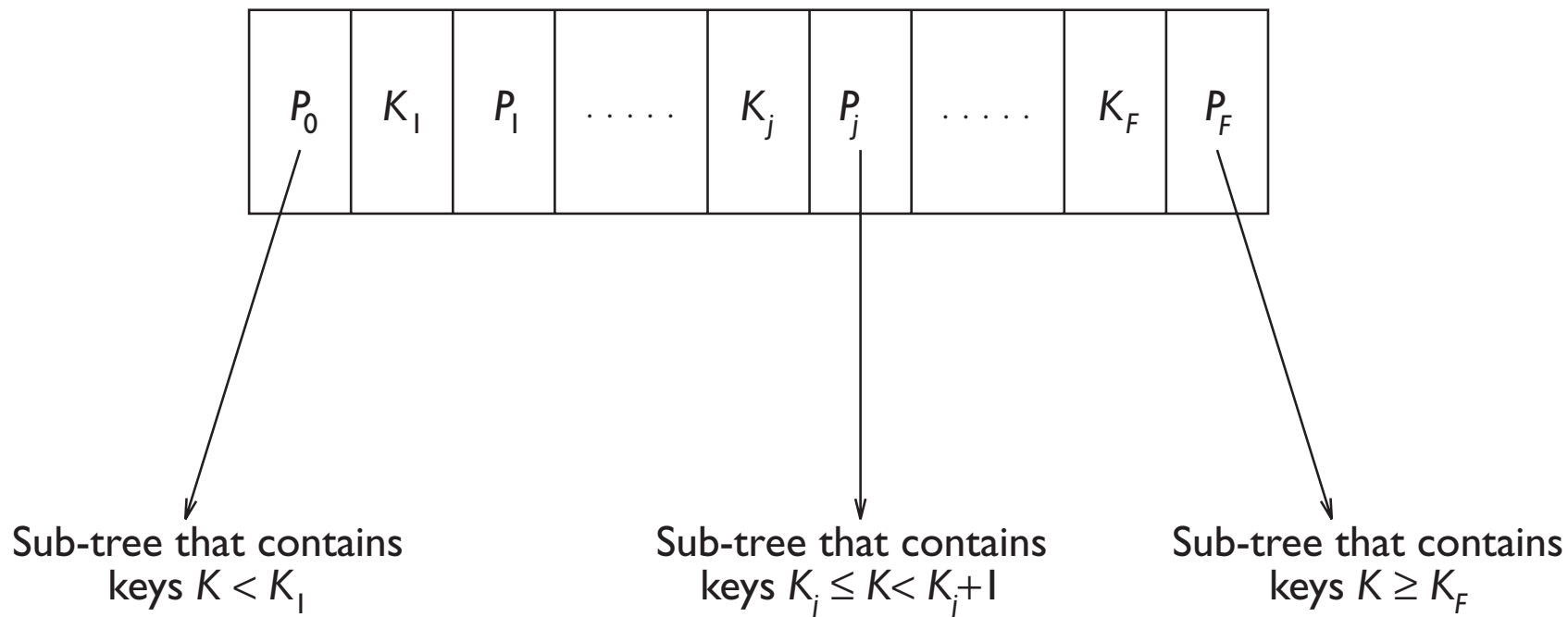
Architecture of the access manager



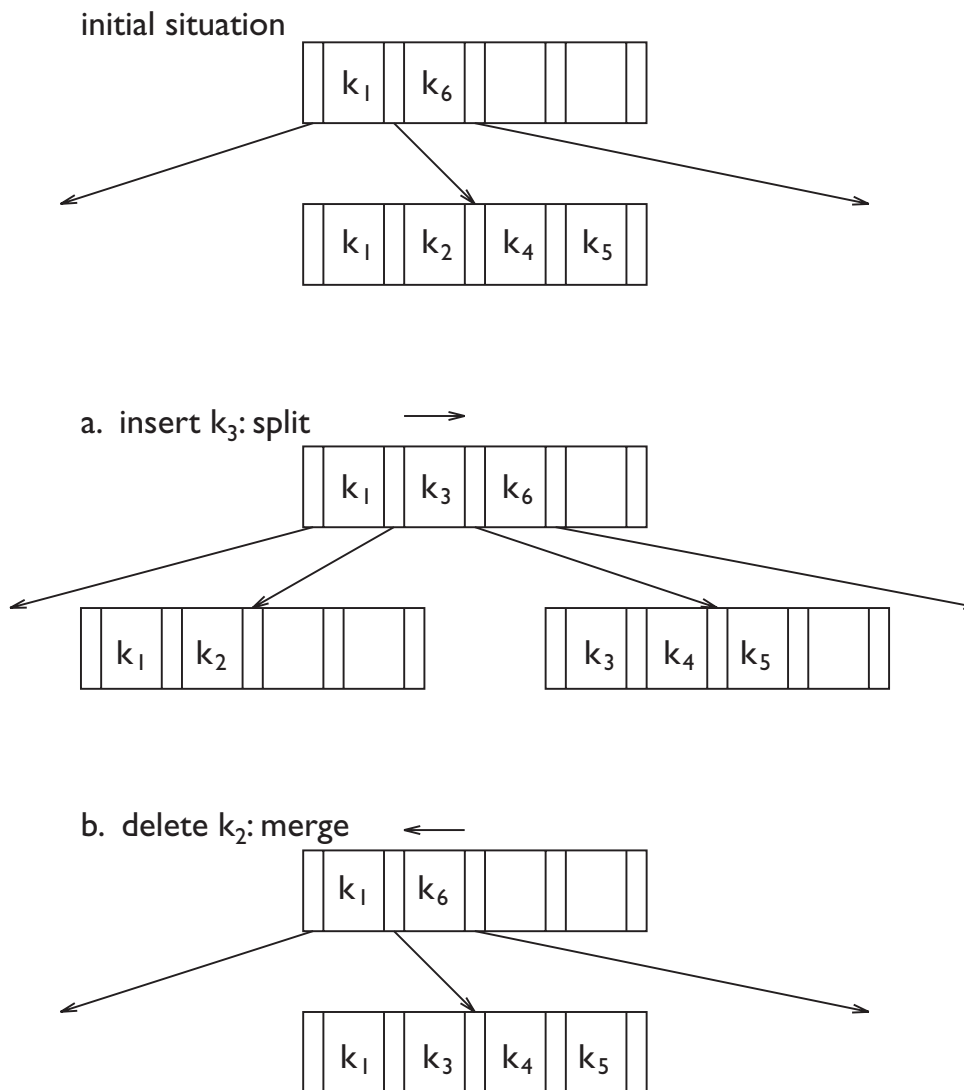
Organization of tuples within pages



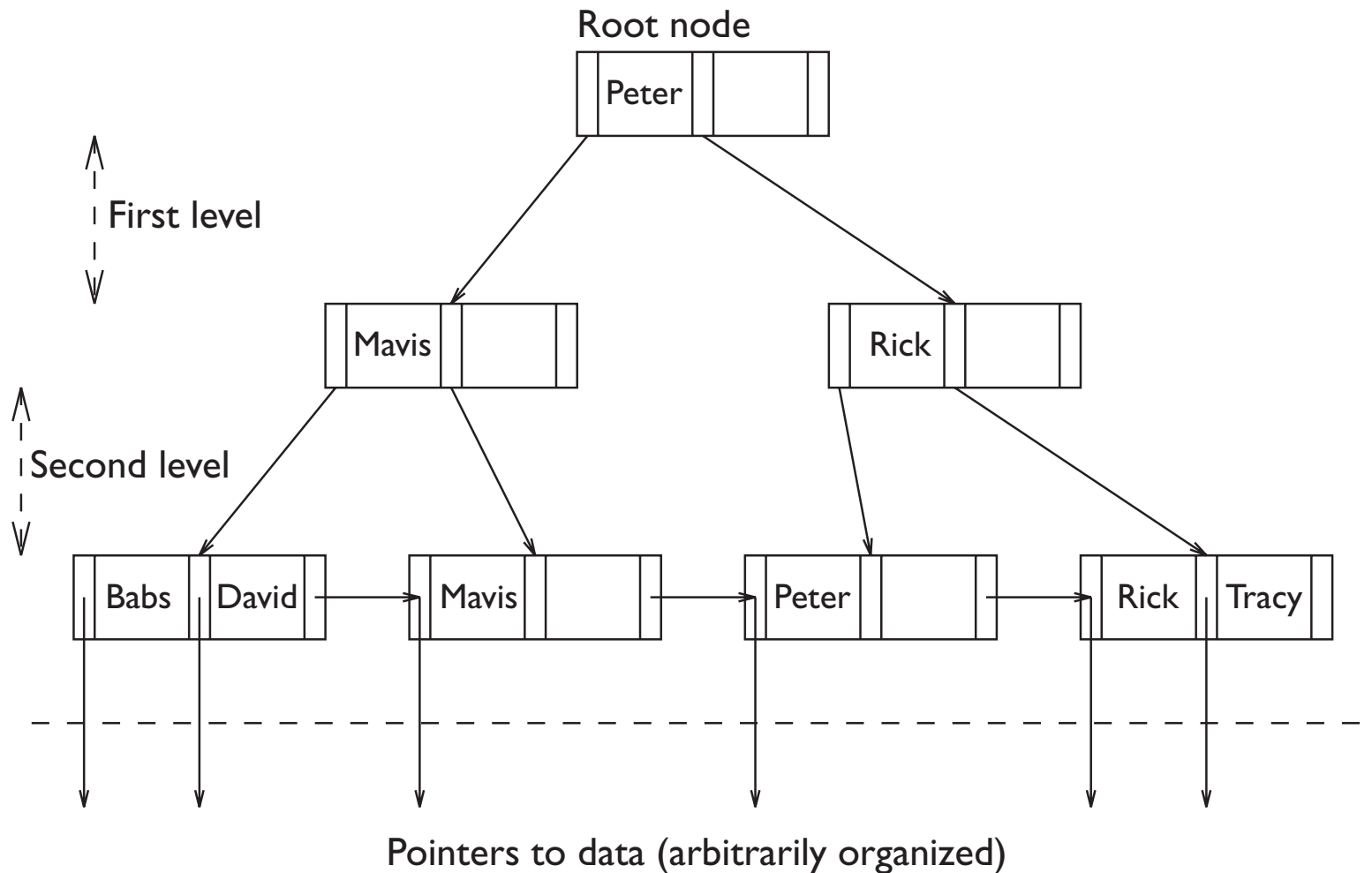
Information contained in a node (page) of a B+ tree



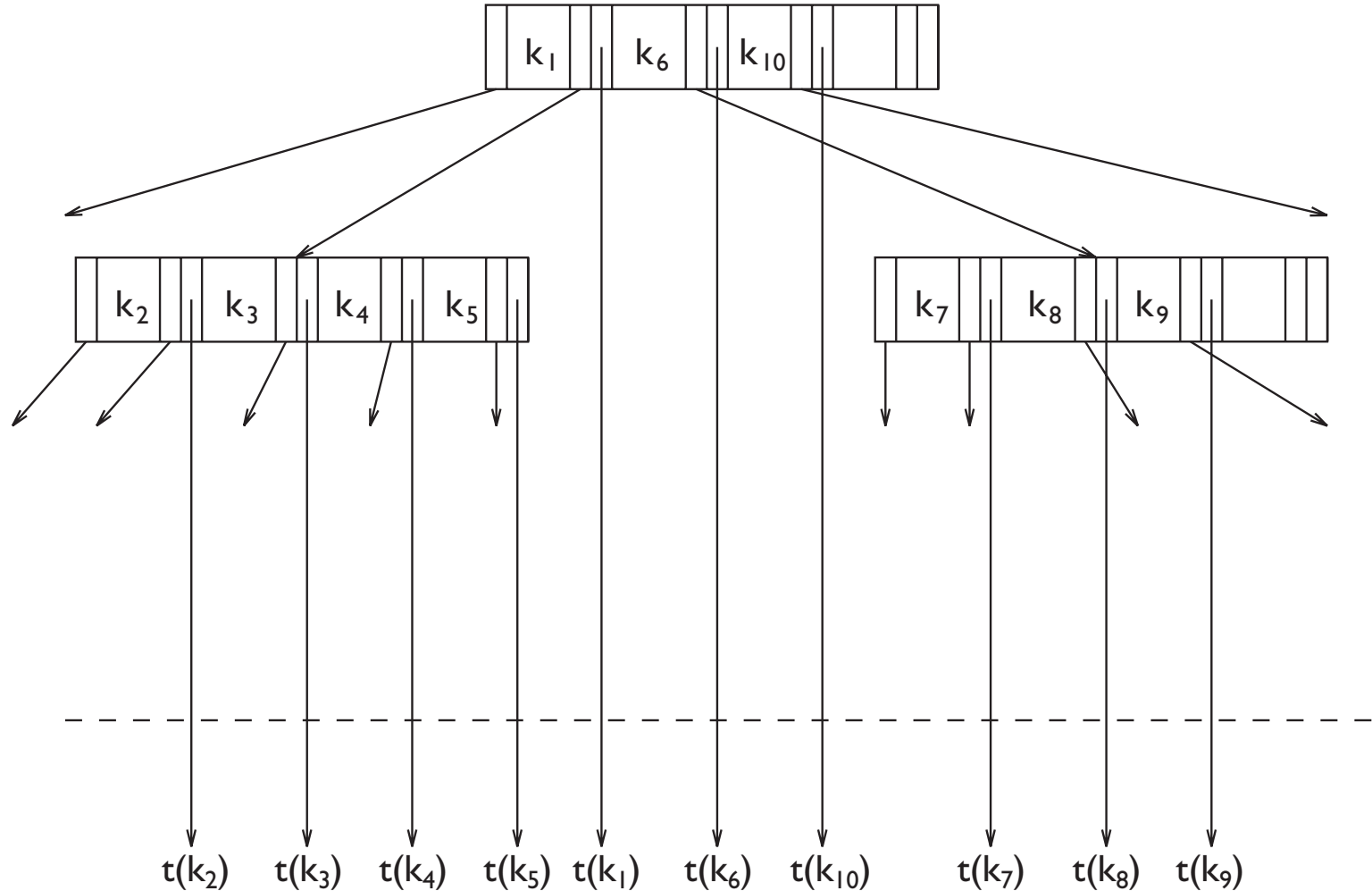
Split and merge operations on a B+ tree structure



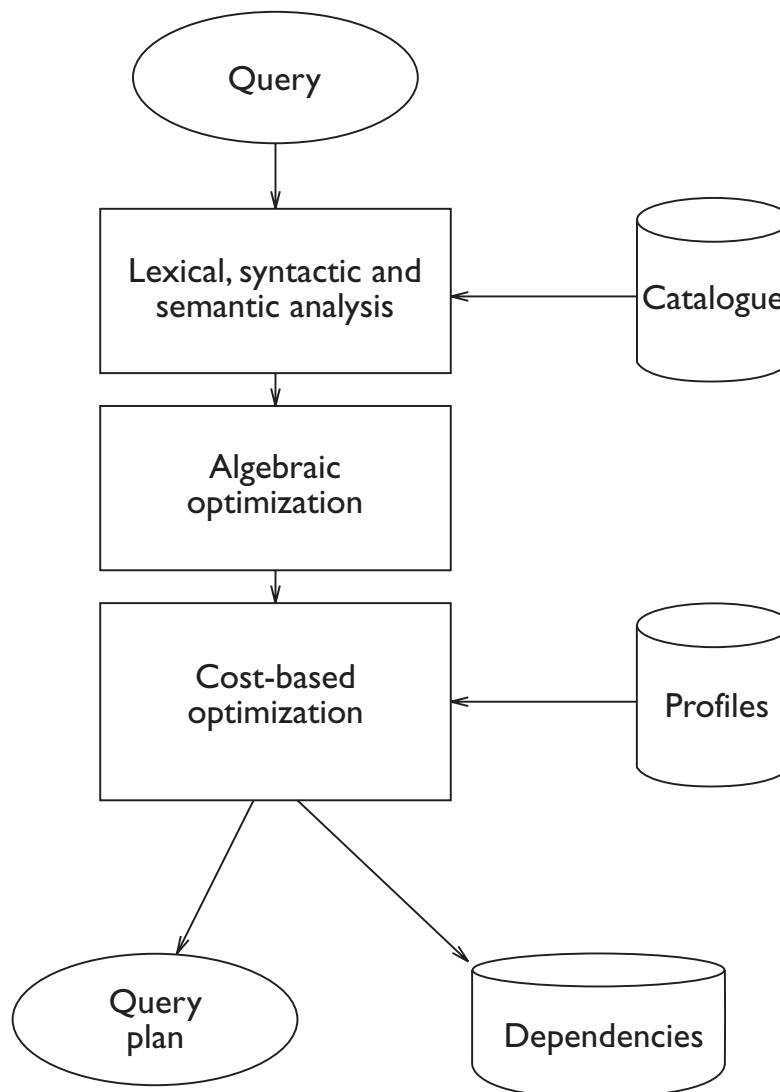
Example of B+ tree



Example of a B tree



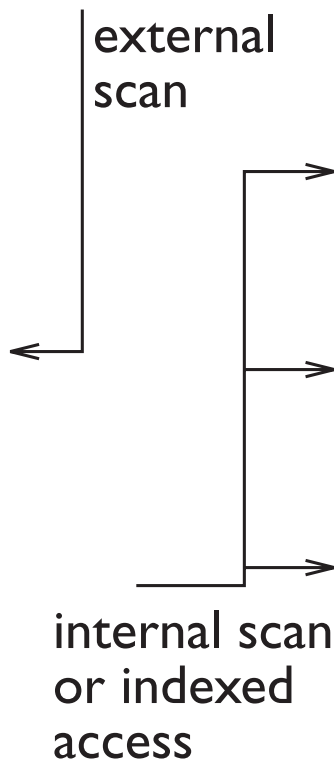
Compilation of a query



Join technique with nested-loop

External table

	JA
-----	a



Internal table

JA	
a	-----
a	-----
a	-----

Join technique with merge scan

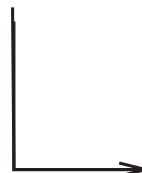
Left table

	A
	a
-----	b
-----	b
	c
	c
	e
	f
	h

left
scan



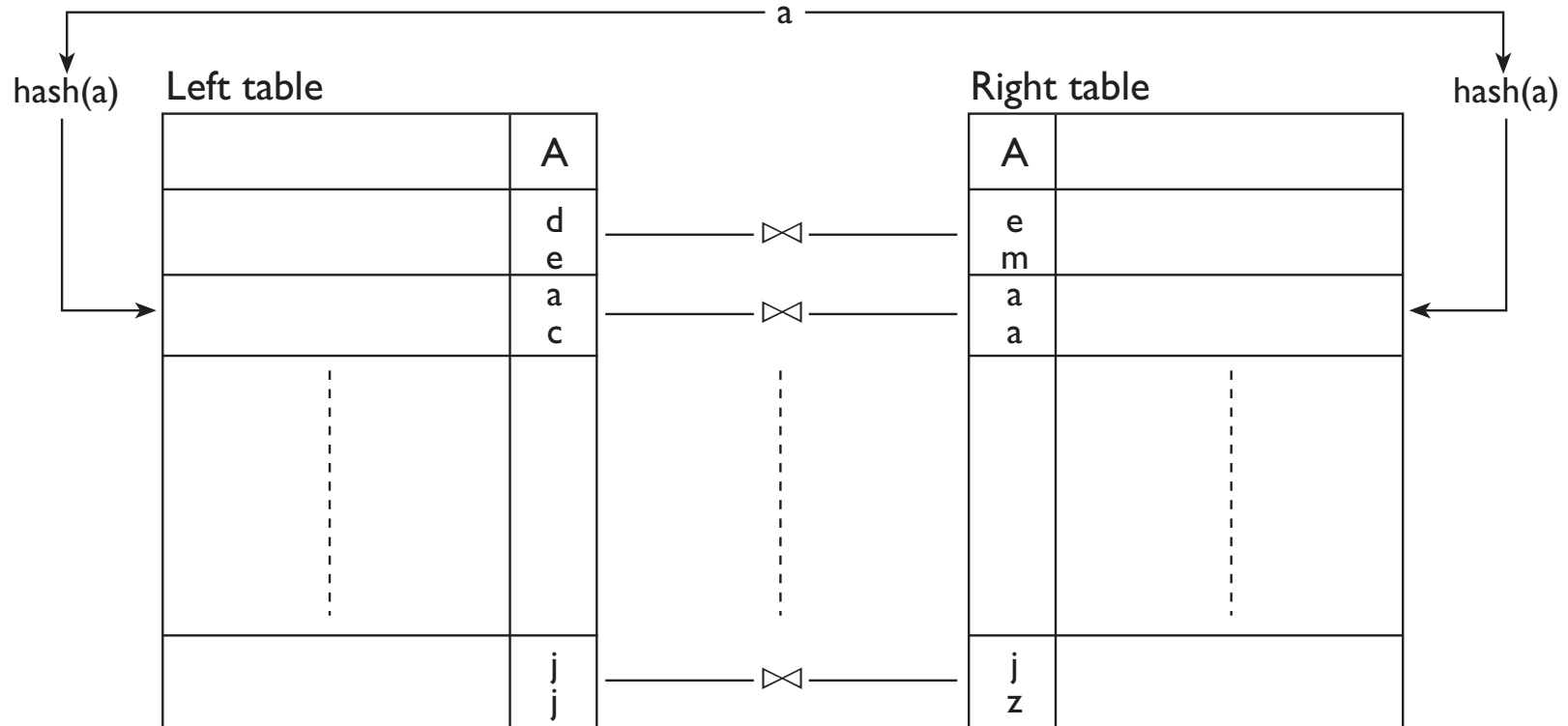
right
scan



Right table

A	
a	
a	
b	-----
c	
e	
e	
g	
h	

Join technique with hashing



Execution options in a conjunctive query

