

## Problem H. Heroes and Illusions

Input file: *standard input*  
Output file: *standard output*  
Time limit: 1 second  
Memory limit: 1024 mebibytes

In one well-known MOBA game,  $n$  heroes are aligned in a row. However, some of them may be illusions. The observer counted the number of real heroes from  $\ell$ -th to  $r$ -th inclusively for every pair of  $\ell$  and  $r$  ( $1 \leq \ell \leq r \leq n$ ), and recorded their evenness. Her  $\frac{n(n+1)}{2}$  records show that there were  $k$  intervals that contained an odd number of real heroes. How many possible hero alignments are there? The answer may be too large, so print it modulo 998 244 353.

Two alignments are considered different if, for some  $i$ , the  $i$ -th hero from the left is real in one alignment and an illusion in the other.

### Input

The first line of input contains an integer  $t$ : the number of test cases ( $1 \leq t \leq 10^5$ ). Each of the following  $t$  lines contains two integers:  $n$  and  $k$  ( $1 \leq n \leq 10^5$ ;  $0 \leq k \leq n(n+1)/2$ ).

### Output

Print the number of possible hero alignments modulo 998 244 353.

### Examples

<i>standard input</i>	<i>standard output</i>
1 5 9	10
4 3 4 6 12 6 11 12 30	3 35 0 286