



时间限制: C/C++/Rust/Pascal 2秒, 其他语言4秒

空间限制: C/C++/Rust/Pascal 512 M, 其他语言1024 M

Special Judge, 64bit IO Format: %lld

① C++ (clang++18)

1

ACM模

请通过

入输出

出描述:

### 题目描述

Given two integers  $n$  and  $m$ , you need to find a binary string of length  $n$  such that the number of different nonempty substrings is exactly  $m$ . Here,  $m$  is no less than  $n$ , the minimum number of different nonempty substrings in a binary string of length  $n$ , and is no more than  $M_n = \sum_{i=1}^n \min\{2^i, n - i + 1\}$ , the proved maximum number.

However, the problem described above seems too hard, so you just need to find a binary string of length  $n$  such that the number of different nonempty substrings has at most 0.2 relative error with  $m$ , i.e., is in the range  $[0.8 \times m, 1.2 \times m]$ , or indicate that no binary string meets this condition.

### 输入描述:

The first line of the input contains an integer  $T$  ( $1 \leq T \leq 10^4$ ), indicating the number of test cases. For each test case:

The only line contains two integers  $n$  ( $1 \leq n \leq 2 \times 10^5$ ) and  $m$  ( $n \leq m \leq M_n$ ).

It is guaranteed that the sum of  $n$  for all test cases does not exceed  $2 \times 10^5$ .

### 输出描述:

For each test case, output a line containing a binary string of length  $n$  that meets the condition, or `-1` (without quotes) if no binary string meets the condition.

### 示例1

输入

复制

```
5
5 5
5 6
5 7
5 8
5 9
```

运行结果

自测数据