# Problem 6 - MineCrash (Programming - Advanced)

## Description

(20%) You and your best friends love to play the most popular game **MineCrash**. In the game, there are some gold blocks in a row. The $i$-th gold block is occupied by a miner belonging to player $b_i$. Some events $(l, r, v)$ may happen during the game, such that each miner occupying the $l$-th to the $r$-th gold block gain $v$ units of gold. The goal of player $i$ is to collect $g_i$ units of gold. As an intelligent programmer, you want to make your own implementation of the game, and find out when will each player reach his/her goal.

## Input Format

The first line contains a integer $T$ indicating the number of test cases. Each test case starts with a line containing three integers $n, m, q$, specifying the number of players, gold blocks, and events. The next line contains $n$ integers $g_1, g_2, \ldots, g_n$, specifying the goal of each player. The next line contains $m$ integers, $b_1, b_2, \ldots, b_m$, specifying the ownership of each block. The next $q$ lines list the events in chronological order, each of which contains three integers $l_i, r_i, v_i$ that associates with the $i$-th event.

- $1 \leq T \leq 10$
- $1 \leq n, m, q \leq 10^5$
- $1 \leq g_i, v_i \leq 10^9$
- $1 \leq b_i \leq n$
- $1 \leq l_i \leq r_i \leq m$

## Output Format

For each test case, please output $n$ integers $t_1, t_2, \ldots, t_n$ in one line. It means that player $i$ achieves the goal $g_i$ after event $t_i$. We simply let $t_i = -1$ if player $i$ cannot achieve the goal $g_i$ even after the last event. Note that trailing spaces are not allowed; please follow the output format exactly.

## Sample Input

```
2
6 6 1
3 1 4 1 5 9
1 2 3 4 5 6
1 6 3
3 5 4
15 10 50
1 2 3 1 2
2 5 3
1 4 2
2 4 5
1 5 3
```

## Sample Output

```
1 1 -1 1 -1 -1
4 3 -1
```