Game of Two Stacks

Alexa has two stacks of non-negative integers, stack $A = [a_0, a_1, \ldots, a_{n-1}]$ and stack $B = [b_0, b_1, \ldots, b_{m-1}]$ where index 0 denotes the top of the stack. Alexa challenges Nick to play the following game:

- In each move, Nick can remove one integer from the top of either stack A or stack B.
- Nick keeps a running sum of the integers he removes from the two stacks.
- Nick is disqualified from the game if, at any point, his running sum becomes greater than some integer x given at the beginning of the game.
- Nick's *final score* is the total number of integers he has removed from the two stacks.

Given A, B, and x for g games, find the maximum possible score Nick can achieve (i.e., the maximum number of integers he can remove without being disqualified) during each game and print it on a new line.

Input Format

The first line contains an integer, g (the number of games). The $3 \cdot g$ subsequent lines describe each game in the following format:

1. The first line contains three space-separated integers describing the respective values of n (the number of integers in stack A), m (the number of integers in stack B), and x (the number that the sum of the integers removed from the two stacks cannot exceed).
2. The second line contains n space-separated integers describing the respective values of $a_0, a_1, \ldots, a_{n-1}$.
3. The third line contains m space-separated integers describing the respective values of $b_0, b_1, \ldots, b_{m-1}$.

Constraints

- $1 \leq g \leq 50$
- $1 \leq n, m \leq 10^5$
- $0 \leq a_i, b_j \leq 10^6$
- $1 \leq x \leq 10^9$

Subtasks

- $1 \leq n, m, \leq 100$ for 50% of the maximum score.

Output Format

For each of the g games, print an integer on a new line denoting the maximum possible score Nick can achieve without being disqualified.

Sample Input 0

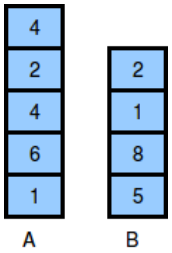
```
1
5 4 10
4 2 4 6 1
2 1 8 5
```

Sample Output 0

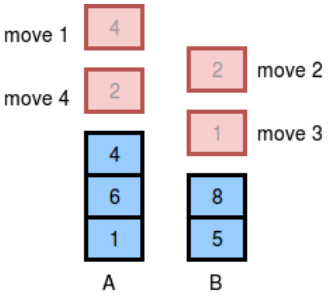
4

Explanation 0

The two stacks initially look like this:



The image below depicts the integers Nick should choose to remove from the stacks. We print $\mathbf{4}$ as our answer, because that is the maximum number of integers that can be removed from the two stacks without the sum exceeding $x = 10$.



(There can be multiple ways to remove the integers from the stack, the image shows just one of them.)

Contest ends in a day

Submissions: 28
Max Score: 40
Difficulty: Medium

Rate This Challenge:

More

Current Buffer (saved locally, editable) C++14

```
#include <bits/stdc++.h>

using namespace std;

vector<string> split_string(string);

/*
 * Complete the twoStacks function below.
 */
int twoStacks(int x, vector<int> a, vector<int> b) {
    /*
     * Write your code here.
     */

}

int main()
{↔}

vector<string> split_string(string input_string) {↔}
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code