Title: RhythmGame

Problem Statement:

There is a brand new rhythm game in town!

The game lasts for n turns. Each turn is represented by an integer from 0 to 6. Integers 1, 2, 3, 4 are your moves, 0 denotes a combo miss, 5 and 6 denotes special gameplay modes. A combo is a sequence of moves.

You begin by adding moves to the right of your current combo. When you encounter a 0, your current combo gets reset to an empty combo. 0 is considered a move, and does not reset special gameplay modes 5 and 6.

5 will switch the order you add the moves to your current combo, from right to left, or vice versa.

6 will activate alternating mode, where you will add your moves to your current combo in an alternating order, starting from the opposite direction that you are currently adding your moves. Another 6 denotes the end of alternating mode. There will be no 5's in between two 6's.

After all the turns, you would like to find out what is the maximum combo length you get, and the sequence of moves that lead to this maximum combo length. If there are more than 1 sequence that leads to the same maximum combo length, output the first one.

Input:

An integer n in a single line, denoting the number of turns. 1 <= N <= 10^6

The next line consists of n integers ranging from 0 to 6. The ith integer denotes the ith turn.

Output:

Print an integer C in a single line, the maximum combo length you can achieve.

In the next line, print the sequence of moves that lead to the maximum combo length in a single line.

Example Input 1:

```
7
1 2 0 1 2 3 4
```

Example Output 1:

```
4
[1, 2, 3, 4]
```

Explanation:

Each turn (left to right)	Description	Current Combo:
1		[1]
2		[1, 2]
0	Combo miss	[]
1		[1]
2		[1, 2]
3		[1, 2, 3]
4		[1, 2, 3, 4]

Example Input 2:

```
12
1 2 3 4 6 1 2 3 4 6 5 1
```

Example Output 2:

```
9
[3, 1, 1, 2, 3, 4, 2, 4, 1]
```

Explanation:

Each turn (left to right)	Description	Current Combo:
1		[1]
2		[1, 2]
3		[1, 2, 3]
4		[1, 2, 3, 4]
6	Alternating mode start. Next move will be added to the left.	[1, 2, 3, 4]
1	Next move will be added to the right	[1, 1, 2, 3, 4]
2	Next move will be added to the left	[1, 1, 2, 3, 4, 2]
3	Next move will be added to the right	[3, 1, 1, 2, 3, 4, 2]
4	Next move will be added to the left.	[3, 1, 1, 2, 3, 4, 2, 4]
6	Alternating mode end.	[3, 1, 1, 2, 3, 4, 2, 4]
5	Next move will be added to the right.	[3, 1, 1, 2, 3, 4, 2, 4]
1		[3, 1, 1, 2, 3, 4, 2, 4, 1]

Image source: https://upload.wikimedia.org/wikipedia/commons/5/58/StepMania_5_Rave_Mode.jpg