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Übungsblatt 4

Unterlagen zur Vorlesung: „wwwdvs.informatik.uni-kl.de/courses/DBSREAL/“

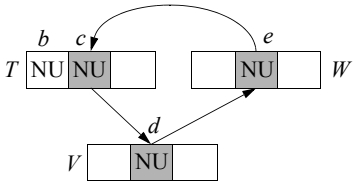
Special Exercise:

A sufficient condition to prevent recursive loading in a cache group G is:
There must not exist any heterogeneous RCC cycle in G!

An RCC cycle is said to be homogeneous, if only a single column per table is involved, e.g., $T.c \rightarrow V.d$, $V.d \rightarrow W.e$, $W.e \rightarrow T.c$;

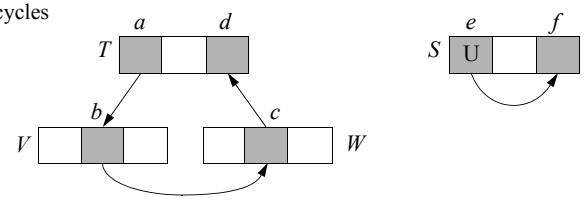
A homogeneous RCC cycle

U unique
NU non-unique



In contrast, a cycle is said to be heterogeneous, if in any participating table more than one column is involved.

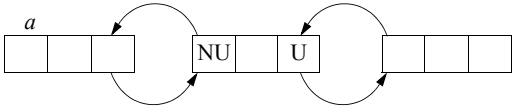
Heterogeneous RCC cycles



What are the conditions under which recursive loading cannot occur *despite* the existence of heterogeneous cycles, that is, the other way around, what is a necessary condition for recursive loading?

Hint: Consider variations of the following cache group:

CK: a



and the following heterogeneous cycle involved: