

939. Minimum Area Rectangle

Given a set of points in the xy-plane, determine the minimum area of a rectangle formed from these points, with sides parallel to the x and y axes.

If there isn't any rectangle, return 0.

```
class Solution {
    public int minAreaRect(int[][] points) {

        Map<Integer, Set<Integer>> map = new HashMap<>();
        for (int[] point : points) {
            if (!map.containsKey(point[0])) {
                map.put(point[0], new HashSet<>());
            }
            map.get(point[0]).add(point[1]);
        }

        int res = Integer.MAX_VALUE;

        for (int[] point1 : points) {
            for (int[] point2 : points) {
                // to find diagonal
                if (point1[0] == point2[0] || point1[1] == point2[1])
                    continue;

                if (map.get(point1[0]).contains(point2[1]) &&
                    map.get(point2[0]).contains(point1[1]))
                    res = Math.min(res, Math.abs(point1[0] - point2[0])
                        * Math.abs(point1[1] - point2[1]));
            }
        }

        return res == Integer.MAX_VALUE ? 0 : res;
    }
}
```