There are N desks in a room, placed from left to right, one next to each other. Some desks have phones on them, whereas some desks are empty. All phones are broken, so the phone on the i^{th} desk will ring if the phone at j^{th} desk rings, which is at most D desks away from the i^{th} desk. In other words, it holds $|j - i| \leq D$. The first and the last desk will always have a phone on them. In the beginning the leftmost phone rings. What is the minimal amount of new phones to be placed on the desks so that the last phone rings?

INPUT

The first line of input contains two positive integers, N ($1 \leq N \leq 300\,000$) and D ($1 \leq D \leq N$). The following line contains N numbers 0 or 1. If the i^{th} number is 1, then the i^{th} desk from the left has a phone on it, otherwise the i^{th} desk is empty.

OUTPUT

The first and only line of output must contain the required minimal number of phones.

SCORING

In test cases worth 40 points in total, it will hold $1 \leq N \leq 20$.

SAMPLE TESTS

input	input	input
4 1 1 0 1 1	5 2 1 0 0 0 1	8 2 1 1 0 0 1 0 0 1
output	**output**	**output**
1	1	2