

Task Kamenčići

This summer, Antun and Branka stumbled upon a very interesting beach, which was completely covered with plastic 'pebbles' brought by the sea from the containers that fell from the cargo ships. They decided to take back with them n of these pebbles, some red and some blue. Now that autumn has arrived, they are playing with the pebbles and reminiscing about the warm summer days.



Their game proceeds as follows: in the beginning, they place the n pebbles in a row. Then, Antun and Branka make moves in turn, each time removing one of the pebbles from one of the ends of the row, until someone obtains k red pebbles, losing the game. Antun moves first and is wondering whether he could win regardless of the moves Branka makes. Please help him and write a program which will answer his question.

Input

The first line contains two integers, n and k ($1 \leq k < n \leq 350$).

The second line contains a sequence of n characters C or P, where C denotes a red pebble, and P denotes a blue pebble. The character C appears at least $2k - 1$ times.

Output

If Antun can win regardless of Branka's moves, you should print DA, otherwise print NE.

Scoring

Subtask	Points	Constraints
1	10	$1 \leq n \leq 20$
2	20	$1 \leq n \leq 50$
3	40	$1 \leq n \leq 350$

Examples

input

4 1
CCCP

output

DA

input

8 2
PCPPCCCC

output

DA

input

9 1
PPCPPCPPC

output

NE

Clarification of the second example:

Antun can take a blue pebble from the left (CPPCCCC). Then, Branka has to take a red pebble.

If she takes a pebble from the left (PPCCCC), Antun will take the first, and Branka the second blue pebble on the left, after which only red pebbles remain and Branka will lose.

If she takes a pebble from the right (CPPCCC), Antun can take another pebble from the right and then Branka will again have to take another red pebble and lose.