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# Problem G. Circle Convertation

| | |
|---|---|
| Input file: | *standard input* |
| Output file: | *standard output* |
| Time limit: | 2 seconds |
| Memory limit: | 256 mebibytes |

You have two strings of zeroes and ones, $s_0, s_1, \ldots, s_{n-1}$ and $t_0, t_0, \ldots, t_{n-1}$.

In one operation you can choose $i$, such that $s_i = s_{(i+1) \mod n}$, and invert $s_i$ and $s_{(i+1) \mod n}$. Invert $s_i$ means set new value of $s_i$ to '0' if it was equal to '1', and set it to '1' otherwise.

Your goal is to make $s_i = t_i$ for all $i$ in at most $100\,000$ operations.

For each test in this problem, the solution exists. Note that for some pairs of strings you can't get one from other (for example "0101" and "1010"), but there are no such strings in the tests of this problem.

## Input

The first line of input contains a binary string $s$.

The second line of input contains a binary string $t$.

$2 \le |s| = |t| \le 100$.

## Output

In the first line print $m$ $(0 \le m \le 100\,000)$: the number of operations.

In the next line print $m$ integers $i_1, i_2 \ldots, i_m$ $(0 \le i_j \le n - 1)$: operations in the order in which you need to perform them. Note, that when you are doing operation on index $i$, $s_i$ should be equal to $s_{(i+1) \mod n}$, and after this operation $s_i$ and $s_{(i+1) \mod n}$ will be changed.

Note that you don't necessarily need to minimize $m$.

It is guaranteed that there is at least one solution. If there are several possible solutions, you can print any.

## Examples

| standard input | standard output |
|---|---|
| 000<br>011 | 1<br>1 |
| 0000<br>1111 | 2<br>0<br>2 |
| 110<br>011 | 2<br>0<br>1 |