Project Name: Computing the Intersections of Axis-Parallel Rectangles

Project Description:

Masks used to production of integrated circuits are frequently expressed as collection of rectangles with sides parallel to two orthogonal directions. Such rectangles is either a portion of wire or an implementation region. This rectangles are laid out in the plane according to some design criteria which specify minimum spacing between rectangles and minimum overlaps of rectangles. Computational geometry algorithms can be applied to meet design criteries of Very-Large-Scale-Integration (VLSI) layout pattern design.

This project consists of implementing a software that finds and reports intersections of rectangles. Plane sweep algorithm or other algorithms that find intersections of rectangles are considered for implementing. The plane-sweep method may be most remarkable because it can be commonly used to various problems. Software is planned to find and report intersections of a million of rectangles. Moreover, intersections of several rectangles is planned to visualase. Microsoft visual studio or Matlab can be used for implementing.

Kadir Ayhan
21203413