2.6

1899. Merge Triplets to Form Target Triplet

Hint

Medium 737 54

Companies

A **triplet** is an array of three integers. You are given a 2D integer array `triplets`, where `triplets[i] = [a_i, b_i, c_i]` describes the i^{th} **triplet**. You are also given an integer array `target = [x, y, z]` that describes the **triplet** you want to obtain.

To obtain `target`, you may apply the following operation on `triplets` **any number** of times (possibly **zero**):

- Choose two indices (**0-indexed**) `i` and `j` (`i != j`) and **update** `triplets[j]` to become `[max(a_i, a_j), max(b_i, b_j), max(c_i, c_j)]`.
  - For example, if `triplets[i] = [2, 5, 3]` and `triplets[j] = [1, 7, 5]`, `triplets[j]` will be updated to `[max(2, 1), max(5, 7), max(3, 5)] = [2, 7, 5]`.

Return `true` *if it is possible to obtain the* `target` ***triplet*** `[x, y, z]` *as an* ***element*** *of* `triplets`*, or* `false` *otherwise.*

Example 1:

```
Input: triplets = [[2,5,3],[1,8,4],[1,7,5]], target = [2,7,5]
Output: true
Explanation: Perform the following operations:
- Choose the first and last triplets [[2,5,3],[1,8,4],[1,7,5]]. Update the last triplet to be [max(2,1), max(5,7), max(3,5)] = [2,7,5]. triplets = [[2,5,3],[1,8,4],[2,7,5]]
The target triplet [2,7,5] is now an element of triplets.
```

Example 2:

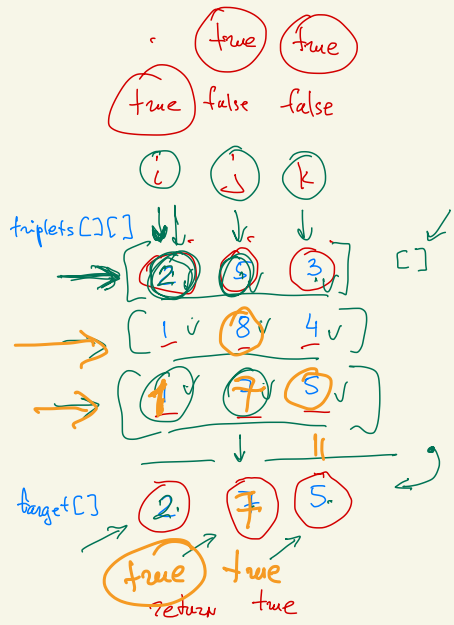
```
Input: triplets = [[3,4,5],[4,5,6]], target = [3,2,5]
Output: false
Explanation: It is impossible to have [3,2,5] as an element because there is no 2 in any of the triplets.
```

Example 3:

```
Input: triplets = [[2,5,3],[2,3,4],[1,2,5],[5,2,3]], target = [5,5,5]
Output: true
Explanation: Perform the following operations:
- Choose the first and third triplets [[2,5,3],[2,3,4],[1,2,5],[5,2,3]]. Update the third triplet to be [max(2,1), max(5,2), max(3,5)] = [2,5,5]. triplets = [[2,5,3],[2,3,4],[2,5,5],[5,2,3]].
- Choose the third and fourth triplets [[2,5,3],[2,3,4],[2,5,5],[5,2,3]]. Update the fourth triplet to be [max(2,5), max(5,2), max(5,3)] = [5,5,5]. triplets = [[2,5,3],[2,3,4],[2,5,5],[5,5,5]].
The target triplet [5,5,5] is now an element of triplets.
```

```java
public class MergeTripletsToFormTargetTriplet {
    // O(n) O(1)
    public boolean mergeTriplets(int[][] triplets, int[] target) {
        boolean i = false;
        boolean j= false;
        boolean k=false;
        for(int[] t: triplets)
        {
            if(t[0]<=target[0] && t[1]<=target[1] && t[2]<=target[2])
            {    if(t[0]==target[0]) i = true;
                if(t[1]==target[1]) j = true;
                if(t[2]==target[2]) k = true;
            }
            if(i && j && k)
                return true;
        }
        return false;
    }
```

1. Select triplet with elem <= target.
2. set equals values of triplet to true
3. compare if all the values is true.



return false

```
for (int[] triplet : triplets) {
    if triplet[0] <= target[0]
    &&
    [1]  [1]
    &&
    [2]  [2]
    if triplet[0] == target[0]
        i = true;
    [1]  [1]
    [2]  [2]
        j = true
        k = true
    if( i && j && k )
        return true.
return false.
```