There are totally three .h files, and the function of them are listed following:

1.test.h

this file's task is quiet easy, just find out overlap between rectangles and print out. So it's easy to find out mistakes.

2.Rect.h

firstly, this provide Point for Rect to compose to save the position. Then we compose std::vector<Rect> to Rects. So we can overload << and >> to realize the input and output task. We also add [] and size() to make it behave like a vector.

3.SLT.h

this is the most important file for we to realize the paper. According to the paper it have member S:names_, L:orientations_, T:T_junctions_ all as vector.

It also have a static member names rects_ which stores the rectangles' iformation that won't change when we test different SLTs.

Change() realize the three ways to change SLT given by the paper, compArea() use the private member function transformToFloorplan() to determine the Rectangles' position according to the current SLT, then it computes the area's size.

Function transformToFloorplan() realized through insert the blocks one by one as well as record the left block and bottom block it rely on. After all recorded, we then insert block with its rectangle, determine its size and the position of its rectangles. The time complexity is about O(n).

4.main.cpp

at the first step, we read in the rectangles' information with operator>>, then we let temperature direct ratio to number's square, factor related to the average size of the rectangles. At the end, we test the result to avoid mistakes.