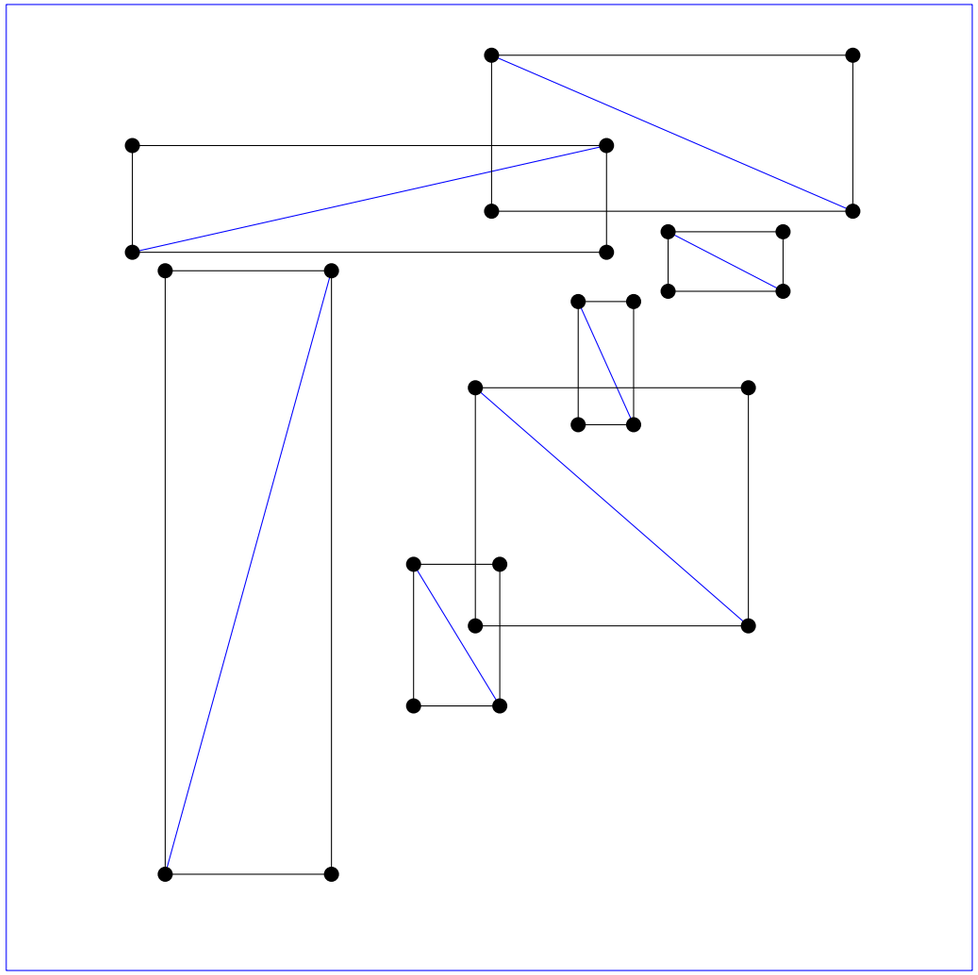
How to get that quadtree in Z-order (for line segments in unit square)

Input: file with for each line segment its endpoints.

Algorithm:

1. Sort bounding box vertices of line segments
   into list $L = \{L_1, ..., L_m\}$ in Z-order