D. Lucky Transformation

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

Petya loves lucky numbers. Everybody knows that lucky numbers are positive integers whose decimal representation contains only the lucky digits **4** and **7**. For example, numbers **47**, **744**, **4** are lucky and **5**, **17**, **467** are not.

Petya has a number consisting of n digits without leading zeroes. He represented it as an array of digits without leading zeroes. Let's call it d. The numeration starts with 1, starting from the most significant digit. Petya wants to perform the following operation k times: find the minimum x $(1 \le x < n)$ such that $d_x = 4$ and $d_{x+1} = 7$, if x is odd, then to assign $d_x = d_{x+1} = 4$, otherwise to assign $d_x = d_{x+1} = 7$. Note that if no x was found, then the operation counts as completed and the array doesn't change at all.

You are given the initial number as an array of digits and the number k. Help Petya find the result of completing k operations.

Input

The first line contains two integers n and k $(1 \le n \le 10^5, 0 \le k \le 10^9)$ — the number of digits in the number and the number of completed operations. The second line contains n digits without spaces representing the array of digits d, starting with d_1. It is guaranteed that the first digit of the number does not equal zero.

Output

In the single line print the result without spaces — the number after the k operations are fulfilled.

Examples

input
7 4 4727447

output
4427477

input
4 2 4478

output
4478

Note

In the first sample the number changes in the following sequence:
$4727447 \to 4427447 \to 4427477 \to 4427447 \to 4427477$.

In the second sample: $4478 \to 4778 \to 4478$.