07-B4

BST Application

kd-Tree: Canonical Subsets

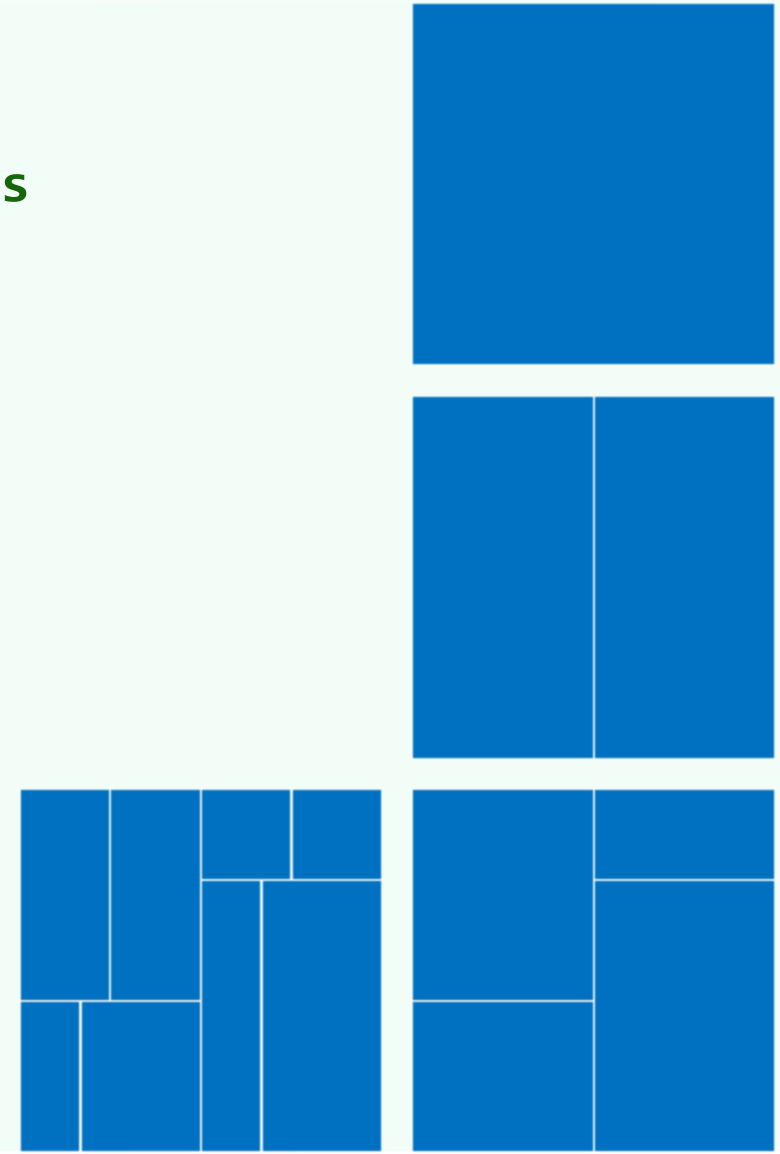
韦小宝跟著她走到桌边，只见桌上大白布上钉满了几千枚绣花针，几千块碎片已拼成一幅完整无缺的大地图，难得的是几千片碎皮拼在一起，既没多出一片，也没少了一片。

邓俊辉
deng@tsinghua.edu.cn

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,

  region(X) = region(L) ∪ 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