

Point Location

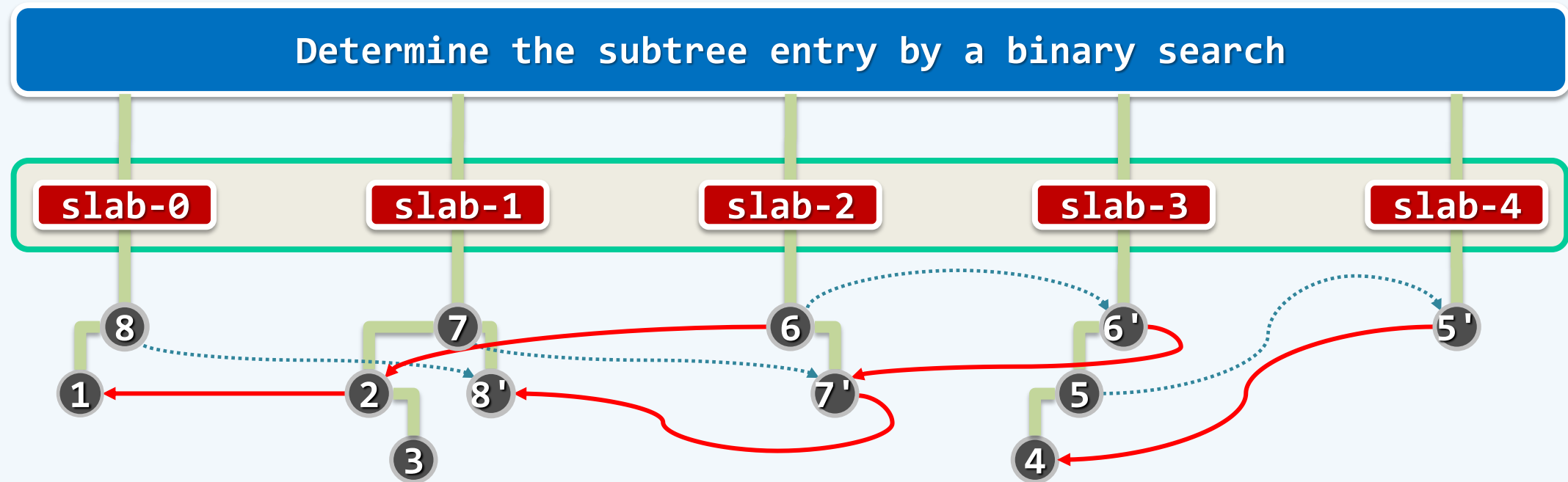
Path Copying

- X-Search

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- ❖ An **auxiliary sorted vector** is introduced to store the slab tree roots
- ❖ Each query search should begin with a (binary) search in this vector, in order to **find** the root of the desired slab tree



$O(n \log n)$

❖ This brings the side-effects that we need

- an extra $O(\log n)$ time (for each query) and
- an extra $O(n)$ space (for the vector)

❖ Fortunately,

neither effect affects essentially

the optimal time/space complexities

❖ And when all slabs are labeled by and referred to as its **version number**,

the x-search can even be done in $O(1)$ time