Ritesh VS Sharma Bhaiya

The library of Montfort School is managed by Sharma Bhaiya ; and he always thinks that someone might have taken a book from the library ; without getting it issued.

He suspects Ritesh this time ; who has a Maths book with him. Sharma bhaiya tried to snatch the book out of the hands of Ritesh ; and eventually ; a portion of one of its pages got torn.

Ritesh sees ; that the page contains a quadratic equation. He knows a fact about the quadratic equations ; that they can be represented in the form of : $ax^2 + bx + c$

On that paper ; a quadratic equation was written :

$x^2 - (2n + 1)x$

*Wait ; that is **not a complete** quadratic equation ; it **does not have a constant term.***

So where did that constant term go ? Oh yes ; it is what got torn in the argument.

Now Ritesh Wonders ; what that constant term could be ? But how can we restore the constant term ?

Well ; he does have some more information about the equation -

1. n belongs to integer
2. Both the roots of the quadratic equation are prime numbers.

Ritesh found this too challenging for himself , and thus ; he needs your help.

Given some integers ; for each of them ; you need to tell whether they could have been one of the correct constant terms of the given quadratic equation.

Input Format

First line will contain a single integer T ; denoting the number of test cases.

Then T lines will follow ; each containing a single integer c.

You need to respond whether this c could be a possible correct constant term for the given quadratic equation.

Constraints

$1 \leq T \leq 1000$

$-10^9 \leq c \leq 10^9$

Output Format

For each test case ; print in a seperate line a single string -

"Valid" (Case sensitive) in case this particular $'c'$ is a valid constant term for the given quadratic equation.

Else ; print "Invalid" (Again case sensitive).

Sample Input 0

```
1
10
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Sample Output 0

```
Valid
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Explanation 0

10 can be a correct constant term for our quadratic equation, as we may have prime roots (2,5) for a quadratic equation : $x^2 - 7x + 10$. Clearly ; we do have n as an integer with $n = 3$.

Sample Input 1

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1
16
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Sample Output 1

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Invalid
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