Cipher

Jack and Daniel are friends.
They want to encrypt their conversation so that they can save themselves from interception by a detective agency. So they invent a new cipher.
Every message is encoded to its binary representation B of length N.
Then it is written down K times, shifted by $0, 1, \cdots, K-1$ bits.
If $B = 1001010$ and $K = 4$ it looks so:

```
1001010
 1001010
  1001010
   1001010
```

Then calculate XOR in every column and write it down. This number is called S. For example, XOR-ing the numbers in the above example results in

```
1110100110
```

Then the encoded message S and K are sent to Daniel.

Jack is using this encoding algorithm and asks Daniel to implement a decoding algorithm.
Can you help Daniel implement this?

Input Format
The first line contains two integers N and K.
The second line contains string S of length $N+K-1$ consisting of ones and zeros.

Output Format
Decoded message of length N, consisting of ones and zeros.

Constraints
$1 \leq N \leq 10^6$
$1 \leq K \leq 10^6$
$|S| = N+K-1$
It is guaranteed that S is correct.

Sample Input#00

```
7 4
1110100110
```

Sample Output#00

```
1001010
```

Sample Input#01

```
6 2
1110001
```

Sample Output#01

```
101111
```

Explanation

Input#00

```
1001010
 1001010
  1001010
   1001010
----------
1110100110
```

Input#01

```
101111
 101111
-------
1110001
```