

Problem D
Reading Digits

Input File: D.in
Output File: standard output
Time Limit: 0.1 seconds (C/C++)
Memory Limit: 256 megabytes

Bob has a very special way of encoding strings formed with digits. For instance, he encodes "1211" as: "one of one, one of two, two of one", or, more precisely: "111221". Bob's encoding of the latter string is: "312211". We call this a "*two-times re-encoding of 1211".* Bob likes repeating this process several times.

You are given a string of digits which represents the "***k***th *re-encoding of a string* ***s***". The string ***s*** contains only non-zero digits (i.e. [1-9]). Also, it is not possible to have a sequence of more than 9 repeating digits in ***s***. You must find the digit which lays on the ***pos*** position (starting from 0) of the string ***s***.

The input consists of two lines. The first line contains the values ***k*** and ***pos***. The second line contains the ***k***th re-encoding of ***s***. We have $1 < k < 40$ and $0 \leq pos \leq 100000$.
The output is the digit from position pos of ***s***.

Sample input	Sample output
2 0 312211	1
2 1 312211	2
1 3 312211	2
3 0 1321123113	1
3 1 1321123113	2
3 2 1321123113	3