BlueBook - Prime

BlueBook

Given T ($1 \leq T \leq 10\,000$) integers N ($1 \leq N < 2^{16}$), output $\boxed{1}$ if each one is prime, and $\boxed{0}$ otherwise.

Remember: an integer is prime iff (if and only if) it has exactly two divisors: 1 and N.

Input Specification

Line 1: one integer T
Lines $2 \ldots T + 1$: one integer N

Output Specification

Lines $1 \ldots T$: One integer $\boxed{1}$ or $\boxed{0}$ denoting whether N is prime. Output $\boxed{1}$ if N is prime, and $\boxed{0}$ otherwise.

Sample Input

```
3
1
2
3
```

Sample Output

```
0
1
1
```