

## C Cutting Cake

Time limit: 1s

Charles is giving a birthday party for  $k$  people (including himself). He has a rectangular cake that needs to be cut into  $k$  rectangular pieces with the same height and width. Due to the pattern on top of the cake, rotating the pieces is not allowed. Since it's Charles' birthday, he's not going to do anything himself, so he asks Vincent to cut the cake using only cuts that are parallel to the sides of the cake.



Credit: Dave Morris  
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When Vincent hears the task, he complains: “Why did you have to give a birthday party with exactly  $k$  people? Now I need to make a lot of cuts!” Charles thinks about this and agrees: “You are right. It is fine to cut the cake into a few additional pieces (which still all need to be equal), as long as they are at most  $s\%$  smaller than when cutting the cake into exactly  $k$  pieces.”

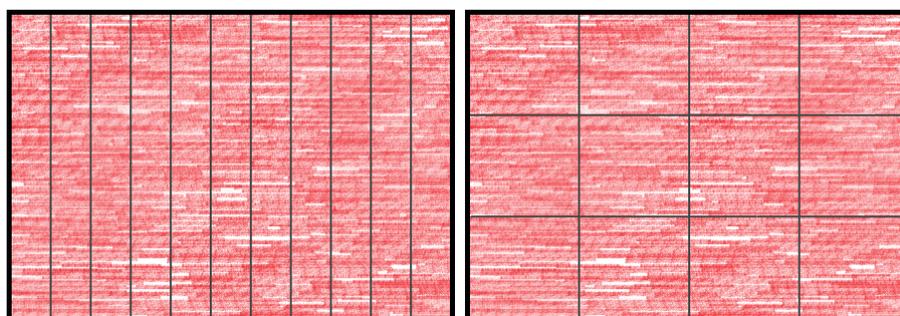


Figure C.1: Illustration of Sample Input/Output 1 and 2. In Sample Input 1, 11 pieces are needed and they are not allowed to be smaller, so Vincent needs to make 10 cuts. In Sample Input 2, the pieces are allowed to be at most 10% smaller, so Vincent can make 12 pieces using 5 cuts.

### Input

The input consists of:

- One line with two integers  $k$  and  $s$  ( $1 \leq k \leq 10^9$ ,  $0 \leq s \leq 50$ ) the number of people and the maximum percentage that the pieces are allowed to be smaller.

### Output

The minimum number of cuts that needs to be made to cut the cake in  $c \geq k$  equal pieces, using only cuts that are parallel to the sides of the cake, and where each piece is at most  $s\%$  smaller than when cutting the cake in exactly  $k$  equal pieces.

Sample Input 1	Sample Output 1
11 0	10

**Sample Input 2**

11 10

**Sample Output 2**

5

**Sample Input 3**

101 42

**Sample Output 3**

19