



**CROATIAN NATIONALS 2009**  
**Dubrovnik, March 22 - 26**

**PASCAL/C/C++**  
**Senior category, competition day 1**

TASK	BERBA	CENZURA	MISOLOVKE
<b>input</b>	standard input		
<b>output</b>	standard output		
<b>time limit</b> (per test case)	1 second	0.3 seconds	4 seconds
<b>memory limit</b> (heap+stack)	64 MB		
<b>points</b>	<b>40</b>	<b>50</b>	<b>60</b>
	<b>150</b>		



How many ways can the following inequality be satisfied if the question marks are replaced by positive integers?

$$\frac{A_1}{A_2} < \frac{?}{B} < \frac{?}{C} < \frac{?}{D} < \frac{E_1}{E_2}$$

### INPUT

The first line contains three integers B, C and D ( $1 \leq B, C, D \leq 1000$ ).

The second line contains two integers  $A_1$  and  $A_2$  ( $1 \leq A_1, A_2 \leq 1000$ ).

The third line contains two integers  $E_1$  and  $E_2$  ( $1 \leq E_1, E_2 \leq 1000$ ).

### OUTPUT

Output the number of ways to satisfy the inequality.

### EXAMPLES

<b>input</b>  3 2 4 2 7 4 5  <b>output</b>  1	<b>input</b>  5 5 5 999 1 1000 1  <b>output</b>  4	<b>input</b>  1 9 7 14 5 10 3  <b>output</b>  3
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In the third example, the three ways to satisfy the inequality are:

$$\frac{14}{5} < \frac{3}{1} < \frac{28}{9} < \frac{22}{7} < \frac{10}{3}$$

$$\frac{14}{5} < \frac{3}{1} < \frac{28}{9} < \frac{23}{7} < \frac{10}{3}$$

$$\frac{14}{5} < \frac{3}{1} < \frac{29}{9} < \frac{23}{7} < \frac{10}{3}$$



Censorship is suppression of free speech common to authoritarian regimes, but not uncommon in democratic ones.

Mirko was hired by the secret service and his very first assignment involved censorship. Given a text  $T$  he is required to remove all occurrences of the word  $A$ , using the following simple algorithm:

1. If  $A$  does not appear in  $T$ , end the algorithm.
2. Find the first occurrence of  $A$  in  $T$  and remove it.
3. If  $A$  does not appear in  $T$ , end the algorithm.
4. Find the last occurrence of  $A$  in  $T$  and remove it.
5. Go to step 1.

Help Mirko perform his task quickly so that he can continue fantasising about actual spy work.

### **INPUT**

The first line contains a string of at most 25 lowercase letters, the word  $A$ .

The first line contains a string of at most 300000 lowercase letters, the text  $T$ .

### **OUTPUT**

Output the text after censorship.

### **EXAMPLES**

<b>input</b>  ne lukanevolisarmu  <b>output</b>  lukavolisarmu	<b>input</b>  aba ababacccababa  <b>output</b>  baccab	<b>input</b>  banana babananananadeda  <b>output</b>  deda
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There are mice in Mirko's basement! As soon as he realised, he filled his basement with mousetraps.

His basement can be modelled by an  $N \times N$  grid. There are a number of mousetraps in each cell and this number is known for each cell. There is **at least one** mousetrap in every cell.

Improbably, Slavko also just discovered mice in his basement! However, Slavko has no mousetraps so he came to borrow some from Mirko. Because Mirko already laid out his mousetraps in his basement they needed to figure out what to do.

They decided to remove some mousetraps from Mirko's basement. More precisely, in each row they will remove **all** mousetraps from **exactly K consecutive cells**. After doing this the mice **must not be able to cross** from the left to the right side of the basement, or from top to bottom. Mice move in the four cardinal directions (up, down, left and right) and can pass only through cells with no mousetraps in them.

Calculate the **largest** number of mousetraps that can be removed from Mirko's basement.

### INPUT

The first line contains two integers  $N$  and  $K$  ( $2 \leq N \leq 250$ ,  $1 \leq K \leq N/2$ ), the dimension of the basement and the number of consecutive squares to be removed from each row.

### OUTPUT

Output the largest number of mousetraps that can be removed.

### EXAMPLES

<b>input</b>  4 2 5 5 1 1 1 5 5 1 1 1 5 5 5 5 1 1  <b>output</b>  36	<b>input</b>  3 1 2 2 4 4 1 5 2 3 5  <b>output</b>  13	<b>input</b>  6 3 1 2 3 4 5 3 1 6 4 5 1 2 7 3 8 2 1 1 2 1 6 7 3 4 3 1 4 4 4 4 5 6 7 1 1 1  <b>output</b>  89
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