# The Proposal   Problem Code: **NPLQ18C**

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Pratyush made "The Proposal" to the girl he likes. But the girl is still not sure of Pratyush's programming capabilities. So she asks him to solve a simple programming question.

First she gives him a range $[l, r]$.

Then she gives him $Q$ queries. Each query consists of an integer $n$. She asks him to print the first integer $a$ which satisfies three conditions:

- $(a - 1)! \bmod a = (a - 1)$ where $[(a - 1)! = 1 * 2 * 3....... * (a - 1)]$
- $a \geq n$
- $l \leq a \leq r$.

If no such $a$ exists in the range she asks him to print $-1$.

As Pratyush doesn't want to hear a NO, he asks for your help.

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**Input:**

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First line contains $T$, the number of test cases. Each test case contains the following lines. The first line contains three integers $l, r, Q$. It is followed by $Q$ lines. Each line contains an integer $n$.

## Output:

For each query print the integer $a$. Print -1 if no such $a$ exists.

## Constraints:

- $1 \leq T \leq 10$
- $1 \leq Q \leq 10^5$
- $3 \leq l \leq r \leq 10^9$
- $0 \leq r - l \leq 10^5$
- $1 \leq n \leq 10^9$

## Sample Input:

```
1
3 10 3
6
7
8
```

## Sample Output:

```
7
7
-1
```