

7728 Detachment

In a highly developed alien society, the habitats are almost infinite dimensional space.

In the history of this planet, there is an old puzzle.

You have a line segment with x units' length representing one dimension. The line segment can be split into a number of small line segments: a_1, a_2, \dots ($x = a_1 + a_2 + \dots$) assigned to different dimensions. And then, the multidimensional space has been established. Now there are two requirements for this space:

1. Two different small line segments cannot be equal ($a_i \neq a_j$ when $i \neq j$).
2. Make this multidimensional space size s as large as possible ($s = a_1 * a_2 * \dots$). Note that it allows to keep one dimension. That's to say, the number of a_i can be only one.

Now can you solve this question and find the maximum size of the space? (For the final number is too large, your answer will be *modulo* $10^9 + 7$)

Input

The first line is an integer T , meaning the number of test cases.

Then T lines follow. Each line contains one integer x . $1 \leq T \leq 10^6$, $1 \leq x \leq 10^9$

Output

Maximum s you can get modulo $10^9 + 7$.

Note that we want to be greatest product before modulo $10^9 + 7$.

Sample Input

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1
4
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Sample Output

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4
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