

Geometric Range Search

Range Tree: Structure

- x-Query * y-Queries

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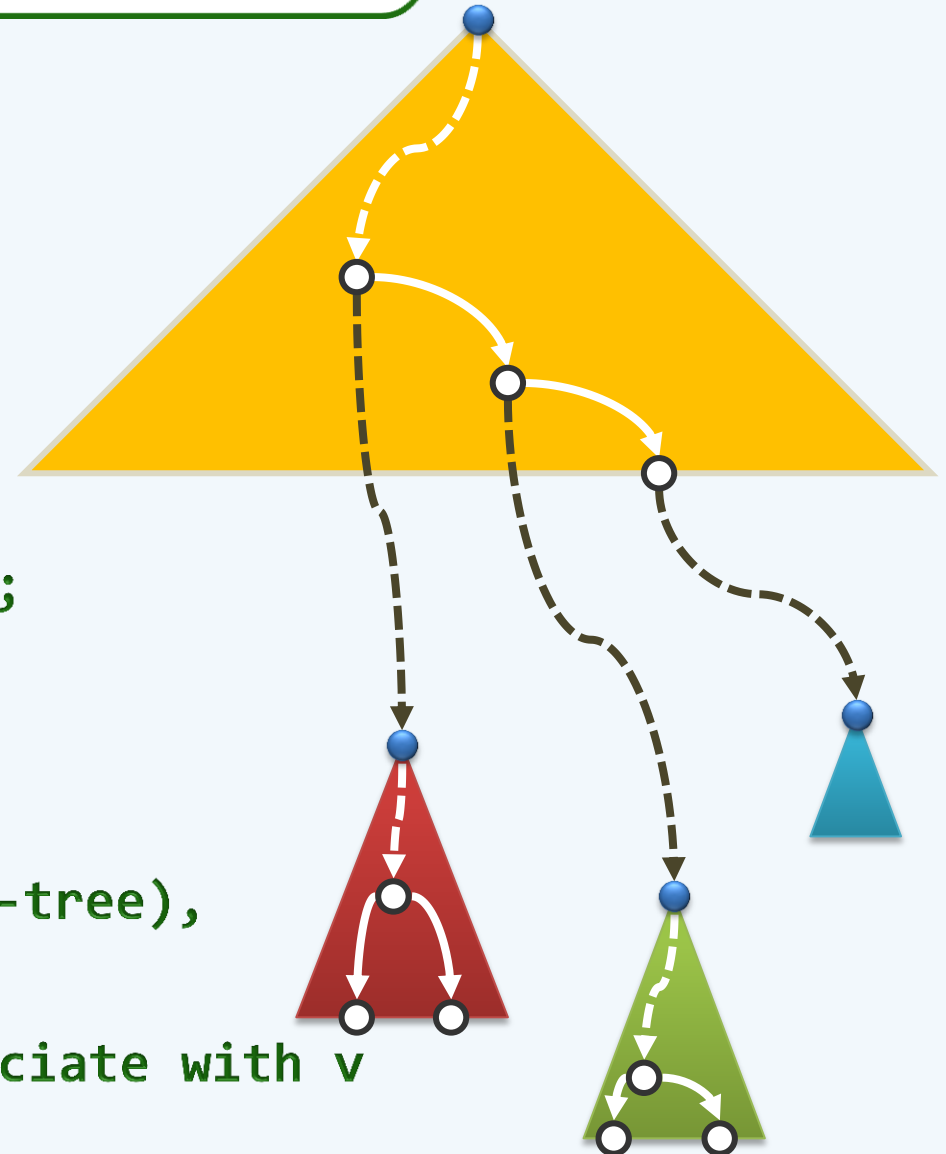
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2D Range Query = x-Query * y-Queries

❖ This idea can be implemented

in the following manner:

- build a 1D BBST (called \boxed{x} -tree)
for the first range query (\boxed{x} -query);
- for each node v in the x -range tree,
build a y -coordinate BBST (called \boxed{y} -tree),
containing the canonical subset associate with v



Tree Of Trees

❖ Hence we have built

an \boxed{x} -tree of (a number of) \boxed{y} -trees,

which is called

a $\boxed{\text{multi-level search tree}}$

? How to answer range queries

with such an MLST?

