(Ex)Terminator

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The engineers at M.O.T.H.E.R. have recently received a decommissioned killer robot from the military called The Terminator. They are hoping to transform the evil machine into a highly efficient pest-control automaton: The ExTerminator.

However, before they can start exterminating bugs, they need to terminate some bugs of their own...

Currently, when The Terminator's mainframe is run, its Assassinating-Liquidating Unit (ALU) outputs two binary error codes. These binary strings appear to be completely random, perplexing the puzzled engineers. Fortunately, The Terminator Manual on Terminating and Exterminating has a few suggestions.

The engineers need to find the *maximal common subsequence* between the two binary error codes. A subsequence is a binary string that can be derived from the given binary code by deleting some or no elements without changing the order of the remaining elements. For example, 111, 101, and 11010 are subsequences of 110100, but 0010 is not. A *common subsequence* between two binary codes is a subsequence of both codes. For example, 110011 is a *common subsequence* of 101001110 and 00110101100. The *maximal common subsequence* of two binary codes is a *common subsequence* that has all other *common subsequences* as a subsequence. Every pair of binary strings has at most one *maximal common subsequence*.

INPUT You will be given two integers, **n** and **m**, denoting the lengths of the binary error codes. This will be followed by a binary string of length **n** and a binary string of length **m**, on separate lines.

$1 \leq \mathbf{n}, \mathbf{m} \leq 2^{20}$

OUTPUT If the two binary error codes have a *maximal common subsequence*, you should output it. Otherwise, output `NONE`.

SAMPLE For example, suppose the Terminator's ALU outputs the error codes 001101 and 00001. The *maximal common subsequence* of these two binary strings is 0001, which contains all *common subsequences*: 0, 1, 00, 01, 000, 001, and 0001.

INPUT	OUTPUT
8 8 11001010 11000010	1100010
10 25 0000011111 1100111010101010110101000	0000011111
15 19 110110001111001 1010001110101001001	NONE