

BST Application

kd-Tree: Canonical Subsets

09-B4

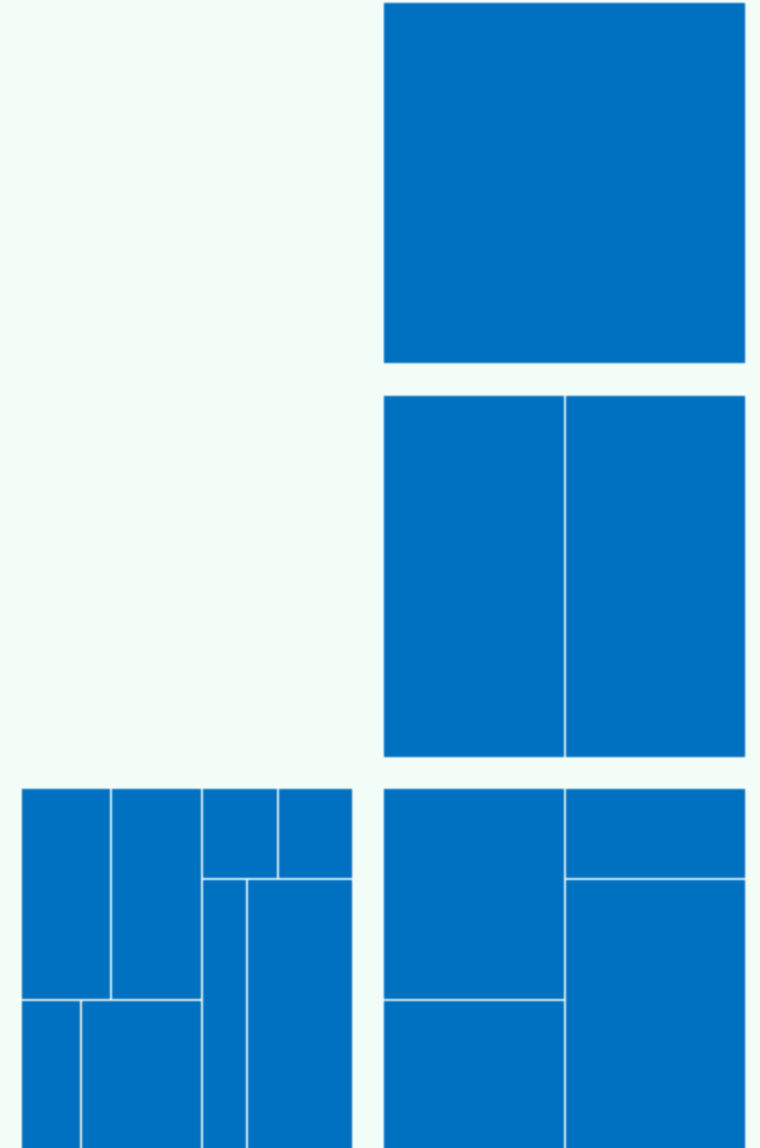
韦小宝跟著她走到桌边，只见桌上大白布上钉满了几千枚绣花针，几千块碎片已拼成一幅完整无缺的大地图，难得的是几千片碎皮拼在一起，既没多出一片，也没少了一片。

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Canonical Subset

- 👁 Each node corresponds to
 - a rectangular sub-region of the plane, as well as
 - the subset of points contained in the sub-region
- ❖ Each of these subsets is called a **canonical subset**
- 👁 For each internal node X with children L and R,
$$\text{region}(X) = \text{region}(L) \cup \text{region}(R)$$
- 👁 Sub-regions of nodes at a same depth
 - never intersect with each other, and
 - their union covers the entire plane
- ❖ We will see soon that each 2D GRS can be answered by the **union** of a number of CS's



Example

