

13.4 (a) A free space map (FSM) is a data structure used by a database to track of how much free space is available in each block of a data file.

☐ The space used is less with 2 bits.

Instead of storing the exact number of free bytes, we only stored an approximate category. This saves space.

☐ The number of times the free-space map needs to be updated decreases.

Because we are only tracking the approximate levels (not exact bytes), so small insertion/deletion don't change the category often.

So, the FSM doesn't need to be updated every time a record changes.

Drawbacks : Wasted space, ~~But~~ Increased search cost.