Xor Transformation

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

MianKing has one integer X, he wants to perform some operations to transform X to Y ($Y < X$).

In each operation, MianKing can choose one integer $0 \leq A < X$ and let $X = X \ xor \ A$.

It's noticed that after an operation, the upper bound of A will change because X has changed.

Now you need to help MianKing to find a way to transform X to Y by doing at most 5 operations.

Input

The first line has two integers X, Y.

$1 \leq Y < X \leq 10^{18}$.

Output

The first line has one integer d denotes the number of operations you did.

Then there are d integers $A_{1...d}$ denotes the A you choose in each operations.

$0 \leq d \leq 5$.

Example

standard input	standard output
5 3	3 1 2 5