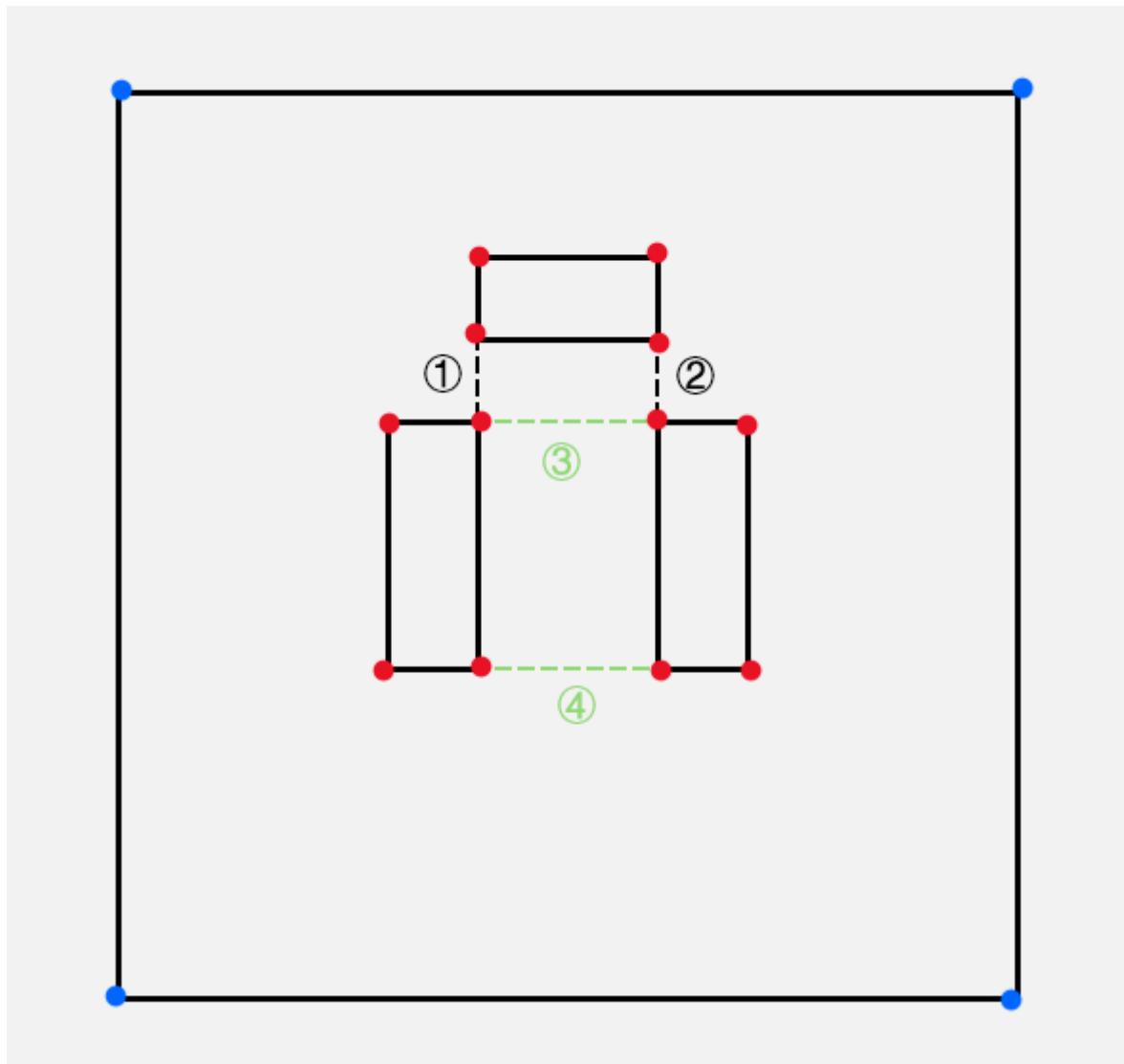
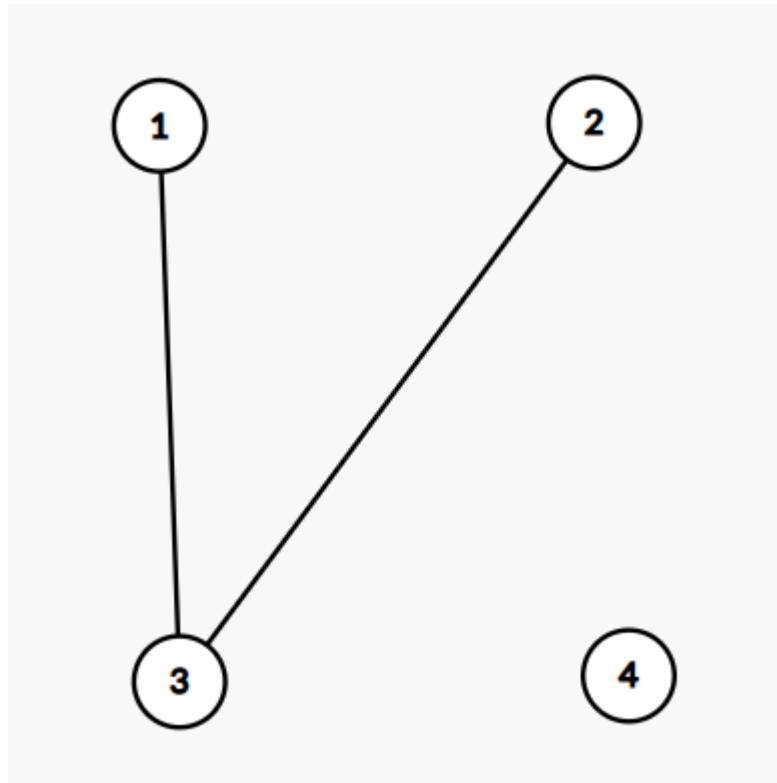


In this example, there are 2 vertical **corner lines** (marked as black), and 2 horizontal **corner lines** (marked as green).



line ③ intersect with line ① and line ②, so the corresponding bipartite graph looks like



The maximum independent set of it is  $S = \{1, 2, 4\}$ . So we connect line ① ② ④ (marked as red). Then for those ***internal corners*** which has no line (except the *border*) connected to, we draw a either horizontal or vertical line from them (we use horizontal lines in this example).

So, the minimal number of rectangles is

$$\begin{aligned}
 |R(L_m)| &= \frac{n}{2} + h - \max\{|L_c|\} - 1 \\
 &= \frac{16}{2} + 3 - 3 - 1 \\
 &= 7
 \end{aligned}$$

