

Problem 2022: Convert 1D Array Into 2D Array

Problem Information

Difficulty: Easy

Acceptance Rate: 72.00%

Paid Only: No

Tags: Array, Matrix, Simulation

Problem Description

You are given a **0-indexed** 1-dimensional (1D) integer array `original`, and two integers, `m` and `n`. You are tasked with creating a 2-dimensional (2D) array with `m` rows and `n` columns using **all** the elements from `original`.

The elements from indices `0` to `n - 1` (**inclusive**) of `original` should form the first row of the constructed 2D array, the elements from indices `n` to `2 * n - 1` (**inclusive**) should form the second row of the constructed 2D array, and so on.

Return **_an_** `m x n` **_2D array** constructed according to the above procedure, or an empty 2D array if it is impossible_.

Example 1:

Input: original = [1,2,3,4], m = 2, n = 2 **Output:** [[1,2],[3,4]] **Explanation:** The constructed 2D array should contain 2 rows and 2 columns. The first group of n=2 elements in original, [1,2], becomes the first row in the constructed 2D array. The second group of n=2 elements in original, [3,4], becomes the second row in the constructed 2D array.

Example 2:

Input: original = [1,2,3], m = 1, n = 3 **Output:** [[1,2,3]] **Explanation:** The constructed 2D array should contain 1 row and 3 columns. Put all three elements in original into the first row of the constructed 2D array.

****Example 3:****

****Input:**** original = [1,2], m = 1, n = 1 ****Output:**** [] ****Explanation:**** There are 2 elements in original. It is impossible to fit 2 elements in a 1x1 2D array, so return an empty 2D array.

****Constraints:****

* `1 <= original.length <= 5 * 104` * `1 <= original[i] <= 105` * `1 <= m, n <= 4 * 104`

Code Snippets

C++:

```
class Solution {  
public:  
vector<vector<int>> construct2DArray(vector<int>& original, int m, int n) {  
}  
};
```

Java:

```
class Solution {  
public int[][] construct2DArray(int[] original, int m, int n) {  
}  
}
```

Python3:

```
class Solution:  
def construct2DArray(self, original: List[int], m: int, n: int) ->  
List[List[int]]:
```