A. Game 23

time limit per test
1 second
memory limit per test
256 megabytes
input
standard input
output
standard output

Polycarp plays "Game 23". Initially he has a number n and his goal is to transform it to m. In one move, he can multiply n by 2 or multiply n by 3. He can perform any number of moves. Print the number of moves needed to transform n to m. Print -1 if it is impossible to do so. It is easy to prove that any way to transform n to m contains the same number of moves (i.e. number of moves doesn't depend on the way of transformation).

Input

The only line of the input contains two integers n and m ($1 \leq n \leq m \leq 5 \cdot 10^8$).

Output

Print the number of moves to transform n to m, or -1 if there is no solution.

Examples

input

Copy

120 51840

output

Copy

7

input

Copy

42 42

output

Copy

0

input

Copy

48 72

output

Copy

-1

Note

In the first example, the possible sequence of moves is: $120 \rightarrow 240 \rightarrow 720 \rightarrow 1440 \rightarrow 4320 \rightarrow 12960 \rightarrow 25920 \rightarrow 51840$. The are 7 steps in total.

In the second example, no moves are needed. Thus, the answer is 0.

In the third example, it is impossible to transform 48 to 72.