Problem H. Hundred Thousand Points

Input file:	*standard input*
Output file:	*standard output*
Time limit:	10 seconds
Memory limit:	512 mebibytes

You have placed n points on a plane at coordinates $(1, 0), (2, 0), \ldots, (n, 0)$.

Informally, for each i, you draw an angle of a_i degrees from vertex $(i, 0)$ in a direction chosen uniformly at random and independently from other angles.

Formally, for each i, a **real** variable $\alpha_i \in [0; 360)$ is chosen uniformly at random, and the angle is formed by two rays drawn from the point $(i, 0)$ at polar angles of α_i and $\alpha_i + a_i$ degrees. The *interior* of the angle consists of all points located at polar angles strictly between α_i and $\alpha_i + a_i$ degrees from the point $(i, 0)$.

Two angles are considered intersecting if there exists a point belonging to the interiors of both angles.

Find the probability that no two angles intersect, modulo 998 244 353 (see the Output section for details).

Input

The first line contains a single integer n $(2 \le n \le 10^5)$.

The second line contains n integers $a_1, a_2, \ldots, a_n$ $(1 \le a_i \le 179)$.

Output

Print the probability that no two angles intersect, modulo 998 244 353.

Formally, let $M = 998\,244\,353$. It can be shown that the required probability can be expressed as an irreducible fraction $\frac{p}{q}$, where p and q are integers and $q \not\equiv 0 \pmod{M}$. Print the integer equal to $p \cdot q^{-1} \bmod M$. In other words, print such an integer x that $0 \le x < M$ and $x \cdot q \equiv p \pmod{M}$.

Examples

standard input	standard output
2 90 90	686292993
3 90 90 90	982646785
3 120 30 60	795861094

Note

In the first example test, the actual probability is $\frac{5}{16}$.

In the second example test, the actual probability is $\frac{1}{64}$.

In the third example test, the actual probability is $\frac{347}{5184}$.