Sequence

We say that an integer sequence $a_1, a_2, \ldots, a_n$ is k-even if the sum of any k consecutive terms of the sequence is even.

For a given sequence we would like to find out how many of its terms need to be changed so that the sequence becomes k-even.

Input

The first line of input contains two integers n and k ($1 \leq k \leq n \leq 10^6$). The second line contains a sequence composed of n integers $a_1, a_2, \ldots, a_n$. For each of the a_i's it holds that $0 \leq a_i \leq 10^9$.

Output

The only line of output should hold one integer: the minimum number of terms of the sequence that need to be changed so that it becomes k-even.

Example

Input:
8 3
1 2 3 4 5 6 7 8

Output:
3

Input:
8 3
2 4 2 4 2 4 2 4

Output:
0