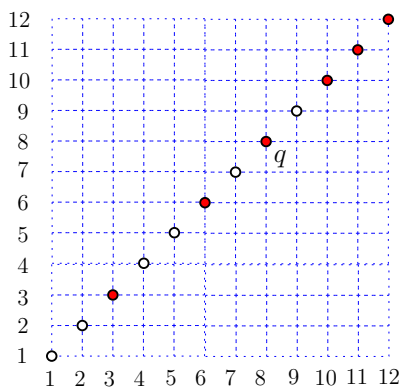


Exercises

By Yufei Tao

Problem 1. Consider the following dataset, where a red point has label 1 and a white point has label 0:



- What is the width of the dataset?
- What is the value of k ? Recall that k is the smallest error of a monotone classifier.

Problem 2. Prove: the fractional edge covering number of a triangle must be at least 1.5.

Problem 3. Prove: a graph G with m edges can contain $O(m^{1.5})$ triangles.