Problem H
Harry's Magical Number
Time Limit: 1 second
Memory Limit: 512 megabytes

In *Starlight Essence Laboratory (SELab),* the famed wizard Harry Potter and his friend Hai are performing a magical show to students. Harry asks Hai to think of a magical number n. In Hai's mind, this number dances and sparkles. Harry does not know what it is, but he will try to guess!

1. First, Harry asks Hai to reveal a divisor A of n. Hai picks one and announces it.
2. Next, Hai will need to tell Harry a number B, but this number must not be a divisor of n.
3. Not stopping there, Harry then requests Hai to let him know a multiple C of n.
4. Lastly, Harry wishes for another number D, which must not be a multiple of n.

With a flourish of his wand and magical chimes, Harry will attempt to deduce the magical number n Hai thought of. However, Harry warns that sometimes there might be more than one solution, and he will try to identify the smallest magical number n. If it is undeterminable, Harry will humbly admit defeat and say "-1".

Now, standing on stage with Harry, help him determine the magical number n.

Note: To assist Harry, be aware that $A, B, C,$ and D are all less than or equal to 10^9.

Input

The input consists of a line containing four integers $A, B, C,$ and D ($1 \leq A, B, C, D \leq 10^9$).

Output

Your program must output a single line. If there is at least some number n for which A, B, C and D are significant, then that line must contain the smallest n possible. Otherwise, the line must contain -1.

Sample Input

Sample Input	Sample Output
2 12 8 2	4
3 4 60 105	6