

# HW9

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12.1

A

I prefer to use the ssd to store some parts of database than other. hence if we use ssd as a chche or buffer in our disk, that couldn't solve the problem of support real-time queise that must be answered , the 1st solution is better.

B

because we don't konw which blocks will be used , so we can improve the preformance of disk to work better in that case. so we choose select the ssd as a buffer or cache in disk.

13.5

i wanna to use binary search tree or hash table.

The space complexity of binary search tree is smaller, but it's time complexity is slower ( $O(\log n)$ )

Hash table use  $O(1)$  time to finish find operate but cost a lot of memory.

13.9

A

we can store null in the offset and length fields.

Because we will use a null bitmap to identify null entris , so we should try our best to avoid arbitraty values

B

We are able to locate the null bitmap and the offset and length values of non-null attributes using the null bitmap. This can be done by storing the null bitmap at the beginning and then for non null attributes, store the value for fixed size attributes, or offset and length values for variable sized attributes that in the same order as in the bitmap.

13.11

A

Advantage:

- easy to access a relement for all records
- useful to store constant datas

Disadvantage:

- multiple artribute is very slow
- store redundancy datas

## B

Advantage:

- multiple attribute is very fast
- not store redundancy data

Disadvantage:

- difficult to access a element for all records
- unuseful to store constant data