

B

Counting Game

Input: Standard Input
Output: Standard Output



There are n people standing in a line, playing a famous game called “counting”. When the game begins, the leftmost person says “1” loudly, then the second person (people are numbered 1 to n from left to right) says “2” loudly. This is followed by the 3rd person saying “3” and the 4th person say “4”, and so on. When the n -th person (i.e. the rightmost person) said “ n ” loudly, the next turn goes to his immediate left person (i.e. the $(n-1)$ -th person), who should say “ $n+1$ ” loudly, then the $(n-2)$ -th person should say “ $n+2$ ” loudly. After the leftmost person spoke again, the counting goes right again.

There is a catch, though (otherwise, the game would be very boring!): if a person should say a number who is a multiple of 7, or its decimal representation contains the digit 7, he should clap instead! The following tables shows us the counting process for $n=4$ (‘X’ represents a clap). When the 3rd person claps for the 4th time, he’s actually counting 35.

Person	1	2	3	4	3	2	1	2	3
Action	1	2	3	4	5	6	X	8	9
Person	4	3	2	1	2	3	4	3	2
Action	10	11	12	13	X	15	16	X	18
Person	1	2	3	4	3	2	1	2	3
Action	19	20	X	22	23	24	25	26	X
Person	4	3	2	1	2	3	4	3	2
Action	X	29	30	31	32	33	34	X	36

Given n , m and k , your task is to find out, when the m -th person claps for the k -th time, what is the actual number being counted.

Input

There will be at most 10 test cases in the input. Each test case contains three integers n , m and k ($2 \leq n \leq 100$, $1 \leq m \leq n$, $1 \leq k \leq 100$) in a single line. The last test case is followed by a line with $n=m=k=0$, which should not be processed.

Output

For each line, print the actual number being counted, when the m -th person claps for the k -th time. If this can never happen, print -1 .

Sample Input

Output for Sample Input

4 3 1	17
4 3 2	21
4 3 3	27
4 3 4	35
0 0 0	

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