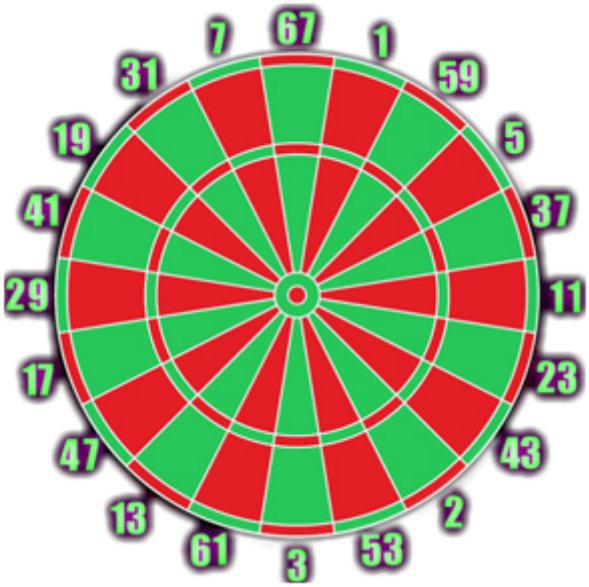
E - Prime Darts

We can not be anything without playing to be.
Jean-Paul Sartre

Context

A dartboard manufacturer wants to revolutionize the game of darts, creating a dartboard for math geeks. He has designed several boards with different number of areas, so that a board with *n* areas has the following scores: the first area is worth 1 point, the remaining *n*-1 areas have a value corresponding to the first *n*-1 prime numbers. For example, a dartboard with 20 areas would be as follows:



The Problem

We want to know the minimum number of darts needed to obtain a score of *q* points on a dartboard of size *n*.

The Input

The first line of the input contains an integer, *t*, indicating the number of dartboards.

For each case, there is a line with two numbers separated by a space. The first one, *n*, represents the number of areas of the board, with $1 \leq n \leq 100$, and the second number, *q*, indicates the score we have to get, with $1 \leq k \leq 5000$.

The Output

For each test case, the output should consist of one line showing the minimum number of darts needed to obtain a *q* points on a dartboard of size *n*.

Sample Input

```
6
1 200
5 15
5 34
6 34
7 4
20 1000
```

Sample Output

```
200
3
6
4
2
16
```

OMP'17
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