D - SandTimers

Input: `standard input`
Output: `standard output`

Sigh... If only the king could make up his mind. First he wanted rounds in the Royal Wrestling Tournament to last for 2 minutes, then he changed his mind to 3 minutes. He wanted periods in the Royal Hockey Tournament to last for 20 minutes, then he decided on 15. Your job as the Royal Time Keeper would be much easier if he would buy you a modern stopwatch, but he insists that you use the Royal Sand Timers, which have been in his family since the 14th century. You're worried that someday he is going to ask you to measure a time interval that simply can't be measured with the timers you have available.

Given a list of integers with the times that each of your timers can measure, you want to determine which integral intervals between 1 minute and $maxInterval$ minutes (inclusive) cannot be measured. You always begin with all the sand in the bottom of your timers. You turn over some or all of your timers and the sand begins to fall. Whenever the sand runs out of a timer, you can again turn over some timers. You yell "Start" when you turn over some timer and "Stop" when the sand runs out of some timer. The time between the yells is the interval you are measuring. Because the king's patience is limited, you must yell "Stop" no later than $maxTime$ minutes after turning over the first sand timer.

For example, if you had a 5-minute timer and a 7-minute timer, you could easily measure intervals of 5, 7, and 10 minutes. With a little more trouble you can measure intervals of 2, 3, 4, and 9 minutes. To measure 4 minutes, you start by flipping over both timers. When the 5-minute timer runs out, you flip it over and yell "Start", leaving the 7-minute timer running. When the 7-minute timer runs out two minutes later, you again flip over the 5-minute timer, which has been running for two minutes. The 5-minute timer runs out two minutes later, and you yell "Stop". However, no matter how you try, you cannot find a way to measure 1, 6, or 8 minutes, assuming the king's patience is limited to 10 minutes.

You will print a list with the intervals you cannot measure, arranged in increasing order. Note that, after years of training, you are able to turn over a sand timer instantaneously. However, tradition forbids you to ever lay a sand timer on its side.

Input

On the first line one positive number: the number of testcases. After that per testcase one line with the format "t_1 t_2 ... t_n $maxInterval$ $maxTime$", where:

- $t_1, t_2, ..., t_n$ is a list of integers specifying the times that each of the timers can measure ($1 \leq n \leq 3$, $1 \leq t_1, ..., t_n \leq 20$).
- $maxInterval$ is the upper limit of the integral intervals to be considered ($1 \leq maxInterval \leq 360$).
- $maxTime$ is the maximum time ($1 \leq maxTime \leq 360$, $maxInterval \leq maxTime$).

Output

Per testcase print one line with a list containing the intervals you cannot measure, arranged in increasing order (separating the numbers with one space). If the list is empty, print the string "*".

Sample Input

```
6
5 7 10 10
2 10 20 30 40
2 5 9 360 360
4 23 47
20 13 30 30
20 17 13 25 30
```

Sample Output

```
1 6 8
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29
*
1 2 3 5 6 7 9 10 11 13 14 15 17 18 19 21 22 23
1 2 3 4 5 8 9 10 11 12 15 16 17 18 19 21 22 23 24 25 28 29 30
18 19
```