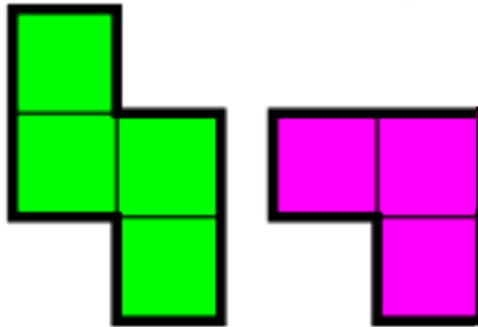# Problem F: Kid's Simple Puzzle Problem
Time Limit: 5 seconds

Description

Kid's are playing a tiling game. First they draw an **N**x**M** rectangle with **N** rows and **M** columns (N*M squares), then they try to cover it completely with the 2 wooden pieces shown above (left piece covers 4 squares, while right piece covers 3). Note that the pieces can be rotated or flipped. Compute the minimum number of puzzle pieces required, or output **-1** if it's not possible.

Input

A number of of inputs (≤**1000**), each starting with **n, m (**1 ≤ **n, m** ≤ 1000000000**)** on a line**.**

Output

For each input, output the minimum number of puzzle pieces, or **-1** if it's not possible.

Sample Input
1 1
2 3

Sample Output
-1
2