

Geometric Intersection

B0 Algorithm: Strategy

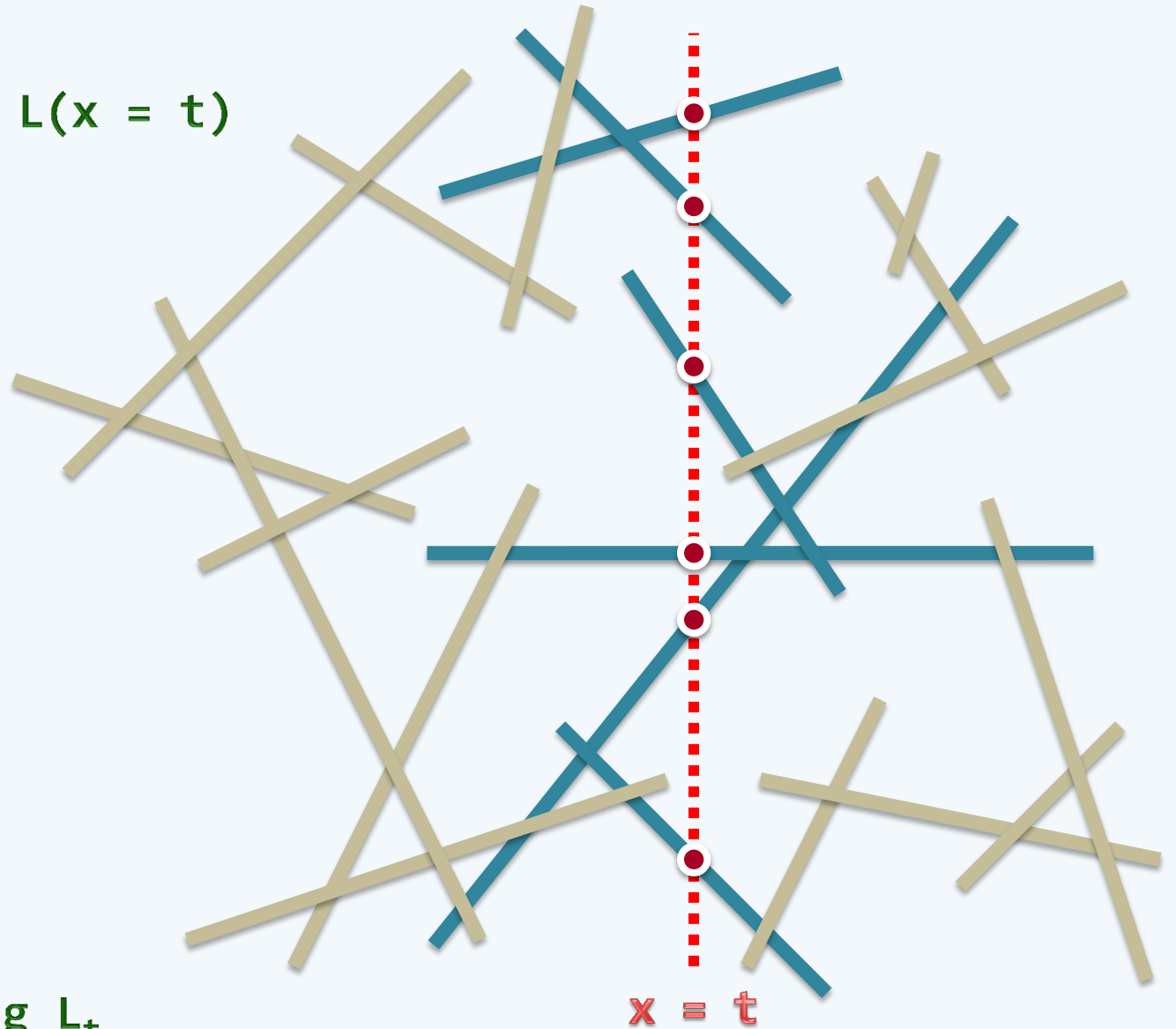
- Comparability & Ordering

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Total Order

- ❖ Consider the sweep line: $L_t = L(x = t)$
- ❖ Segments intersected with L_t are **comparable** by "height"
- ❖ Specifically,
if $L_t \cap S$ is below $L_t \cap T$,
then we denote it as
 $S <_t T$
- ❖ Note that
 $<_t$ is a total order
on all segments intersecting L_t



Update

- ❖ While L sweeping from $-\infty$ to $+\infty$, the order \prec_t may change
- ❖ When will it change?
And how many times could it change?

❖ The order \prec_t changes at and only at

- 1) a left endpoint,
- 2) a right endpoint, or
- 3) an intersection point

❖ All these positions are called events

