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FIBOSUM - Fibonacci Sum

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The fibonacci sequence is defined by the following relation:

- F(0) = 0
- F(1) = 1
- F(N) = F(N - 1) + F(N - 2), N >= 2

Your task is very simple. Given two non-negative integers N and M, you have to calculate the sum (F(N) + F(N + 1) + ... + F(M)) mod 1000000007.

Input

The first line contains an integer T (the number of test cases). Then, T lines follow. Each test case consists of a single line with two non-negative integers N and M.

Output

For each test case you have to output a single line containing the answer for the task.

Example

```
Input:
3
0 3
3 5
10 19

Output:
4
10
10857
```

Constraints

- T <= 1000
- $0 <= N <= M <= 10^9$

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