Internet Service Providers

English Vietnamese

A group of N Internet Service Provider companies (ISPs) use a private communication channel that has a maximum capacity of C traffic units per second.

Each company transfers T traffic units per second through the channel and gets a profit that is directly proportional to the factor T(C - T*N).

The problem is to compute T_optim, the smallest value of T that maximizes the total profit the N ISPs can get from using the channel. Notice that N, C, T, and T_optim are integer numbers.

Input

Each data set corresponds to an instance of the problem above and contains two integral numbers – N and C – with values in the range from 0 to 10^9. The input data are separated by white spaces, are correct, and terminate with an end of file.

Output

For each data set , computes the value of T_optim according to the problem instance that corresponds to the data set. The result is printed on the standard output from the beginning of a line.

There must be no empty lines on the output. An example of input/output is shown below.

Sample

Input :
1 0
0 1
4 3
2 8
3 27
25 1000000000
Ouput:
0
0
0
2
4
20000000