Alien Languages

Sophia has discovered several alien languages. Suprisingly, all of these languages have an alphabet, and each of them may contain thousands of characters! Also, all the words in a language have the same number of characters in it.

However, the aliens like their words to be aesthetically pleasing, which for them means that for the i^{th} letter of an n letter alphabet (letters are indexed at 1):

if $2 * i > n$

the i^{th} letter may be the last letter of a word, and it may be immediately followed by any letter including itself.

if $2 * i \leq n$

the i^{th} letter can not be the last letter of a word and also can only be immediately followed by j^{th} letter iff(if and only if) $j \geq 2 * i$.

Sophia wants to know how many different words exist in this language. Since the result may be large, she wants to know this number, modulo 100000007.

Input Format

The first line contains t, the number of test cases. The first line is followed by t lines, each line denoting a test case. Each test case will have two space separated integers n,*m* which denote the number of letters in the language and the length of words in this language respectively.

Constraints

$1 \leq t \leq 5$
$1 \leq n \leq 10^5$
$1 \leq m \leq 5*10^5$

Output Format

For each testcase output the number of possible words modulo 100000007.

Sample Input

```
3
1 3
2 3
3 2
```

Sample Output

```
1
3
6
```

Explanation

For the first test-case, there's one letter and all the words consist of 3 letters. There's only one possibility which is "aaa"

For the second test-case, there are two letters (a & b) and all the words are of 3 letters. The possible ones are "abb", "bab", & "bbb". The words can end only with 'b' because 2 * index(b) = 2 * 2 > 2 and for 'a', it's 2 * index(a) = 2 * 1 <= 2. "aab" is not allowed because 'a' can not be followed immediately by 'a'. For a

word of length 4 and alphabet of size 2, "abab" would be allowed.

For the third test-case, there are three letters (a, b & c) and all of the words are 2 letters. The words can end only with 'b' or 'c'. The possible words are "ab", "ac", "bb", "cc", "bc", "cb"