AlgoExpert Quad Layout C++ 12px Sublime Monok

Prompt Scratchpad Our Solution(s) Video Explanation Run Code

```
Solution 1 Solution 2
```

```
// Copyright © 2020 AlgoExpert, LLC. All rights reserved.
 1
 2
 3
     using namespace std;
 4
 5 ▼ struct Item {
 6
       int arrayIdx;
 7
       int num;
 8
     };
 9
     Item getMinValue(vector<Item> items);
10
11
12
     // O(nk) time | O(n + k) space - where where n is the total
     // number of array elements and \boldsymbol{k} is the number of arrays
13
14 ▼ vector<int> mergeSortedArrays(vector<vector<int>> arrays) {
       vector<int> sortedList;
15
16
       vector<int> elementIdxs (arrays.size(), 0);
17
18 ▼
       while (true) {
         vector<Item> smallestItems;
19
20 ▼
         for (int arrayIdx = 0; arrayIdx < arrays.size(); arrayIdx++) {</pre>
           vector<int> relevantArray = arrays[arrayIdx];
21
           int elementIdx= elementIdxs[arrayIdx];
22
           if (elementIdx== relevantArray.size()) continue;
23
24
           smallestItems.push_back(Item {arrayIdx, relevantArray[elementIdx]});
25
         if (smallestItems.size() == 0) break;
26
         Item nextItem = getMinValue(smallestItems);
27
28
         sortedList.push_back(nextItem.num);
29
         elementIdxs[nextItem.arrayIdx]++;
30
       }
31
32
       return sortedList;
33
34
35 ▼ Item getMinValue(vector<Item> items) {
36
       int minValueIdx = 0;
       for (int i = 1; i < items.size(); i++) {</pre>
37 ▼
         if (items[i].num < items[minValueIdx].num) minValueIdx = i;</pre>
38
39
40
       return items[minValueIdx];
41
    }
```