Fibonacci numbers (1)

The Fibonacci numbers $F_n$ are defined as follows:

\[
F_n = \begin{cases} 
0 & \text{if } n = 0 \\
1 & \text{if } n = 1 \\
F_{n-1} + F_{n-2} & \text{if } n \geq 2 
\end{cases}
\]

Therefore, the first Fibonacci numbers are 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, …

For every given pair of natural numbers $n$ and $m$, compute $F_n \mod m$.

**Input**

Input consists of several pairs of $n$ and $m$. Assume $0 \leq n \leq 1000$ and $2 \leq m \leq 10^8$.

**Output**

For every given pair, print $F_n \mod m$.

<table>
<thead>
<tr>
<th>Sample input</th>
<th>Sample output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 100</td>
<td>0</td>
</tr>
<tr>
<td>10 100</td>
<td>55</td>
</tr>
<tr>
<td>10 9</td>
<td>1</td>
</tr>
<tr>
<td>1000 87654321</td>
<td>41825580</td>
</tr>
</tbody>
</table>

**Problem information**

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