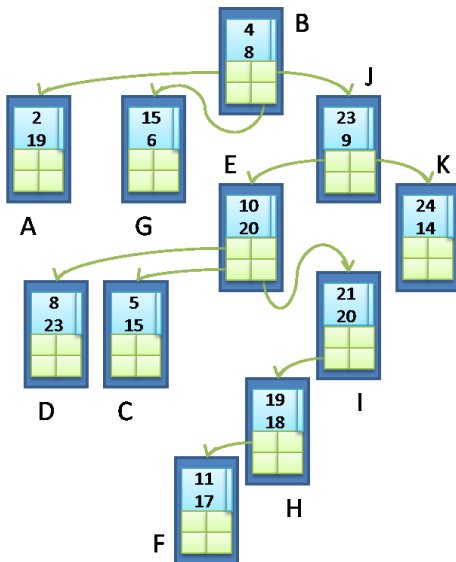


## Exercises for Spatial Databases and GIS

### Sheet 6 (until 16.12.2011)

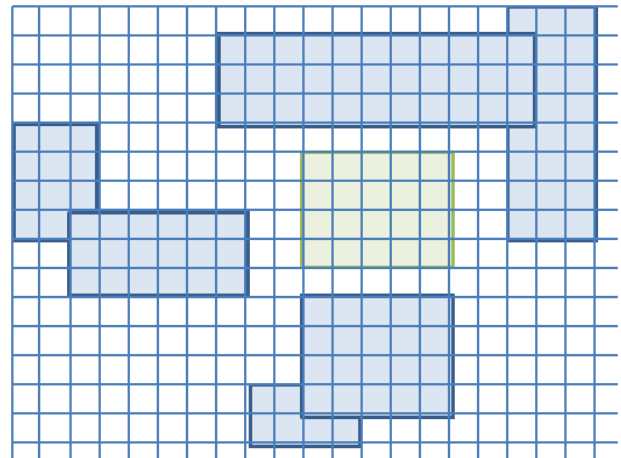
#### Exercise 1 (Quadtree)

Delete J.



#### Exercise 2 (R-tree)

The blue rectangles below had been in one r-tree node. After the insertion of the green rectangle a split is necessary. Use the algorithm with linear complexity to determine the seeds and distribute the rectangles into two nodes.



#### Exercise 3 (Geometric Operations)

Write down an algorithm (pseudocode) to determine whether two rectangles intersect or not.

### Exercise 4 (K-D tree)

1. Which nodes have to be visited during the search for all points within the rectangle defined by (5, 15) (17, 21).
2. Insert the points (7,48) and (36,10).
3. Delete the point (7,19).

