Subsequence

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	1024 megabytes

We say an integer sequence $C = c_1, c_2, \cdots, c_k$ of length k is good if the average value of its smallest element and its largest element is equal to its median. The median of a sequence of length k is defined to be the $\lceil \frac{k}{2} \rceil$-th smallest element in the sequence, where $\lceil x \rceil$ is the smallest integer larger than or equal to x. For example, the median of sequence $1, 7, 4, 3$ is 3, while the median of sequence $5, 8, 2, 1, 6$ is 5.

More formally, let $D = d_1, d_2, \cdots, d_k$ be the sequence obtained by sorting sequence C from small to large. C is good if

$$\frac{d_1 + d_k}{2} = d_{\lceil \frac{k}{2} \rceil}$$

Given an integer sequence $A = a_1, a_2, \cdots, a_n$, calculate the length of its longest good subsequence. Recall that a sequence B is a subsequence of A if B can be obtained by deleting some or no elements from A, without changing the order of the remaining elements.

Input

There are multiple test cases. The first line of the input contains an integer T ($1 \leq T \leq 300$) indicating the number of test cases. For each test case:

The first line contains an integer n ($1 \leq n \leq 3 \times 10^3$), indicating the length of the sequence.

The second line contains n integers $a_1, a_2, \cdots, a_n$ ($1 \leq a_i \leq 10^9$), indicating the sequence.

It's guaranteed that the sum of n of all test cases does not exceed 3×10^3.

Output

For each test case, output one line containing one integer, indicating the length of the longest good subsequence.

Example

standard input	standard output
4 7 3 5 9 8 2 11 5 7 7 9 2 4 17 10 15 1 100 2 100 100	5 4 1 2

Note

For the first sample test case, the longest good subsequence is $3, 5, 8, 2, 5$. It's smallest element is 2, largest element is 8, and median is 5.

For the second sample test case, the longest good subsequence is $7, 9, 4, 10$. It's smallest element is 4, largest element is 10, and median is 7.