

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 import java.util.*;
4
5 class Program {
6     // O(br) time | O(br) space - where b is the number of blocks and r is the number of
7     // requirements
8     public static int apartmentHunting(List<Map<String, Boolean>> blocks, String[] reqs) {
9         int[][] minDistancesFromBlocks = new int[reqs.length][];
10        for (int i = 0; i < reqs.length; i++) {
11            minDistancesFromBlocks[i] = getMinDistances(blocks, reqs[i]);
12        }
13        int[] maxDistancesAtBlocks = getMaxDistancesAtBlocks(blocks, minDistancesFromBlocks);
14        return getIdxAtMinValue(maxDistancesAtBlocks);
15    }
16
17    public static int[] getMinDistances(List<Map<String, Boolean>> blocks, String req) {
18        int[] minDistances = new int[blocks.size()];
19        int closestReqIdx = Integer.MAX_VALUE;
20        for (int i = 0; i < blocks.size(); i++) {
21            if (blocks.get(i).get(req)) closestReqIdx = i;
22            minDistances[i] = distanceBetween(i, closestReqIdx);
23        }
24        for (int i = blocks.size() - 1; i >= 0; i--) {
25            if (blocks.get(i).get(req)) closestReqIdx = i;
26            minDistances[i] = Math.min(minDistances[i], distanceBetween(i, closestReqIdx));
27        }
28        return minDistances;
29    }
30
31    public static int[] getMaxDistancesAtBlocks(
32        List<Map<String, Boolean>> blocks, int[][] minDistancesFromBlocks) {
33        int[] maxDistancesAtBlocks = new int[blocks.size()];
34        for (int i = 0; i < blocks.size(); i++) {
35            int[] minDistancesAtBlock = new int[minDistancesFromBlocks.length];
36            for (int j = 0; j < minDistancesFromBlocks.length; j++) {
37                minDistancesAtBlock[j] = minDistancesFromBlocks[j][i];
38            }
39            maxDistancesAtBlocks[i] = arrayMax(minDistancesAtBlock);
40        }
41        return maxDistancesAtBlocks;
42    }
43
44    public static int getIdxAtMinValue(int[] array) {
45        int idxAtMinValue = 0;
46        int minValue = Integer.MAX_VALUE;
47        for (int i = 0; i < array.length; i++) {
48            int currentValue = array[i];
49            if (currentValue < minValue) {
50                minValue = currentValue;
51                idxAtMinValue = i;
52            }
53        }
54        return idxAtMinValue;
55    }
56
57    public static int distanceBetween(int a, int b) {
58        return Math.abs(a - b);
59    }
60
61    public static int arrayMax(int[] array) {
62        int max = array[0];
63        for (int a : array) {
64            if (a > max) {
65                max = a;
66            }
67        }
68        return max;
69    }
70 }
71
```

