

Partial Primes

Problem Statement :

Partial prime numbers are numbers which do not have any factors in a given range.

If x is a partial prime number, then the non-divisible range must be a non-empty contiguous subset of range $[2, x-1]$

Given the non-divisible range $[a, b]$, find the smallest partial prime number for the given range.

Input :

The first line consists of an integer t , the number of test cases. For each test case, you are given two integers a and b denoting the non-divisible range $[a, b]$

Output:

For each test case, find the smallest partial prime number for the given range.

Input Constraints :

$$1 \leq t \leq 10^3$$

$$2 \leq b \leq 10^7$$

$$2 \leq a \leq b$$

Time Limit :

10 seconds

Sample Input :

3

2 5

5 7

8 23

Sample Output :

7

8

