

## Problem E. Evil Subsequence

Input file: *standard input*  
Output file: *standard output*  
Time limit: 3 seconds  
Memory limit: 512 mebibytes



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On **300iq** → [Codeforces Round #530](#), 13 months ago | ☆

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The problem setter of Div4E should stop creating problems.

It's just a problem to waste your time.

You are given two sequences  $a_1, a_2, \dots, a_n$  and  $b_1, b_2, \dots, b_m$ .

Two sequences  $(x_1, x_2, \dots, x_p)$  and  $(y_1, y_2, \dots, y_q)$  match iff  $p = q$  and  $x_i = x_j \Leftrightarrow y_i = y_j$  for every possible pair  $1 \leq i, j \leq p$ .

Output the number of subsequences of  $a_1, a_2, \dots, a_n$  that match  $b_1, b_2, \dots, b_m$ .

### Input

The first line contains two integers  $n, m$  ( $1 \leq n \leq 3000, 1 \leq m \leq \min(5, n)$ ).

The second line contains  $n$  integers  $a_1, a_2, \dots, a_n$  ( $1 \leq a_i \leq n$ ).

The third line contains  $m$  integers  $b_1, b_2, \dots, b_m$  ( $1 \leq b_i \leq m$ ).

### Output

Output one integer: the answer.

### Examples

standard input	standard output
<pre>10 5 1 5 5 4 1 4 3 3 4 2 3 4 3 2 1</pre>	20
<pre>4 2 2 2 2 2 2 2</pre>	6