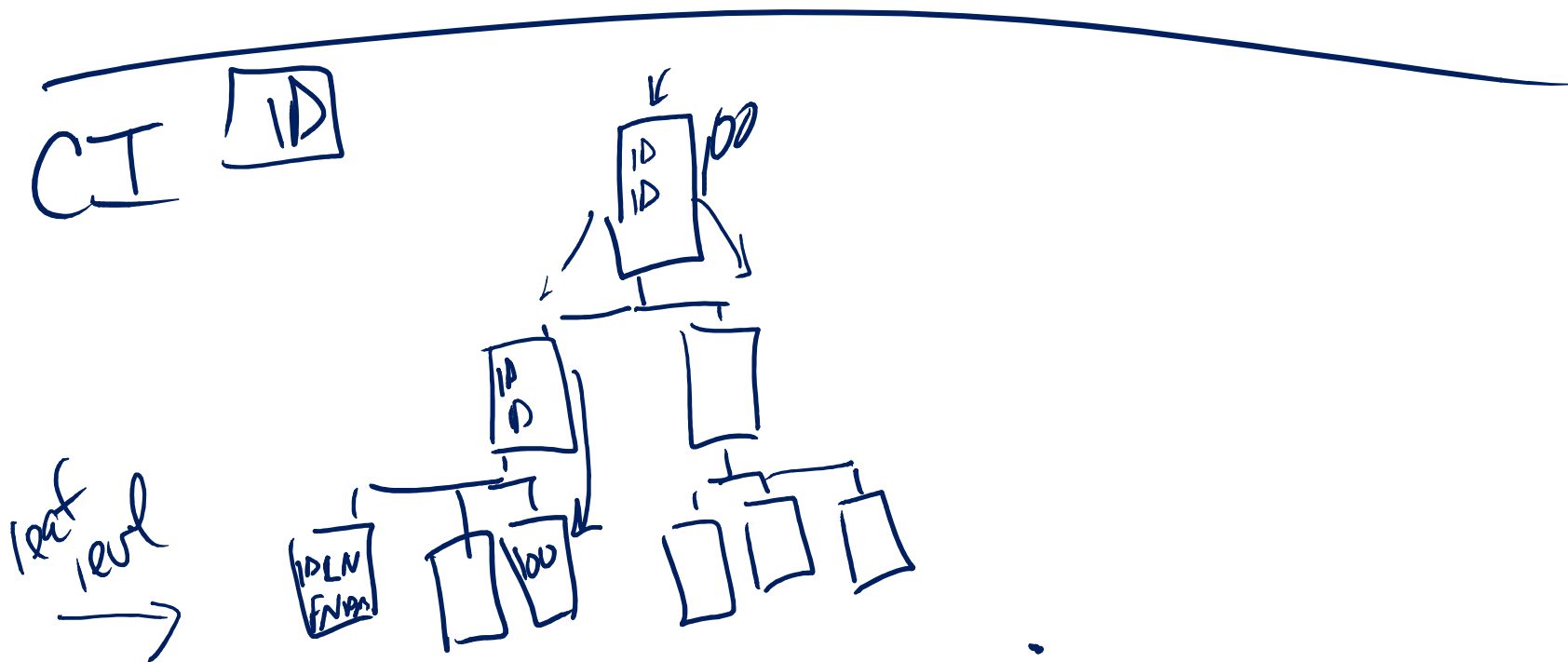


Heap ID, LN, FN, DIB



Discussion of what a heap looks like
(data is not ordered on pages) and
what a clustered index (CI) looks like
(data is ordered on pages)



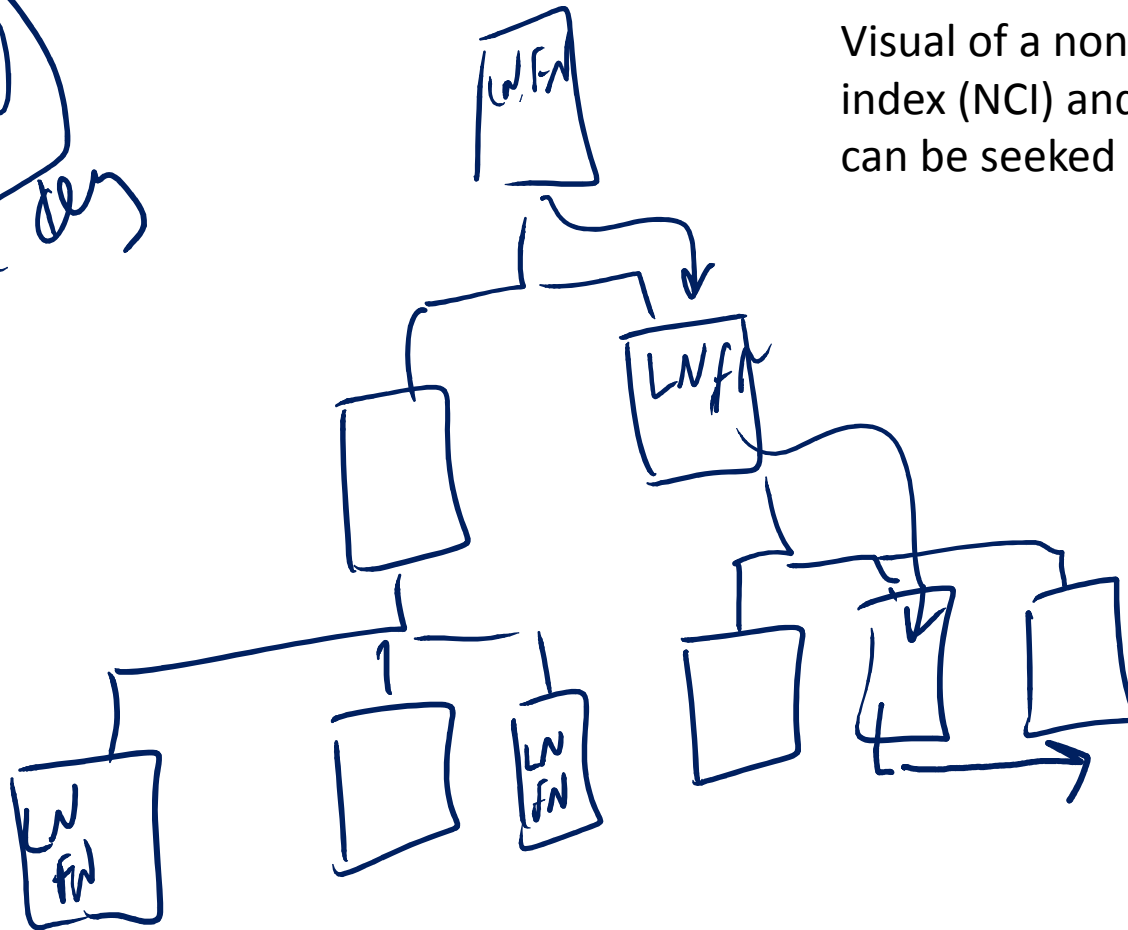
Non Clustered Index (NCI)

LN, FN
Index key

Visual of a nonclustered index (NCI) and how it can be seeked

PK =
ID

LN, FN
WHERE
LN = X



where LN = Smith

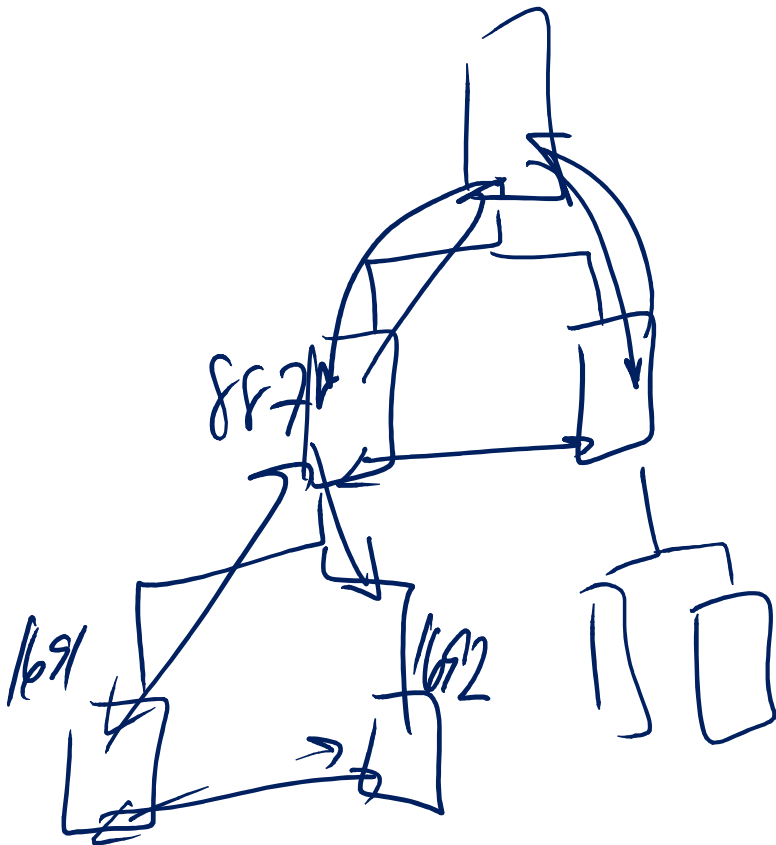
CI - CK

Heap - RID



Heap

CT
NCI



Visual of how pages in a database are linked, whether the object is a heap, clustered index, or nonclustered index. It is just a bunch of pages that point to each other

Page ID

1 2 3

PFS, GAM, SGAM

8088

PFS

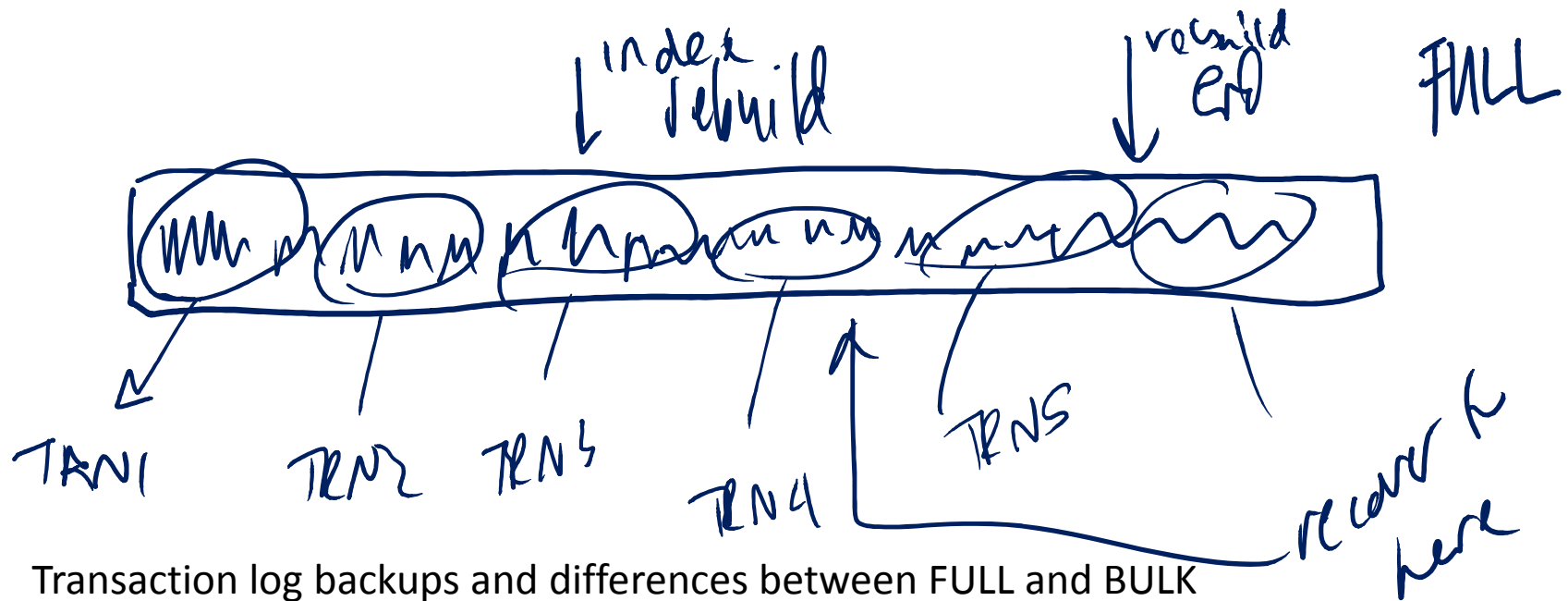
511232

GAM

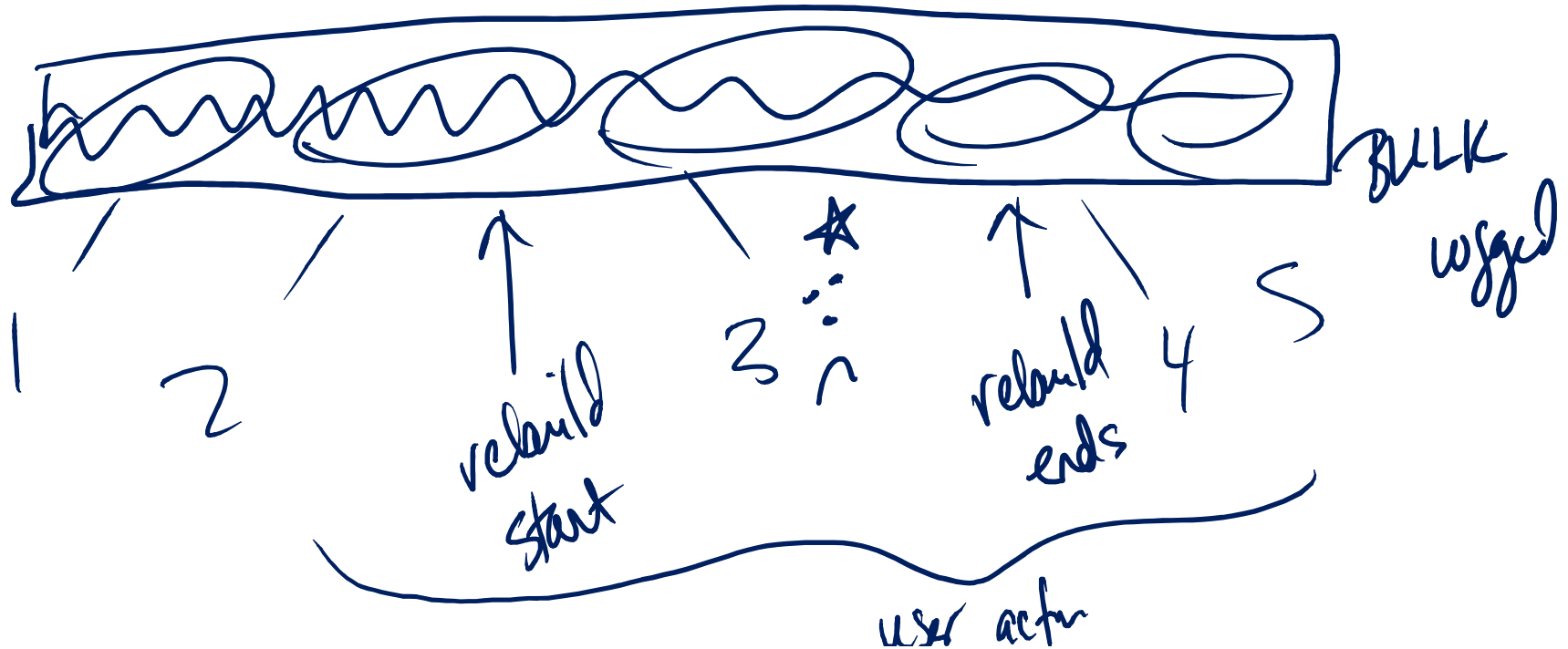
511232 + 1

SGAM

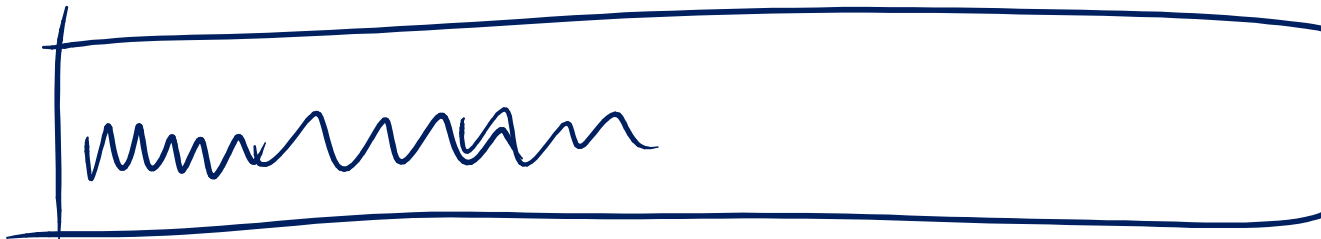
ID for pages based on whether they are PFS, GAM, SGAM. Relevant to tempdb and concurrency discussion.



Transaction log backups and differences between FULL and BULK LOGGED recovery models and point-in-time recovery



simple



CKPT

CKPT

Log file size with SIMPLE recovery – maintained with Checkpoint operations, versus log file size in FULL recovery, where transaction log backups are not run (and the log file will grow until it fills the drive)



Simple

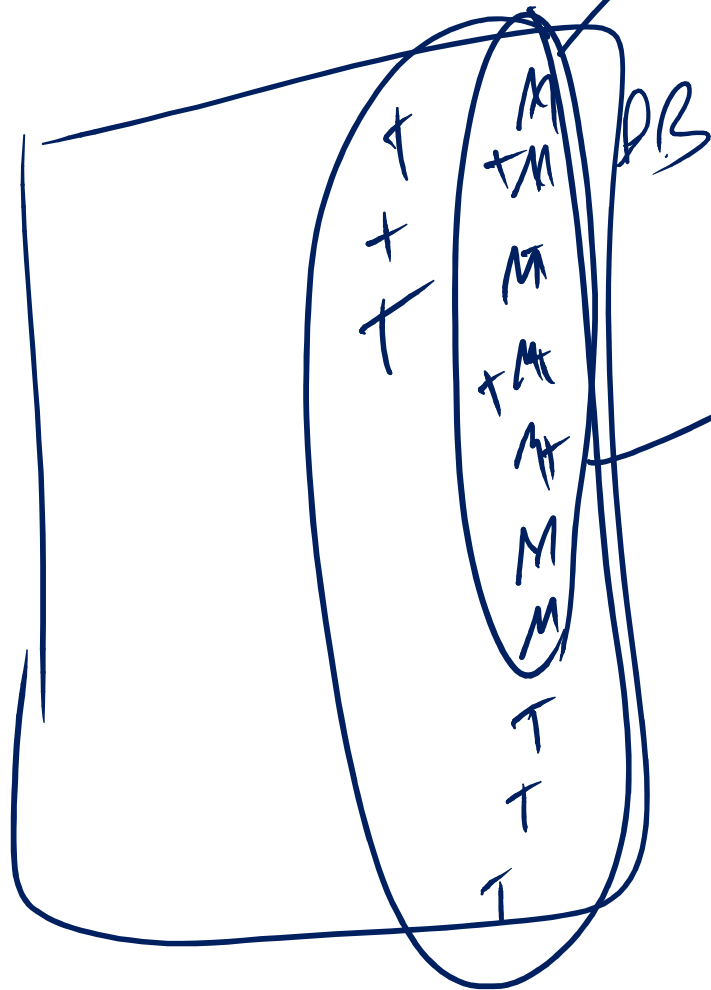
Backup

Backup

FULL - SUN

DIFF - MON

DIFF - THURS

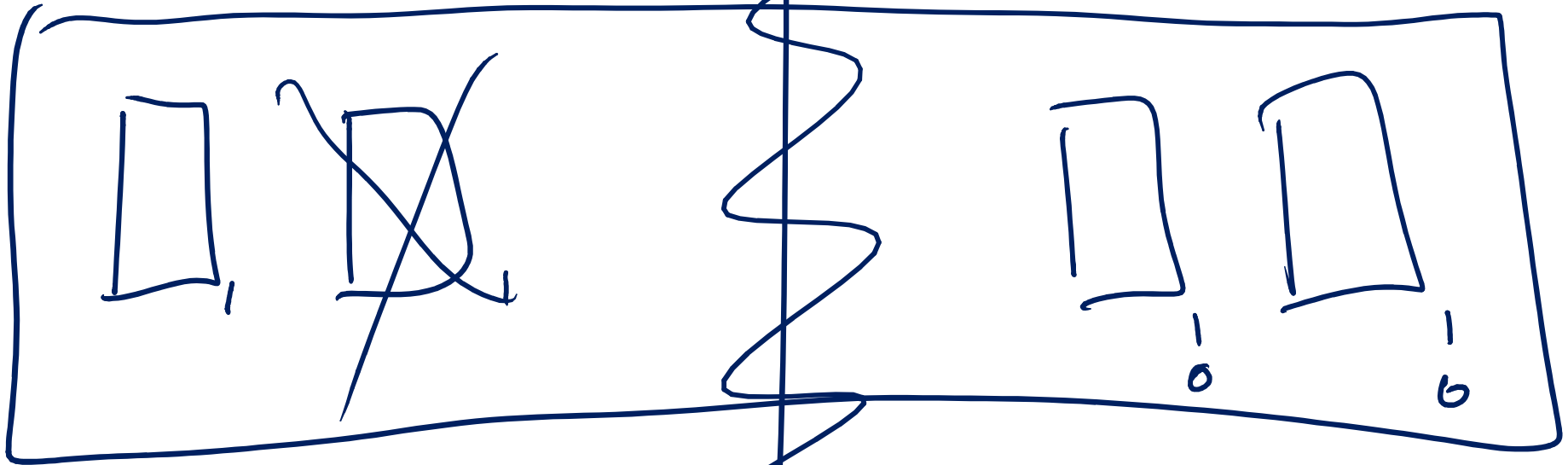


Differential backups are cumulative – they backup ALL of the extents that have been modified since the last FULL backup.

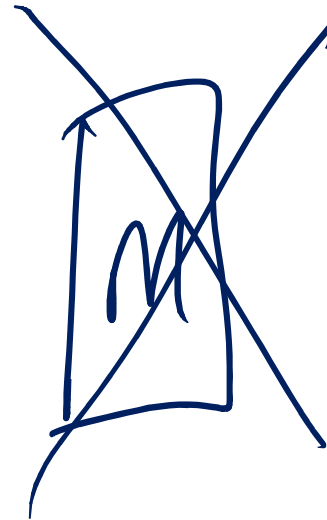
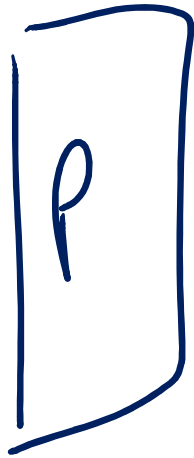
PROD

WS FC

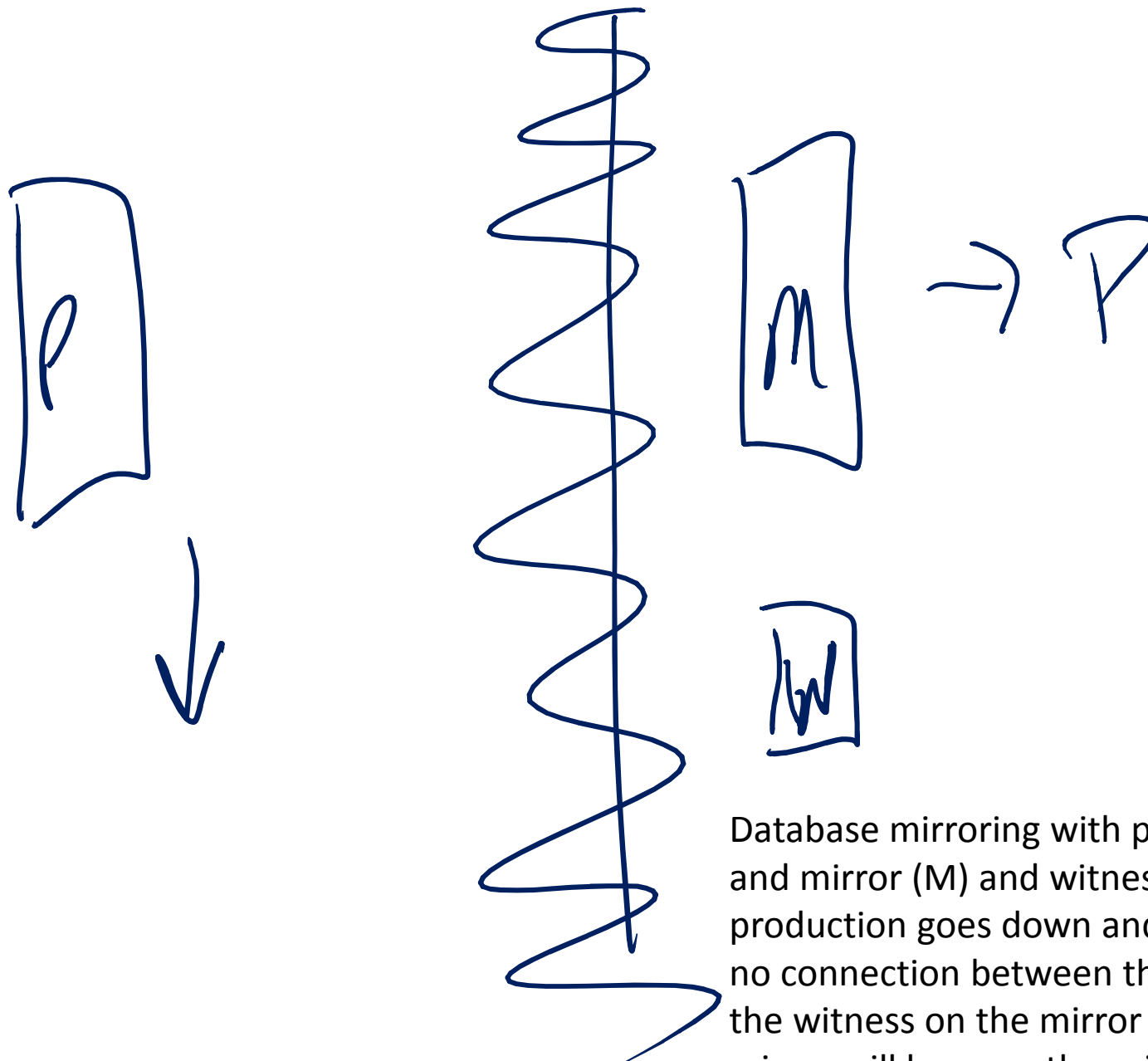
DR



Windows Server Failover Cluster
with Production and DR locations,
discussion of quorum



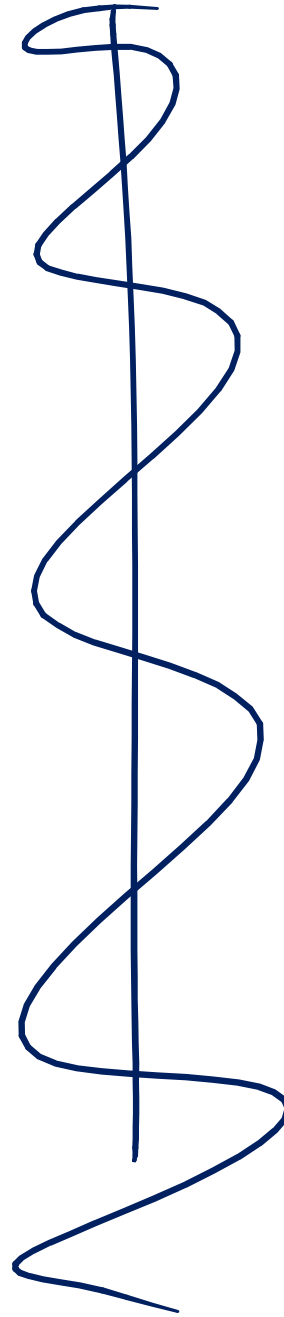
Database mirroring with primary (P) and mirror (M). If mirror goes down, primary says up.



Database mirroring with primary (P) and mirror (M) and witness (W). If production goes down and there's no connection between the sites, if the witness on the mirror side, the mirror will become the primary.

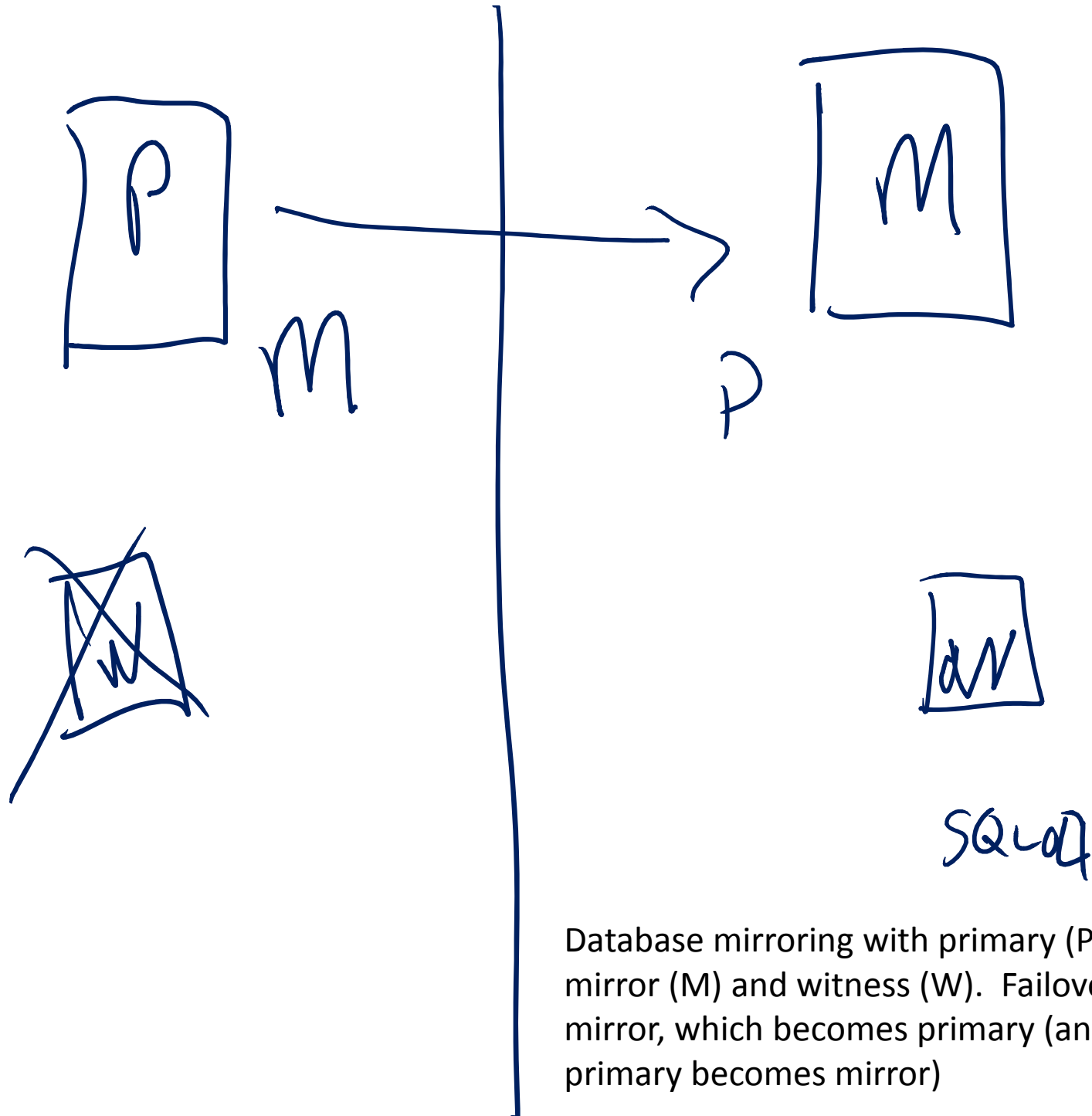
P

W



M

Database mirroring with primary (P) and mirror (M) and witness (W). If connectivity between the primary and mirror sites is lost, and the witness is with the primary, the primary stays the primary.



Database mirroring with primary (P) and mirror (M) and witness (W). Failover to the mirror, which becomes primary (and primary becomes mirror)