

Problem D

Sum-up the Primes (II)

Input: standard input

Output: standard output

Time Limit: 10 seconds

We all know from Goldbach's conjecture that any even number greater than 2 can be expressed as a summation of two primes. Some odd numbers can also be expressed as summation of two primes. In this problem you will have to express a number as a summation of arbitrary number of primes less than 300. The conditions in detail are as follows:

- 1) You have to express a number **N** ($0 \leq N \leq 800$) as a summation of **t** ($t \leq 12$) primes.
- 2) Among the **t** primes any single odd primes **p_i** can be present maximum **f_i** times, where ($0 < f_i \leq 5$). **2** can be present at most once. The details regarding presence of 2 are given in the sample input description.
- 3) All the prime numbers used must be less than 300.
- 4) When there is more than one solution print the lexicographically smallest one.
- 5) If there is no such expression of primes print the string "No Solution." Without the quotes.

Input

The input file contains several blocks of input. The first line of the input file contains an integer **B** ($B \leq 500$), which indicates the number of blocks in the input file. The description of each block is given below:

Each block starts with four lines, which contains **61** integers in total. These integers are the values **f_i** (for $i = 1 \dots 61$, as there are **61** odd primes less than **300**. For example the maximum frequency of **3** is **f₁**, frequency of **5** is **f₂** etc). The first three of the four lines will have **16** integers and the last one will have **13** integers. The next line contains a positive integer **Q** ($Q \leq 100$) that indicates the number of queries in this block. Next **Q** lines contain **Q** queries. Each query consists of three integers **N**, **t**, **flag**. The meaning of **N** and **t** is given in the problem statement. The integer **flag** is actually Boolean. When **flag** is 1 you can use **2** once in your summation expression but otherwise you cannot.

Output

For each block of input print a line indicating the serial of the block. For each query, print maximum **two** lines of output. The first line contains the query serial and the next line contains the lexicographically smallest way of expressing the prime as summation. If there is no possible ways, print the line "No Solution." Look at the sample output for details. Print a blank line after the output for each block of input.

Sample Input

```
2
1 1 2 1 2 1 3 1 3 4 2 2 1 3 3 1
1 4 3 4 4 4 1 2 4 4 4 4 2 3 3 3
3 3 1 2 1 3 2 2 3 2 4 2 1 2 3 1
3 3 3 1 4 2 2 2 2 3 3 2 1
5
12 3 1
26 1 1
```

```

26 3 0
30 4 1
44 2 0
1 1 2 1 2 1 3 1 3 4 2 2 1 3 3 1
1 4 3 4 4 4 1 2 4 4 4 4 2 3 3 3
3 3 1 2 1 3 2 2 3 2 4 2 1 2 3 1
3 3 3 1 4 2 2 2 2 3 3 2 1
10
53 10 0
56 8 0
586 12 0
595 7 1
659 3 1
739 3 1
747 4 0
753 8 1
761 12 0
763 4 0

```

Sample Output

```

Block 1:
Query 1:
2+3+7
Query 2:
No Solution.
Query 3:
No Solution.
Query 4:
11+5+7+7
Query 5:
13+31

Block 2:
Query 1:
No Solution.
Query 2:
No Solution.
Query 3:
101+101+101+101+103+11+13+13+23+5+7+7
Query 4:
101+101+101+101+103+17+71
Query 5:
101+277+281
Query 6:
163+283+293
Query 7:
No Solution.
Query 8:
101+101+101+101+103+107+137+2
Query 9:
No Solution.
Query 10:
No Solution.

```