**Feeding Frenzy**

Initially, there are fishes in a pool. Fish has the size of . All of these fishes are full. After that, hungry fishes enter the pool in sequence, starting from the 1st hungry fish. The fish to come has a size of . Each hungry fish, when enters the pool, will find any fish living in the pool whose size is strictly less than its current size to eat. After eating a smaller fish, the size of the eater will increase by the eaten one’s size. The hungry fish will repeat eating until it cannot find any smaller fish, only after that will it become full and the next hungry fish enter the pool. List the size of all the fishes that are still alive after all hungry fishes enter the pool and become full in ascending order.

## Input

The first line contains two integers

The second line contains integers – the size of the fishes inside the pool initially. It’s guaranteed that the sequence is in increasing order.

The third line contains integers – the size of the hungry fishes to come.

## Output

The size of all the alive fishes after all hungry fishes enter the pool and become full in **ascending** order

## Examples

|  |  |
| --- | --- |
| Input (feeding1.in) | Output (feeding1.out) |
| 5 3  1 3 18 25 26  3 2 8 | 17 18 25 26 |

## Explanation:

|  |  |
| --- | --- |
| Time | State |
| Before any hungry fish come | 1 3 18 25 26 |
| After the 1st hungry fish come | 7 18 25 26  (the fish eat fish of size 1 and the fish of size 3 to have a size of 7) |
| After the 2nd hungry fish come | 2 7 18 25 26  (this fish cannot eat any fish) |
| After the 3rd hungry fish come | 17 18 25 26  (the fish eat fish of size 2 and the fish of size 7 to have a size of 17) |

## Important note:

For the purpose of practicing Queue and Stack, you are only forbidden to use all data structure other than Queue and Stack (including array, ArrayList, ….) . Violation of this rule will result in **0 marks** for the assignment.

## Note:

1. A skeleton file has been given to help you. You should not create a new file or rename the file provided. You should develop your program using this skeleton file.
2. You are free to define your own helper methods and classes (or remove existing ones) if it is suitable but you must put all the new classes, if any, in the same skeleton file provided

## Skeleton File

You are given the skeleton file Feeding.java. You should see the following contents when you open the file:

|  |
| --- |
| /\*\*  \* Name :  \* Matric. No :  \*/  import java.util.\*;  public class Feeding {  private void run() {  }  public static void main(String args[]) {  Feeding feeding = new Feeding();  feeding.run();  }  } |