## CCC '01 S5 - Post's Correspondence Problem

#### Canadian Computing Competition: 2001 Stage 1, Senior #5

Let A and B be two sequences of non-empty strings:  $A=(a_1,a_2,\ldots,a_n), B=(b_1,b_2,\ldots,b_n)$ . Let m be a positive integer. Does there exist a sequence of integers  $i_1,i_2,\ldots,i_k$  such that m>k>0 and  $a_{i_1}a_{i_2}\ldots a_{i_k}=b_{i_1}b_{i_2}\ldots b_{i_k}$ ? For example, if A=(a,abaaa,ab) and B=(aaa,ab,b), then the required sequence of integers is (2,1,1,3) giving abaaaaaab=abaaaaaab.

### **Input Specification**

The first two lines of input will contain m and n respectively, and  $m \times n \le 40$ . The next 2n lines contain in order the elements of A followed by the elements of B. Each string is at most 20 characters.

#### **Output Specification**

If a solution exists, print k on a line by itself, followed by the integer sequence in order, one element per line. Otherwise, print a single line containing No solution.

#### Sample Input 1

```
7
3
a
abaaa
ab
ab
ab
b
```

#### **Sample Output 1**

```
4
2
1
1
3
```

### Sample Input 2

```
10
3
abc
def
ghi
jkl
mno
pqr
```

# Sample Output 2

No solution.