

Idea use some kind of error correction to compensate for this.

parity scheme - extra disk used to store parity of bits written by disk array

RAID Levels

Level 0 - use data striping no redundancy
faster write, not necessarily faster read
uses less scheduling options

Level 1 - mirror each disk don't stripe
does increase read speed. Uses more
space, writes slower.

Level 0+1 Striping + mirroring

Level 2 Error-Correcting code (Hamming code)
7 disks 4 data 3 check
data striping used
used parity on different subsets of bits
check disks usually $\lceil \log_2 \# \text{data disks} \rceil$

Level 3 Bit-Interleaved parity
only one parity disk + striping

Level 4 Block-Interleaved parity
block level striping & parity

Level 5 Block-Interleaved Distributed
parity

Level 6 Reed Solomon Codes
that can recover from two errors

Lowest Level of Disk Space Management
in DBMS - Disk Space Manager
allocates / manages pages
contiguous of blocks.

②
↓
manages data for higher
levels of DBMS.

Ways to Keep Track of free blocks

① List of free blocks

② Bit map for each block.

~~OS File~~

DBMS may or may not use OS Filesystem
one drawback to OS Filesystem
is that might have limit on file size
also might want to be more
platform indep.

Buffer Manager - ^{software that} brings pages from
disk to main memory
Memory it manages called buffer pool
It is partitioned into frames
that hold individual pages