Cheerio Contest 3 P3 - Everything Array

Time limit: 1.0s **Memory limit:** 256M

Consider an array where each integer from 1 to N (inclusive) can be made by either adding or subtracting 2 numbers in the array. More rigorously, for every integer $1 \leq n \leq N$ there exists two indices i, j $(i \neq j)$ such that $A_i + A_j = n$ **or** $A_i - A_j = n$. Furthermore, each array element must be an integer in the range $[1, N]$, though they do not have to be distinct.

Your goal is to find and construct such an array with a length of **at most** M.

Constraints

Points Awarded	N	M
6 points	$18 \leq N \leq 10^4$	$M = \lfloor 0.4N \rfloor$
9 points	$18 \leq N \leq 10^7$	$M = \lfloor \sqrt{2N} \rfloor$

Input Specification

The only line of input contains two integers N and M.

Output Specification

The first line should contain an integer L, the length of the array A you have found.

The next line should contain L integers A_i $(1 \leq A_i \leq N)$, the elements of the array.

Sample Input

```
18 7
```

Sample Output

```
7
2 3 16 4 8 5 13
```