HackerRank CHALLENGES SUBMISSIONS LEADERBOARD POLYTSHIRT

The contest is in progress. It ends about 21 hours from now.

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Problem_AR

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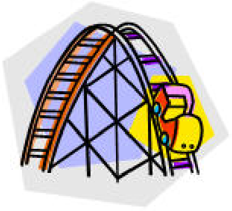
There is an entertainment park visited by thousands of people every day. The intention of every visitor is to view most of the entertainment events/shows available in the park. The Manager of the entertainment park also wants that visitor of the park should view most of the shows, which will bring more publicity and profit to the company. For doing this the manager of the park plans to schedule the shows in such a way that there is the least overlapping between the shows.

In addition to this there are some Signature events/shows of that entertainment park. As per the company policy, no one should miss these events and these events should be given priority when scheduling the shows.



(Source: Microsoft® Clipart)

Task

Your task is to write a program that will be able to reduce the overlapping time while also giving more priority to the Signature events of the entertainment park.

Input

The input of the program will always be two lines provided through the standard input stream.

The first line will begin with a positive integer number N (1?N?10) representing the total number of shows available in the entertainment park. Then N integer values will follow (separated by a space) representing the length of each of the N shows.

The second line of the input refers to the key break points that correspond to the Signature events/shows. It starts by a positive integer number M (1?M?4) reflecting the total number of key break points (one key break point for one signature event) followed by M pairs of integer values (each pair separated to another by a space). Each pair is comprised of two space-separated positive integer values, the first one representing the time after which the important show will be starting (i.e. time interval between which other shoes of the park may take place), whereas the second integer value reflects the importance level of this show. Importance level 1 is higher than 2 and levels are limited up to level 4.

For example, the following input:

```
4 40 60 50 30
2 60 1 60 2
```

Implies that there are 4 (normal) shows on that day with durations 40, 60, 50 and 30 minutes respectively. Also, in the second line it is stated that there exist 2 key break points:

the first one having a significance level equal to 1 (utmost importance) and before this event comes up, other shows of total duration summing up to nearly 60 minutes may take place

the second one has a significance level equal to 2, and before this event comes up, other shows of total duration summing up to nearly 60 minutes may take place

Output

Your program should output to the standard output stream the sequence in which the shows should be planned so that all visitors attend all the Signature events/shows minimizing at the same time the overlap between the rest of the shows. Shows of same length may be in any order, provided that it does not alter any of our objectives and the solution remains as optimal. Your program should also display the minimum overlap between the shows. Overlap means the time period which the visitors will miss in viewing the shows by following this schedule. The time period missed with respect to important shows cannot be more than minimum duration of the less important shows.

For example, for the expected output for the input provided above would be:

```
60 40 30 50
Overlap 10 of Level 2
```

Which implies that at first the (less important) show having a duration of 60 minutes should be viewed, allowing then for the Signature event with importance level 1 to take place, then the (less important) shows with duration 40 and 30 minutes should come up, followed by the second Signature event with importance level 2 and finally the last (less important) show with duration 50 minutes should come up. Since before the signature event with importance level 2 the total duration of the shows is (40+30=70 minutes) this by definition implies that all visitors will have a 10 minutes overlap between these two shows in order to fully attend the signature event with importance level 2.

Consequently, the output displays this overlap (Overlap 10 of Level 2).If there is no overlap, then the program should output the line Overlap Zero instead. In cases of equivalently optimal solutions, the shows contained in between the significant events, should always be listed in First fit order of the input of the show timings.

Note: There is a newline character at the end of the last line of the output.

Sample Input 1:

```
5 30 15 45 45 15
3 60 1 80 2 15 3
```

Sample Output 1:

```
15 45 30 45 15
Overlap 5 of Level 2
```

Sample Input 2:

```
4 40 60 50 30
2 60 1 70 2
```

Sample Output 2:

```
60 30 40 50
Overlap Zero
```

Sample Input 3:

```
5 30 30 40 60 25
1 90 1
```

Sample Output 3:

```
30 60 25 30 40
Overlap Zero
```

Problem Author: IEEE

Suggest Edits

Emacs | Normal | Vim

Select Language: C#

save code

```
using System;
using System.Collections.Generic;
using System.IO;
class Solution {
    static void Main(String[] args) {
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution */
    }
}
```

Line: 1 Col: 1 Count: 246

□ **Use a custom test case**

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Compile & Test

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