

Solution 1Solution 2

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1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 // O(br) time | O(br) space - where b is the number of blocks and r is the number of requirements
4 function apartmentHunting(blocks, reqs) {
5   const minDistancesFromBlocks = reqs.map(req => getMinDistances(blocks, req));
6   const maxDistancesAtBlocks = getMaxDistancesAtBlocks(blocks, minDistancesFromBlocks);
7   return getIdxAtMinValue(maxDistancesAtBlocks);
8 }
9
10 function getMinDistances(blocks, req) {
11   const minDistances = new Array(blocks.length);
12   let closestReqIdx = Infinity;
13   for (let i = 0; i < blocks.length; i++) {
14     if (blocks[i][req]) closestReqIdx = i;
15     minDistances[i] = distanceBetween(i, closestReqIdx);
16   }
17   for (let i = blocks.length - 1; i >= 0; i--) {
18     if (blocks[i][req]) closestReqIdx = i;
19     minDistances[i] = Math.min(minDistances[i], distanceBetween(i, closestReqIdx));
20   }
21   return minDistances;
22 }
23
24 function getMaxDistancesAtBlocks(blocks, minDistancesFromBlocks) {
25   const maxDistancesAtBlocks = new Array(blocks.length);
26   for (let i = 0; i < blocks.length; i++) {
27     const minDistancesAtBlock = minDistancesFromBlocks.map(distances => distances[i]);
28     maxDistancesAtBlocks[i] = Math.max(...minDistancesAtBlock);
29   }
30   return maxDistancesAtBlocks;
31 }
32
33 function getIdxAtMinValue(array) {
34   let idxAtMinValue = 0;
35   let minValue = Infinity;
36   for (let i = 0; i < array.length; i++) {
37     const currentValue = array[i];
38     if (currentValue < minValue) {
39       minValue = currentValue;
40       idxAtMinValue = i;
41     }
42   }
43   return idxAtMinValue;
44 }
45
46 function distanceBetween(a, b) {
47   return Math.abs(a - b);
48 }
49
50 exports.apartmentHunting = apartmentHunting;
51
```

